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INTEGRATING SUSTAINABILITY INTO STRATEGIC SOURCING AND SUPPLIER SELECTION PROCESS: A FOCUS ON THE INDIAN TEXTILE INDUSTRY

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Table of Contents

Acknowledgments 2
Table of contents 3
Table of figures 5
Tables 6
1. Introduction 11
1.1. Thesis Structure: 12
2. Literature Review 14
2.1. Defining Supply Chain: 14
2.2. Supply Chain Management: 18
2.3. Supply-Chain Operation Reference (SCOR) model 23
2.4. Sustainable Supply Chain Management: 27
2.5. Closed loop: 31
2.6. Sustainable Purchasing and Supply management: 34
2.7. Strategic sourcing: 35
2.8. Sustainable sourcing: 39
2.9. Supplier selection: 43
2.10. Overview of Indian textile: 47
2.10.1 Textile Sector Supply Chain Management: An Overview 48
2.10.2 Company overview: 51
2.10.2.1 COMPANY A: 55
2.10.2.2 COMPANY O: 57
2.10.2.3 COMPANY G: 59
2.10.2.4 COMPANY F: 59
2.10.2.5 COMPANY R: 61
2.10.2.6 COMPANY M: 62
2.10.2.7 COMPANY S 63
2.10.2.8 COMPANY N: 64
3. Research Questions 66

4. Methodological Approach 69
4.1. Literature review 69
4.2. Case studies 70
4.3. Case Study Method: 70
4.4. Cross-case Analysis: 72
4.5. Data collection 72
4.5.1 Company overview: 72
4.5.2 Interview data collection 73
5. Findings 75
5.1 Considering the above response a few observations can be made 79
5.1.1 Drivers encouraging organization for sustainability: 79
5.1.2 Process and criteria for Supplier selection: 79
5.1.3 Certificates For sustainability: 80
5.1.4 Supplier Auditing and monitoring frequency: 80
5.1.5 Long-term relationship with suppliers: 81
5.1.6 Joint project with suppliers: 81
5.1.7 Sustainability matters: 81
5.1.8 Closed loop: 82
5.1.9 Compliance not fulfilled: 82
5.1.10 Used of Raw Material: 82
6. Conclusion 86
7. Limitations 88
Appendix: A 89
Appendix B 90
References: 106

Table of figures

Figure 1: A conventional supply chain 16
Figure 2: Supply chain decision categories mapped to the SCOR-model version 9 (source: Supply Chain Council) 26
Figure 3: Sustainability: Triple Bottom Line (Elkington, 1997) 29
Figure 4: A closed loop supply chain 32
Figure 5: Various routes for returned products 33
Figure 6: The strategic sourcing process: building and maintaining a sustainable supply base 38
Figure 7: India Brand Equity Foundation 47
Figure 8: The Textile and Apparel Supply Chain (Chandra,P. 2004) 48
Figure 9: Supply Chain Management in the Textile Sector: A Sequential Process (Priyanshu Raparia.,2017) 50
Figure 10: Process Flow of Research & Development (Company report) 58
Figure 11: step by step process of case study 74

Tables

Table 1: Covers some more definitions from different sources explaining Supply Chain in different perspectives. 15
Table 2: Definitions Of Supply Chain Management 21
Table 3: A summary of strategic supplier evaluation criteria. 45
Table 4: Description of Companies 52
Table 5: Company Report 70
Table 6: Interview data collection 73
Table 7: Response from Interview 76
Table 8: Summary of the response 83

Abstract

With the globalization of market and development within the sectors, the level of competition has also increased resulting in increasing the complexities of decision making while taking the idea of sustainability into account. Sustainability is not only about reducing the negative environmental impact, but also social and economic ones, which is one of the critical issues. Integrating sustainability into souring and supplier selection processes is creating pressure on companies, which is changing the way to deal the supply chain network and for the them maintaining an efficient, streamlined supply chain is becoming challenging due to the growing scarcity of raw materials, changing demand patterns and increasing the cost of compliance. Apart from that when it comes to Supplier selection, it is a challenge for the company to get a supplier who can provide the right products at the right cost, in the right quality and quantity and need an overwhelming amount of any firm's financial resources.

The purpose of this thesis has been to investigate selection criteria for supplier selection in Indian textile both for Small and Big textile companies and about their sourcing strategies. And also, to look for the similarities and differences in the steps taken by both the categories while integrating sustainability. The thesis familiarizes with the existing strategic sourcing model that can be used and are still used by most of the companies for the new supplier selection and also for the existing suppliers. For all these analyses interviewees where conducted with the different textile companies to reveal various practices involves during supplier selection.

As per the findings obtained, selection of the supplier is the most critical task in the supply chain management because they are viewed as critical resources as they must be managed to derive the maximum potential in the supply chain. It's very important to monitor and mentor the supplier from the initial stage and help them to develop and innovate. Indian textile which is dominated by small textile cmpanies lacks some of the major steps such as during pre-selection, one of the important criteria is to look for certificates which shows suppliers follows rules and laws aligned with sustainability. Small companies just look for the basic certificates which is not enough in adding sustainability. And this companies also lack in the phase of development and mentoring of existing strategic suppliers because of which they lack the access to the latest technology or failure to meet

the global standards which limit the growth of textile companies. Most of the SME's suppliers are not skilled enough to execute tasks effectively and efficiently. Not only that, time and resource loss also occur due to lack of skills and underutilization of available technology, companies are losing out on potential profit. Most of the suppliers working for SME's are not aware of the impact of textile industry on the environment and even the companies don't take the effort to make them aware, so it is very important to create that awareness.

This work makes a contribution in terms of managerial implications in the field strategic sourcing as this can help managers to see the long-term benefit instead of for a short one by looking for certificates more aligned with sustainability, in terms of supplier development by educating or by joint projects providing proper training to the suppliers, using partnership between buyer and supplier to take innovative measures.

Sommario

Con la globalizzazione del mercato e lo sviluppo all'interno dei settori, è aumentato anche il livello della concorrenza, aumentando le complessità del processo decisionale tenendo conto dell'idea di sostenibilità. La sostenibilità non consiste solo nella riduzione dell'impatto ambientale negativo, ma anche in quello sociale ed economico, che è una delle questioni critiche. Integrare la sostenibilità in processi di souring e selezione dei fornitori sta creando pressione sulle aziende, che sta cambiando il modo di gestire la rete della supply chain e per loro mantenere una supply chain efficiente ed efficiente sta diventando difficile a causa della crescente scarsità di materie prime, cambiando la domanda modelli e aumentando il costo della conformità. A parte ciò, quando si tratta della selezione dei fornitori, è una sfida per l'azienda ottenere un fornitore in grado di fornire i prodotti giusti al giusto costo, nella giusta qualità e quantità e che necessitano di una quantità schiacciante di risorse finanziarie.

Lo scopo di questa tesi è stato quello di investigare i criteri di selezione per la selezione dei fornitori nel tessile indiano sia per le piccole e grandi aziende tessili che per le loro strategie di approvvigionamento. E anche, per cercare le somiglianze e le differenze nei passi compiuti da entrambe le categorie mentre si integra la sostenibilità. La tesi ha familiarizzato con il modello di sourcing strategico esistente che può essere utilizzato e viene ancora utilizzato dalla maggior parte delle aziende per la selezione dei nuovi fornitori e anche per i fornitori esistenti. Per tutte queste analisi, gli intervistati condotti con le diverse aziende tessili per rivelare varie pratiche coinvolgono durante la selezione dei fornitori.

In base ai risultati ottenuti, la selezione del fornitore è il compito più critico nella gestione della supply chain perché sono considerati risorse critiche che devono essere gestite per ricavare il massimo potenziale nella catena di approvvigionamento. È molto importante monitorare e guidare il fornitore fin dalla fase iniziale e aiutarli a sviluppare e innovare. Il tessile indiano dominato da piccole aziende tessili manca di alcune delle fasi principali, ad esempio durante la preselezione, uno dei criteri importanti è cercare certificati che mostrino che i fornitori seguono regole e leggi allineate alla sostenibilità. Le piccole aziende cercano i certificati di base che non sono sufficienti per

aggiungere sostenibilità. E anche a queste aziende manca la fase di sviluppo e tutoraggio dei fornitori strategici esistenti, a causa della quale mancano l'accesso alla tecnologia più recente o il mancato rispetto degli standard globali che limitano la crescita delle aziende tessili. La maggior parte dei fornitori di SME's non sono abbastanza esperti per eseguire le attività in modo efficace ed efficiente. Non solo, anche la perdita di tempo e di risorse si verifica a causa della mancanza di competenze e del sottoutilizzo delle tecnologie disponibili, le aziende stanno perdendo potenziali profitti. La maggior parte dei fornitori che lavorano per le SME's non sono consapevoli dell'impatto dell'industria tessile sull'ambiente e anche le aziende non si impegnano a renderle consapevoli, quindi è molto importante creare tale consapevolezza.

Questo lavoro fornisce un contributo in termini di implicazioni gestionali nel campo dell'approvvigionamento strategico in quanto ciò può aiutare i manager a vedere il beneficio a lungo termine invece di uno a breve cercando certificati più allineati con la sostenibilità, in termini di sviluppo dei fornitori educando o mediante progetti comuni che forniscono una formazione adeguata ai fornitori, utilizzando la collaborazione tra acquirente e fornitore per adottare misure innovative.

1. Introduction

The current world population has passed over the number of 7.3 billion people and the demands for fashion items accelerated in the last two decades, due to population growth and economic development in emerging countries and to the progressive extension of fast fashion business model (Bhardwaj and Fairhurst, 2010; Arrigo, 2013). Clothing is something that is required by all human beings and to dress this 7.3billion in a basic cotton t-shirt would require 1.24 million tons of fabric. The textile industry occupies a vital place in the Indian economy. As the market is growing and the level of competition is increasing and the pressure on natural resources is also increasing because of which most of the fashion retailers are trying to differentiate themselves in the market. Sustainability has become the major concern for the textile companies in India. In the fashion industry, sustainability needs the involvement of several actors and their collaboration. Large brands and retailers deal with hundreds of suppliers and sub-contractors, which makes hard to tracks things like the origin of materials, substances used during the production and working condition. Short product cycles and longer production lead times can easily lead to forecasting errors. (The Textiles and Apparels Industry – Contributing to "Make in India"., 2015). Fluctuating supply and demand lead to strong price variations, potentially harming both the ability to produce enough quantities of finished products as well as bottom-line results and the problem related to such concern are:

"Every stage in a garment's life threatens our planet and its resources. More than 20,000 liters of water is used to produce 1kg of cotton, which is equivalent to a single t-shirt and pair of jeans. Near about 8,000 different chemicals are used to turn raw materials into clothes, including a range of dyeing and finishing processes where Dyeing constitutes a particularly important problem in this respect. As dye houses in India are notorious for not only exhausting local water supplies but for dumping untreated wastewater into local streams and rivers".

This concern is only regarding environmental impact which surrounds the use of energy and toxic chemicals in producing goods, as well as the disposal of chemicals and other wastes (Dickson et al., 2009) but also related to the social concern which is getting worse mainly in developing countries. According to Dickson et al. (2009, p. 6), social concerns exist in:

"[...] forced labor, low wages, excessive hours of work, discrimination, health and safety hazards, psychological and physical abuse, lack of awareness of workers' rights, and lack of worker representation for negotiations with management."

However, the global textile and apparel industry offers an excellent example for teaching and learning sustainability issues throughout the supply chain, from fiber production to retailing. At the fiber production stage, how natural fibers are grown is strongly related to the environmental impact of apparel consumption. At the apparel manufacturing stage, material sourcing and logistics decisions are strongly associated with fuel efficiency and carbon footprint. Factory conditions and labor practices are important for the social aspect of the apparel industry and, finally, apparel retailing is directly linked with conservation efforts. (The Textiles and Apparels Industry – Contributing to "Make in India"., 2015). However, fashion brands have become aware that customers appreciate the value of products and services, without differentiating between the actors involved in the supply chain (Seuring and Gold, 2013; Ho and Choi, 2012) and when it comes to company's most significant environmental and social impacts they are found not in its own operations, but in its supply chain, supply chain management (SCM) issues are thus brought into the game when fashion companies embark in sustainability.

One method of improving a firm's competitiveness in managing the globally extended textile and apparel supply chain is through the strategic approaches to worldwide suppliers. Going far beyond cost considerations, as sourcing decisions affect the production, marketing, distribution and financial strategies that a firm can put into effect.

The objective of this thesis is:

- To investigate the role of strategic sourcing in improving textile and apparel firms' performance. And to study in detail about the different approaches taken by the different textile companies In India to integrate sustainability.

1.1. Thesis Structure:

Following is the general structure of this thesis:

Introduction – Introduces the general statement about the topic and the thesis structure.

Literature Review – Presents the previous researches and literature that have been explored which are related to the thesis topic. This chapter provides a comprehensive foundation of theory covering the topic about the Sustainable Sourcing, closed loop and supplier selection in supply chain management.

Research Methodology – Describes the methods used to collect the information for the study including a source of data and data collection procedure.

Data Analysis and Result Discussion – Process the data collected with various analysis and outlines the findings found from the analysis including measuring the quality of the data collected. Subsequently, interprets the findings resulted from analysis by comparing it with the previous researches.

Conclusion– Presents the contributions of the study made to the overall research about the topic and the limitations faced in the study and provides some suggestions for addressing the limitations and for improvement in a future study.

The appendix is enclosed at the end of the paper containing the original question items used in the survey and survey responses.

2. Literature Review

This section presents the literature on the theoretical background of this study and the research constructs, specifically strategic sourcing, buyer-supplier relationship, and supplier evaluation.

2.1. Defining Supply Chain:

In a global network, where customer requirements are changing continuously, and the product lifecycle is shortening. Firms have acknowledged the importance of flexibility in meeting customer demands and improving responsiveness under uncertain conditions (Vickery et al., 1999) and to achieve all this firms need to have effectively and synchronizing managed networks, functioning in a particular product/service value chain (Stevenson, 2007) which involves passing of raw material from one organization to another for processing or manufacturing into the ultimate product what end customers desires. Supply Chain is a combined system which consists of the integration of activities through upstream and downstream linkages, in different processes that produce value in the form of products and services in the hands of the ultimate consumers (Christopher, 1992) or a form of industrial organization that allows buyers and sellers, who are separated by time and space, to progressively add value as products pass from one member of the chain to the next (Hughes, 1994; Handfield and Nichols, 1999). It can also be customer focused where Chopra and Meindl (2013) defines a supply chain is all parties and related processes that are involved in satisfying a customer order. The principle of supply chain activity is receiving input from the firm's suppliers – add value – deliver to customers (Levi at al., 2004).

Some of the definitions apart from integration also focus on information exchange, connectivity, linkage and logistics in which Supply Chain is considered as a set of "three or more entities (organizations or individuals) directly involved in the upstream and downstream flows of products, services, finances, and/or information from a source to a customer and return" (Mentzer et al., 2001, p.4) including integration of materials and information flow between customer, manufacturer and supplier (Lin, F. and Shaw, M.J. (1998).

Even the Council of Supply Chain Management Professionals (2010) offers its definition about Supply Chain—" interchanges of material and informational in the logistical process, stretching from

acquisition of raw materials to delivery of finished products to the end user. All vendors, service providers, and customers are connected to each other in the supply chain."

TABLE 1: COVERS SOME MORE DEFINITIONS FROM DIFFERENT SOURCES EXPLAINING SUPPLY CHAIN IN DIFFERENT PERSPECTIVES.

Web Source	Definition of Supply Chain
WhatIs.com	Networks of all the actors present in the chain from the delivery of raw material from supplier to the manufacturer and to the end user including individuals, organizations, resources, activities, and technology for creation and sale of the product.
Investopedia.com	The network between a company and its suppliers, to produce and distribute the specific product or services to the end customers.
Businessdictionary.com	Network of entities compromises of vendors that provide raw material, producers who convert the material into products, warehouses to store the products, distribution center to deliver the products to the retailers and lastly the retailers who brings the product to the ultimate user interlinked and interdependent together either directly or indirectly to serve the same consumer or customer.
Canadian Supply Chain Sector Council	Encompass of the following three functions: (1) distribution of material to a manufacturer (2) the manufacturing process (3) distribution of finished goods to the end customers through a network of retailers and distributors.
CSCMP et al. (2013)	Series of integrated enterprises working together by sharing information and through coordination in the physical execution to ensure a smooth, integrated flow of goods, services, information, and cash through the pipeline (Coyle et al., 2013). The network of organizations that involved through upstream and downstream linkages, for the different processes and activities that produce value for the entire chain in form of product and services delivered to the ultimate customers (Martin, 1992).

Council of Supply Chain Management	The interchanges of material and informational in the logistics process, starting from the acquisition of raw materials to delivery of finished products to the end user where all vendors, service providers, and customers are links in the supply chain (CSCMP, 2013).

By considering all the above definition, Supply chain can be defined as a network of all the parties such as individuals, organizations, resources, activities, and technologies which are directly or indirectly involved in the fulfillment of customer demands at the lowest cost. Moreover, it is not only about focusing on manufacturer and suppliers but also consider transporters, warehouses, retailers and customers themselves. It is a network where sharing information and coordination plays an important role to make the function smooth. Since SC involves so many partners and activities which are spatially dispersed, they are characterized by heightened risks and uncertainty (Nagurney and Toyasaki, 2005).

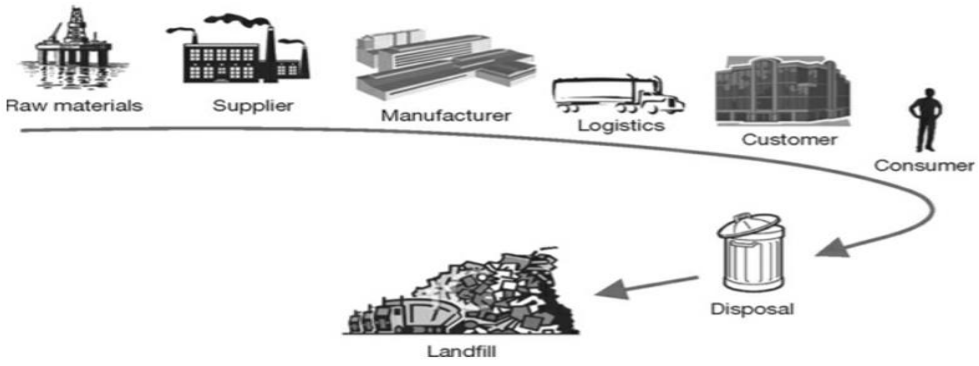

FIGURE 1: A CONVENTIONAL SUPPLY CHAIN

"Adapted from Purchasing and Supply Chain Management A sustainability perspective"

Figure.1 (Purchasing and supply chain management book, page 320) provides an example of a conventional supply chain starting the flow of raw materials from extraction, through manufacture and customer delivery to landfilling.

According to Christopher (2005) the supply chain is derived from a combination of logistics, procurement and production operations, and every business fit into some or the other activities of chain and has a role to play, but mainly focusing to gain competitive advantage and to survive in the

market. Therefore, companies should build a strong supply chain to be more effective and efficient. Managing supply chains have become very important as firms are starting to realize that they can no longer compete effectively in isolation of their suppliers or any other activities in the chain. Enterprises need to focus on the basis of product innovation, quality improvement and availability of products always at the lowest attainable costs (Henriques and Peças, 2013) because as the chain expands the distance between the manufacturer and the customers increases both geographically and from an operational point of view, this increase managing supply chain properly as the performance of the supply chain directly affects the survival and growth of organizations. There is increasing consumer and stakeholder expectation for firms to be fully responsible for their business operations, and to clearly demonstrate their environmental and ethical behavior. Most organizations are a part of at least one supply chain (Samaranayake, 2005) and in today's global market competition is increasing, to improve the competitiveness of entire SC, all stakeholders in the chain are needed to increase quality and reduce the cost of products (Wognumetal.,2011). Therefore, the expected line of responsibility needs to extend along the full extent of a firm's supply chains into its products, processes, and relationships.

Recent economic trends have created highly complex supply chains (Varma et al., 2006) and the design, organization, interactions, competencies, capabilities, and management of these supply chains have become key issues (Gold et al., 2009). A key feature of the present-day business is the idea that it is supply chain that competes not the companies (Chritopher and Towill, 2001) which means the success and failure of SC are determined by the end customers in the marketplace. Getting the right product at right time in right quality is not only the linchpin to competitive success but also the key to surviving in a competitive market (Agarwal et al., 2005).

Supply chain management (SCM) is therefore highly relevant both to successfully competing in today's market and in addressing responsible behavior at all stages of the supply chain. Moreover, it provides a strategic weapon to build up and enhance sustainable and effective competitive advantages without compromising the satisfaction level of end customers while considering cost reduction as main element (Mentzer et al., 2001). It represents a potentially important discipline for establishing how to integrate environmental and social considerations and practices, to achieve the goal of sustainability. The development of SCM has been largely practitioner-led (Burgess et al., 2006) and represents an evolutionary step beyond logistics (Samaranayake, 2005).

2.2. Supply Chain Management:

Supply Chain Management is a recent phenomenon and yet clearly related to logistics as it has emerged as a manufacturer experimented with strategic partnerships with their immediate suppliers. In additional procurement professionals, took a step further to incorporate physical distribution and transportation functions, resulting in integrated logistics concepts. As the evolution of supply chain management took place, an organization started managing corporate resources by including strategic suppliers and the logistic function in the value chain. Appearing in academic journals and textbooks in the beginning of the 1980s (e.g. Oliver and Webber ,1982, 1991; Houlihan, 1985) companies realized that collaborative relationships within and beyond their organizations can bring benefits to all the interested parties (Lummus and Vokurka, 1999), it was an attempt to make the flows of products and information between firms a strategic matter. Moreover, organizations related SCM to integration (Pagell, 2004; Stock and Boyer, 2009) a simple approach towards increasing the effectiveness of the SC through improved coordinated efforts between upstream and downstream organizations in the system (Frohlich and Westbrook,2001) which made it a crucial strategy for firms to enhance their profitability and stay competitive in market (Li et al., 2006). The term SCM has been used to explain planning, controlling of materials as well as the flow of information and logistics activities not only internally within a company but also in external companies (Cooper et al., 1997b; Fisher, 1997). Although, there have been various studies related to SCM they all focus separately on different aspects and strategies to increase the competitive advantages. For example, Ellram and Cooper (1990), Spekman et al., (2002) and Chan and Esra Aslanertik (2005) focused that in SC effective cooperation, coordination and correlations result in reducing substantial costs and cycle times, whereas Cooper et al. (1997), Lusch and Brown (1996), Salcedo and Grackin (2000) and Nishat Faisal et al. (2006) presented the importance of information sharing among the SC in different perspective such as planning, monitoring processes which can help in mitigating risk in SC. Furthermore, for an SC to succeed, La Londe and Masters (1994) suggested all the actors present in SC should have the same goal and the same focus on serving customers. Since then different descriptions of SCM have been proposed, According to Feldmann and Muller (2003), there is no general definition accepted.

For example, Harland (1996) describes SCM as managing business activities and relationships internally within the organization, intermediate suppliers, also to first and second tier suppliers and end customers along the supply chain. For some, like Scott and Westbrook (1991) and New and Payne (1995), SCM is a chain linking all the elements of manufacturing and supply process, from raw materials to the end user, encompassing several organizational boundaries. After reviewing all the

other definition Larson and Rogers (1998, p. 2) derived their own "Supply chain Management is the coordination of activities, within and between vertically linked firms, for the purpose of serving end customers at a profit" According to the definition presented above SCM can be encompasses as the entire value chain while addressing the materials and supply management from the point of extraction of raw materials to its end of the useful life. SCM is an integrated approach beginning with planning and control of materials, logistics, services, and information stream from suppliers to manufacturers or service providers to the end client; it represents a most important change in business management practices (Fantazy et al., 2010). It is also considered as the integration of all activities associated with the flow and transformation of goods from the raw material stage, through to the end user, as well as the associated information flows through improved inter-and intrafirm relationships to achieve sustainable competitive advantage (Ellinger, 2000). SCM focuses on how firms utilize their supplier's capability, technology, ability and processes to gain and enhance competitive advantages (Farley, 1997) and the coordination of other actors such as manufacturing, logistics, and materials management functions within an organization (Lee and Billington, 1992).

The Council of Supply Chain Management Professionals (CSCMP) defines supply chain management as follows:

"Supply Chain Management encompasses the planning and management of all activities involved in sourcing and procurement, conversion, and all logistics management activities. Importantly, it also includes coordination and collaboration with channel partners, which can be suppliers, intermediaries, third-party service providers, and customers. In essence, supply chain management integrates supply and demand management within and across companies. It is an integrating function with primary responsibility for linking major business functions and business processes within and across companies into a cohesive and high-performing business model by including all the logistics management activities noted above, as well as manufacturing operations. It also drives the coordination of processes and activities with and across marketing, sales, product design, finance, and information technology."

The approach of SCM is derived from the fact that there are dependencies between levels in channels from the point-of-origin to the point-of-consumption (Lambert et al., 1998; Ha ˚kansson and Snehota, 1995; Stern, 1969; Alderson, 1965, 1957; McCammon and Little, 1965; Weld, 1916). Usually in SCM, the point-of-origin refers to suppliers or manufacturers (e.g. Carter et al., 1995; Ellram and Cooper, 1993; Novack and Simco, 1991), while the point-of-consumption refers to consumers, customers or end-users in a supply chain (e.g. Min and Mentzer, 2000; Lambert et al., 1998; Jones and Riley, 1985).

The concepts and practices of SCM have been touted as improving the performance of organizations who participate in them (Giunipero et al., 2008).

SCM addresses the supply process throughout the value chain, a practical approach to the supply chain management is to consider only strategically important suppliers in the chain (Tan et al., 1998a, b) it is one of the most effective ways for firms to improve their performance (Ou et al., 2010). Moreover, supply chain management involves the integration of the various functional areas within an organization to enhance the flow of goods from strategic suppliers to manufacturing and distribution chain to the end user (Houlihan, 1987, 1988). With the purpose of managing the supply chain actions for realizing improvement in enterprise performance, it is necessary to improve the planning and management of activities such as materials planning, inventory management, capacity planning, and logistics (Chandra and Kumar, 2000) with suppliers and clients. The main principle of SCM is the sharing of information within supply chains (Moberg et al., 2002). By sharing information with members of the supply chain, an organization can respond more quickly to the customer's changing needs (Li and Lin, 2006). SCM help companies to find suppliers that can offer better services with lower prices, which allow them to become more specialized and competitive. Consequently, it is important for companies to manage all the network of suppliers' in order to optimize the performance of the whole system.

The main concept behind SCM has been considered from two alternative perspectives: purchasing and supply management. These perspectives emphasize purchasing and materials management as a basic strategic business process, rather than a narrow specialized supporting function (Narasimhan et al., 2008; Sandberg, 2007); transportation and logistics management, which focusses on integrated logistics systems (e.g. inventory management, vendor relationships, transportation, distribution, warehousing and delivery services) that lead to inventory reduction both within and across firms in the supply chain (Banomyong and Supatn, 2011; Cook et al., 2011). In terms of intellectual roots, Johnsen et al. (2008) also suggested that purchasing and supply management was core to the development of supply chain management as a concept and that a wide range of other fields, including operations management, logistics, and industrial marketing, played important roles.

A high level of confusion has occurred amongst supply chain scholars during the past decades by the several SCM definitions that have been proposed in the literature (Stock and Boyer, 2009) as shown in (table 2).

TABLE 2: DEFINITIONS OF SUPPLY CHAIN MANAGEMENT

Source	Definition of SCM
Harland (1996)	Management of a network interconnected businesses involved ultimate provision product-service packages required end customers.
Copacino (1997)	Art of managing flow of material and product from source to end user in the chain.
Lummus and Alber (1997)	A network of entities which include suppliers, carriers, manufacturing sites, distribution centers, retailers, and customers through which material flows.
Christopher (1998)	In a Supply Chain, Management of upstream and downstream relationship with suppliers and customers to deliver customer value product/services at low cost.
Klapper et al. (1999)	The management of all processes or functions while having the main focus of satisfying the customers' orders.
Mentzer (2001)	Linkage of immediate supplier and an immediate customer in a company directly through one or more of the upstream and downstream flow of products, services, finances, and information. Or An ultimate supply chain includes all the other actors involved in upstream and downstream for the flow of products, services, finances, and information from the initial supplier to the ultimate customer.
Mentzer et al. (2001)	Strategic and systematic coordination of the traditional business functions with a particular company and across the supply chain moreover focusing on improving long-term performance as a whole supply chain as well as individual companies.
Stock and Boyer (2009)	The management of a network and their relationships within firm and between interdependent organizations and business units consisting of all the actors such as material suppliers, purchasing, production facilities, logistics, marketing, and related systems that facilitate the forward and reverse flow of materials, services, finances and information from the original producer to final customer for the benefit of adding value to the chain and maximizing profit through achieving efficiencies and customer satisfaction.
Supply Chain Management (SCM) (2003)	The active streamlining of a business' supply-side activities to maximize customer value and to gain a competitive advantage in the marketplace.

Supply Chain Management (2016b)	Management of material and information flow in a supply chain to provide the highest degree of customer satisfaction at the lowest cost possible for firms.
Supply Chain Management (2016a)	The design and management of seamless and value-added processes across organizational boundaries in the chain to meet the real needs of the end customer.

From the above definitions of supply chain management, it can be considered that during earlier phase, SCM was considered as management of a network interconnected businesses or managing flow of material to provide product or service from source to the end user, but soon researchers and academics concluded SCM is not only about relationship between upstream (supplier) and downstream (customer) but also delivering product and services at low cost, SCM is an integrative function where integration occurs, among others in terms of material and information. Mentzer et al., (2001) offered his definition which includes strategic and systematic coordination of traditional business function to a particular company to improve long-term performance of supply chain. Whereas Considering definition by SCM (2016b) SCM is the management of material as well as information flow in the supply chain to provide the highest satisfaction at the lowest cost to its customers. However, SCM includes a more and diverse set of responsibilities apart from Sourcing, Operations, and Logistics. SCM is having a profound impact on business results, as 'it encompasses all activities associated from the flow of raw materials stage(extraction) to the transformation of goods through to the end user, as well as including information flow throughout the process' (Handfield & Nichols, 1999). Clearly, the idea of SCM is to see the chain as one system and fine-tune the decision taking during the process about how to operate various components (companies, functions, and activities) in a way that the end result will produce a desirable overall performance and will be helping companies in long term.

The Council of Supply Chain Management Professionals (CSCMP) also offers its definition with the caveat: "*The supply chain management (SCM) profession has continued to change and evolve to fit the needs of the growing global supply chain. With the supply chain covering a broad range of disciplines, the definition of what is a supply chain can be unclear*" (CSCMP, 2016). After analyzing all the definitions three key subjects emerged: activities, benefits, and constituents/components. The first theme of SCM definitions, activities, contains the flow of materials and information, and networks of relationships, focusing on both internal (within the organization) and external (outside the organization). Second, the benefits resulting from effective implementation of SCM strategies is to add value and increase customer satisfaction. Third, the components or constituent parts of SCM;

what organizations, functions, and processes involve the supply chain (Stock et al., 2010).SCM practices are defined as the set of activities undertaken by an organization to promote effective management of its supply chain (Li et al., 2005, 2006; Koh et al., 2007); as the approaches applied in integration, managing and coordination of supply, demand and relationships in order to satisfy clients in effective way (Wong et al., 2005); as tangible activities/technologies that have a relevant role in the collaboration of a focal firm with its suppliers and/or clients (Vaart and Donk, 2008); and as the approach to involve suppliers in decision making, encouraging information, sharing and looking for new ways to integrate upstream activities. As a consequence, it involves developing customer contacts with customer feedback to integrate the downstream activities and delivering orders directly to customers (Chow et al., 2008). From all the previous definitions, it is clear that the SCM concept reflects the reality of SCM as a strategic, managerial philosophy, and practice containing all SC partners – from suppliers, manufacturers, to customers – achieving better performance, gaining competitive advantage, and increasing customer satisfaction.

Robinson and Malhotra (2005) also noted that each time a certain company deals with another one that will provide the next phase of the supply chain, both stand to benefit from the other's success, which means that the implementation of SCM has a huge importance for the companies. Cooper and Ellram (1993) suggested that the implementation of SCM has three major objectives that are: reduce inventory investment in the supply chain; increase customer service through increased stock availability and reduced order cycle time; and to help build competitive advantage for the network in order to create customer value. SCM, therefore, proceeds and develops through the systematic and strategic coordination of business functions and tactics within and across businesses, with an overall goal of improving the long-term profitability of all involved (Mentzer et al., 2001). SCM is having a profound impact on business results, as 'it encompasses all activities associated from the flow of raw materials stage(extraction) to the transformation of goods through to the end user, as well as including information flow throughout the process' (Handfield & Nichols, 1999). Clearly, the idea of SCM is to see the chain as one system and fine-tune the decision taking during the process about how to operate various components (companies, functions, and activities) in a way that the end result will produce a desirable overall performance and will be helping companies in long term.

2.3. Supply-Chain Operation Reference (SCOR) model

"*The SCOR model is the only supply chain framework that we found that links performance measures, best practices, and software requirements to a detailed business process model*" —Logistics Management Institute June 1999

A supply chain network is facilities that procure raw material, transform it into a product requires by the end customers and deliver the product through the distribution system and help to achieve integration in the whole process even in Supply Chain Management. As increasingly, firms started to adopt Supply Chain Management to reduce the overall costs, increase market share, sales and to establish strong customer relations (Freguson, 2000). SCM can be viewed as a philosophy based on a belief that each firm in the supply chain has a direct or indirect impact on the performance of its member in the chain, as well as ultimately, on overall supply chain performance. (Cooper et al., 1997). The effective use of this philosophy requires alignment of functional and supply chain partner activities with company strategy and harmonized with organizational structure, processes, culture, incentives, and people (Abell, 1999). So, to assist firms to be more effective in supply chain and to provide them a process-based approach, Supply-Chain Operation Reference (SCOR) model was developed by Supply Chain Council (Stewart, 1997) to improve company profitability and quality performance by setting a benchmark of operational measurement.

The SCOR model is a supply chain performance evaluation model which help all participants involved in the supply chain including manufacturers, first-tier and second-tier suppliers downstream retailers/distributors/logistics service providers and customers to improve the efficiency of supply chain management by proper effective communication considering reference model. It helps companies to examine, measure and identify weakest links existing in their supply chain processes so that possible improvement and essential strategic decisions can be taken place (Harelstad et al., 2004). The SCOR model provides companies with a picture of how the processes from starting to end will be improved (Kevan, 2005). Companies use the SCOR model to drive supply chain improvements and are spending less time putting out firefighting and more time in planning (Bolstroff, 2004), enables manufacturers to manage operational and financial performance (Reichardt and Nichols, 2003).

The SCOR model can be viewed as process reference model where all the categories such as process elements, metrics, best practice, and features are linked together for the execution of a supply chain in a unique format. It is the first model to configure the supply chain based on business strategy by providing unambiguous, standard descriptions for hundreds of activities within the supply chain. It provides a methodology for mapping all supply chain activities and processes, which can be used as a set of practical guidelines for analyzing supply chain management practices.

According to SCC (1999), the SCOR model is generic and a quasi-standard cross-industry framework, which integrates all well know concepts of business process re-engineering, benchmarking and process measurement to improve enterprise-wide supply chain outcome. The model covers all the

extent from customer interaction to paid invoice; spans all product transactions, from your supplier's supplier to your customer's customer; and spans all market interaction which include understanding aggregate demand for the fulfillment.

Moreover, also contains:

- Standard descriptions of management processes that make up complex management;
- Captures the 'as-is' stage of a process and deliver the desired 'to-be' future stage;
- A framework of the relationship between these standard processes;
- Benchmark metrics used to measure and compare the performance of the process;
- Different management practices that produce best in class performance; and
- Standard alignment and mapping of software features and functionality that enable the best performance.

Since the model has undergone several major revisions based on the practical needs, following paragraphs summarize the SCOR model on the materials presented here are based on several published studies (Stewart 1997, Stephens 2001, Huan et al. 2004, Lockamy and McCormack 2004, Lambert et al. 2005, Yilmaz and Bititci 2006, Gulledge and Chavusholu 2008, Supply Chain Council 2009).The SCOR model as shown provides a common process-oriented language for communication among the supply chain partners in the following decision areas:

- source;
- make;
- deliver; and
- plan
- Return

This area is not just independent tactics but defines a more strategic view of the management function shown in fig.2.



FIGURE 2: SUPPLY CHAIN DECISION CATEGORIES MAPPED TO THE SCOR-MODEL VERSION 9 (SOURCE: SUPPLY CHAIN COUNCIL)

SCOR is designed to improve or develop new supply chain practice by enabling companies to communicate and compare from companies outside or within their market segment. It helps to find the gaps and inefficiencies in the processes, the best practices fix the gaps and inefficiencies with the leading practices and tools from different successful practices.

One of the main objectives of the SCOR model is to improve the alignment between the marketplace and the strategic response of the supply chain, better the outcome of alignment, better the impact on bottom line performance. Earlier, in most of the organization different metrics were used at different levels, no alignment was present between the market researchers and corporate strategists, different languages were used by them to describe marketplace and supply chain activity. But the SCOR model provides a standard format to facilitate communication, a common supply chain framework, common metrics, and standards terminology, it is a useful tool used by top management to achieve desired performance by designing and reconfiguration its supply chain and can also be used as a common model for evaluating, positioning and implementing supply chain application software.

While implementing SCOR, the user typically considers two type of supply chain improvement perspective: internal improvement: SCOR model is used to improve internal process issues, where best practice is considered as means to compete more effectively. The scope is generally from immediate supplier to immediate customer.

External improvement: involve resolving partner related issues. Best practice is one which improves overall supply chain performance through improved coordination. The scope is generally from immediate supplier's supplier to immediate customer's customer, in a "chain of chains".

2.4. Sustainable Supply Chain Management:

For modern humanity, governments and environmentally conscious business organizations sustainability and environmental issues are one of the most important concerns because of which this business promotes organizational sustainability, specifically for the emerging economies (Hsu et al., 2013; Fabbe-Costes et al., 2014; Tseng et al., 2015). Production processes are often dispersed all around the world, where suppliers, focal companies and customers are linked through information, material and capital flows. And while adding value to the chain through its product and services, environmental and social burden incurred during different stages of production. Recently, Dubey et al. (2015) and Zhu et al. (2012) have suggested that the regulatory bodies have forced the industries to improve and adopt sustainability in their business model. The integration of sustainability with supply chain management has emerged as a ubiquitous topic among academicians and practitioners (Carter and Easton,2011; Connellyetal.,2011; Seuring and Muller ,2008a,2008b).To fulfill the need and demands of fast-growing emerging market in low cost, many companies started to shift their value-added processes to suppliers in countries with lower cost level (Cheung et al., 2009; Reuter et al., 2010; Gold et al., 2013), while keeping headquarters and established "home" market in developed countries. The essence of supply chains is usefully identified by Braziotis et al. (2013, p. 648) as being

[. . .] *a set of primarily collaborative activities and relationships that link companies in the value-creation process to provide the final customer with the appropriate value mix of products and/or services.*

As geographical expansion increases, risk related to expansion also increases mainly reputational risk because of poor working or environmental conditions at the production sites of the suppliers (Reuter et al., 2010) Deviating from social and environmental standards also has negative consequences for a focal firm's reputation (Koplin et al., 2007, Goyal et al., 2013) which result in considering sustainability aspects seriously at all stages of global supply chains (Beske et al., 2008; Seuring and Müller, 2008b; Leire and Mont, 2010. The concept of sustainability is extended to supply chain management because of poor supplier quality due to which awareness in stakeholders increased resulted in brings environmental and social burdens to the supply chain as well as to the finished product (Kumar and Rahman, 2015; Seuring and Muller, 2008). Kirchoff et al. (2016) explained that managers are mainly motivated by the benefits associated with sustainable SCM, which not only enhance the reputation of any organization but also increase efficiency, effectiveness, differentiation and revenue growth. However, with the time it is no longer enough for firms to be concerned only with seeking a profit or cost advantage - they should also give something back to

society at large, minimize their negative impacts on the environment and have some responsibility for the behavior of their suppliers on issues such as child labor, health and safety, and pollution.

Sustainable supply chain management can be defined as:

[. . .] *the strategic, transparent integration and achievement of an organization's social, environmental and economic goals in the systemic coordination of key inter-organizational business processes for improving the long-term economic performance of the individual company and its supply chains* (Carter and Rogers, 2008, p. 368).

However, in short, sustainable supply chain is the integration of key business processes with the Supply chain partners to achieve sustainability objectives (Carter and Rogers, 2008). Sustainability can be viewed differently by different industries depending on their business model, input, output as well as customer base (Azapagic,2003; Cowanetal.,2010) not only by considering the environmental and social issues but also coupling it with economic objectives and incorporating it in company's strategic long-term planning (Carter and Rogers, 2008). Many businesses have taken different sustainability initiatives to reduce the negative impact of their operations on environmental and social. SSCM focus on overall supply chain performance not only the performance of each member in the supply chain (Gold et al., 2010a) while mutually sharing risks and profits (Mentzer et al., 2001). Moreover, it has been defined by integrating the concept of sustainability into the traditional functions of supply chain management (Linton et al., 2007).

Dyllick and Hockerts (2002) further came up with their definition as "meeting the needs of the firm's direct or indirect stakeholders without compromising its ability to meet the needs of future stakeholders as well."

Within this context, organizations recognize that sustainability:

[...] *is not simply a matter of good corporate citizenship – earning brownie points for reducing noxious emissions from your factory or providing health care benefits to your employees [...] Sustainability is now a fundamental principle of smart management* (Savitz and Weber, 2006, pp. 14).



FIGURE 3: SUSTAINABILITY: TRIPLE BOTTOM LINE (ELKINGTON, 1997)

Firms in a supply chain coordinate and share the benefits through market mechanisms, contracts, and partnership arrangements, which lead to the increasing efficiency of all partners. Sustainable SCM means that organizations are held responsible for the environmental and social performance of their suppliers. The prime driver for the rapid development of SCM has been economic sustainability, based on the premise that an integrated and efficient supply chain helps to minimize monetary risks and increase profits (Fawcett et al., 2008). However, in 1983 the World Commission on the Environment and Development (WCED) was established and the result of their work formalized in the 1987 Brundtland Report "Our Common Future". It defined sustainability as "development which meets the needs of the present without compromising the ability of future generations to meet their own needs" (WCED, 1987, p. 43). A total of 25 years later this remains the most often quoted definition of this concept and its two central tenets are: 1 "the concept of 'needs', in particular the essential needs of the world's poor, to which overriding priority should be given;" and 2 "the idea of limitations imposed by the state of technology and social organization on the environment's ability to meet present and future needs" (WCED, 1987, p. 43). This has led, slowly, to social and environmental sustainability becoming additional drivers for SCM, with sustainable supply chain management (SSCM) now a rapidly evolving field that requires a broadened approach to SCM, incorporating the ecological and social aspects of business, as well as economic sustainability, in line with the Brundtland definition (Svensson, 2007).

The United Nations Global Compact defines supply chain sustainability as "the management of environmental, social and economic impacts, and the encouragement of good governance practices, throughout the lifecycles of goods and services". Whereas Dyllick and Hockerts (2002) presented SSCM as an integration of sustainable development and supply chain management, on the other hand Seuring and Müller (2008) defined SSCM as "*the management of material, information and capital flows as well as cooperation among companies along the supply chain while taking goals from all three dimensions of sustainable development, i.e., economic, environmental and social, into account which are derived from customer and stakeholder requirements.* In sustainable supply chains, environmental and social criteria need to be fulfilled by the members to remain within the supply chain, while it is expected that competitiveness would be maintained through meeting customer needs and related economic criteria" (p.1700)

Carter and Rogers (2008) also suggested that engaging in sustainability, and SSCM in particular, is not discretionary, but rather a requirement. There has been increasing interest in recent years in how organizations address sustainability in their supply chains, which has been described as SCM that incorporates the triple bottom line of sustainability. This definition takes TBL into consideration, recognizes inter-organizational information sharing as the key factor and moreover considers stakeholders as an important part for implementing sustainability in the supply chain. Companies implementing SSCM practices are value driven and follow policies related to sustainability in order to improve their performance (Securing and Müller, 2008b; Pagell and Wu, 2009), sustainability implies that economic development must be integrated with ecological stewardship and social well-being (Clift, 2003; Elkington, 1997). The term TBL was coined by John Elkington (1999) and made popular through his book Cannibals with Forks: Triple Bottom Line of 21st Century Business. Who proposed the concept to balance economic, environmental, and social issues from a micro perspective. The triple bottom line concept suggests that firms not only need to engage in supply chain performance evaluation but also in social- and environmental-related behaviors. As in Hassini et al. (2012, p. 70), and using Elkington (1997) TBL principles, we define "business sustainability as the ability to conduct business with a long-term goal of maintaining the well-being of the economy, environment, and society." Both practitioners and academics do not always use all these three sustainability dimensions, but often only a single dimension or a combination of two dimensions (Hassini et al., 2012). The main objective of SSCM is to create, protect and grow long-term environmental, social and economic value for stakeholders involved in the process by bringing the product in the market in an effective way. SSCM also focus on the management of the supply chain, while maximizing customer value and being sustainable throughout the chain. Considering the above framework (fig.3) on-Elkington's triple bottom line of environmental, social, and economic

sustainability (1998) company knows how to prioritize economic factors on the one hand and social and environmental aspect on the other. In terms of environmental, from raw material to final product manufacturing companies are focusing on disposal or recyclability product or services, whereas when considered social factors they don't want their raw material are extracted by forced child labor. Gupta (2012) suggests that sustainability can attract customers and help in creating a competitive advantage for the company.

2.5. Closed loop:

Closed-loop supply chain management (CLSCM) has been identified as an efficient, effective and economical strategy towards environmentally sustainable practices in the supply chain. Moreover, it is a method to design or redesign the supply chain in a manner to incorporates recycling of metals and plastics, repair and reuse of parts and components for the production of new devices, and remanufacturing and refurbishing of entire discarded products for use as second-hand devices (Guide & Van Wassenhove, 2002; Spengler et al., 2004) as shown in fig.4

Based on the new definition, closed loop supply chain management is to maximize value creation over the entire life cycle of product through design, control, and operation of a system, with the dynamic recovery of value from different types and volumes of returns over time.

According to the American Reverse Logistics Executive Council, reverse logistics is defined as "The process of planning, implementation, and controlling the efficient, cost-effective flow of raw materials, in-process inventory, finished goods and related information from the point of consumption to the point of origin for the purpose of recapturing value or proper disposal" (Rogers & Tibben-Lembke, 1998). In general reverse logistics, start from end users (first customers) where collection or returning of used products from customers takes place and then attempts to manage End of Life products through different decisions are undertaken including recycling (to have more raw materials or raw parts), remanufacturing (to resale them to second markets or if possible to the first customers), repairing (to sell in the second markets through repairing), finally disposing of some used parts which can't be part of any of the decisions mentioned above.

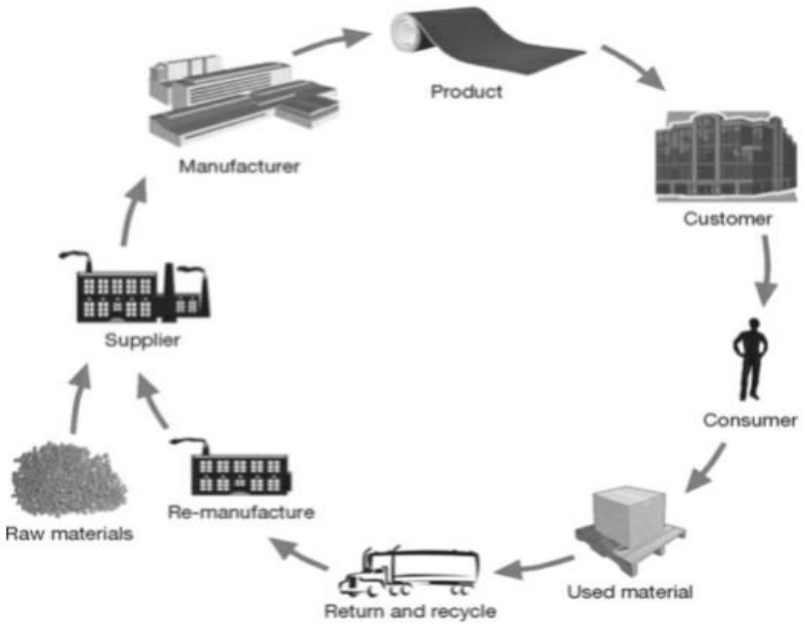

FIGURE 4: A CLOSED LOOP SUPPLY CHAIN

"Adapted from Purchasing and Supply Chain Management A sustainability perspective"

Moreover, Wells and Seitz (2006) believed that forward and reverse chains should be combined for operations and potential flow of materials in the closed-loop supply chain. As reverse logistics has the same characteristics as forwarding logistics flow, except in the opposite direction: 'the role of logistics in product returns, source reduction, recycling, materials substitution, reuse of materials, waste disposal and refurbishing, repair and remanufacturing' (Stock, 1992).

Over the past 15years product remanufacturing have been widely recognized because of its economic and environmental benefits and closed-loop supply chains thus have gained considerable attention in industry and academia (Daniel and Guide, 2009; Kannan et al., 2010; Zhang et al., 2012).

As remanufacturing is a process of restoring end of used or end of life products, components, modules, and parts to like new condition in a manufacturing environment. The decision of adopting a closed loop supply strategy in a firm has very significant implication in terms of sustainable supply management, it represents organization has begun to align the business strategy with issues of environmental management and product life cycle and can distinguish traditional forward supply chains from closed-loop supply chains (Guide and Van Wassenhove, 2003).CLSCM is seen as strategy towards achieving a sustainable supply chain, involving organization's manufacturing philosophy that range from sourcing and selecting suppliers, assessing suppliers' environmental performance, modifying and managing processes, reducing packaging as well as overall waste, developing eco-

friendly products, reducing carbon emissions associated with manufacturing and transportation of goods, etc. (Beamon, 1999; Olugu, Wong, & Shaharoun, 2010; Walker, di Sisto, & McBain, 2008).

However, introducing the concept of the closed loop into business isn't simple and requires continuous effort and improvement in both forward and reverse supply chains. It needs to be managed jointly and particular as product recycling, which is rarely considered as a value-creating system (Guide and van Wassenhove, 2003). Considerable amount of investment in terms of time and resources is required in closed loop supply chains to understand the configurations of information flow and parts distribution that serve the product while in use, and then in developing a collection system which takes back or 'harvests' the product at its end of life, while integrating the cooperation of customers, suppliers and not-for-profit organizations (Kumar and Malegeant, 2006). In terms of design and operation closed loop supply chains are challenging and holds important implications for supply chain strategy (Savaskan et al., 2004) including traditional forward supply chain activities as well as reverse supply chain such as the returns process, movements of goods, product testing, sorting and remarketing (Guide et al., 2003). Reverse logistics provides a number of opportunities to improve profits ranging from various processes including building customer loyalty, developing secondary channels and having fewer markdowns in retailers by repositioning stocks, in addition to these profit opportunities reverse logistics also gives rise to cost reduction possibilities in raw material purchasing as materials are recovered and recycled from end customers, return back into manufacturing process, therefore avoid buying virgin materials (Carter and Ellram, 1998). Customer returns are those which relate to customers not wanting to keep the product they have bought because it does not fit their requirements or it's no more in use and that Returned products can take a variety of routes, it depends on the condition of goods as shown in fig.5

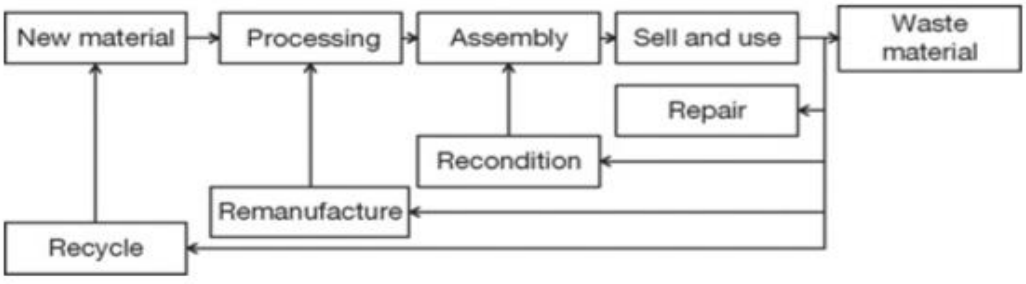

FIGURE 5: VARIOUS ROUTES FOR RETURNED PRODUCTS

"Adapted from Purchasing and Supply Chain Management A sustainability perspective"

The first most common approach is Repair of the product, and if the product is beyond reparation, then next most preferable option is reconditioning where the components of products are replaced, and few things are upgraded inside the product, making it ready for resale into second-hand market but the quality will be lower which means price will be much lower than as new. The third option is complete remanufacturing, where product is completely disassembled, processed and reassembled as new, and the quality of product will be near about the new products, final option where products are beyond manufacturing for technical or economic reasons, is recycling of the materials where products undergo several processes to be used as new raw material (Miemczyk, J., Johnsen, T.E., Macquet, M., 2012). Still, Closed loop systems are mostly treated as a silo, isolated from the core business as the activities are yet to be established, not fully understood in different contexts because of variations in complexity and perceptions in managerial importance, rather than tackling the broader, more strategic issues of business profitability and the underlying motivations for why the firm has adopted such a scheme in the first place, industry and academia are focusing on operational and tactical e.g. how to create a remanufacturing program.

2.6. Sustainable Purchasing and Supply management:

A company is no more sustainable than the suppliers from which it sources (Krause et al., 2009) and this put purchasing and supply management in a central position to achieve sustainability. Growing amount of research on sustainability concerns purchasing and supply management, such as ethical sourcing (Preuss, 2009; Roberts, 2003), corporate social responsibility in the supply chain (Faisal, 2010; Maloni and Brown, 2006), socially responsible buying (Maignan et al., 2002; Park and Stoel, 2005) and green supply chains (Kainuma and Tawara, 2006; Mollenkopf et al., 2010).

Purchasing activities can be viewed along a spectrum which ranges from clerical to strategic where at clerical level purchasing function has low visibility with a lengthy reporting relationship to top management (Pearson et al., 1996) thus, purchasing decisions are routine in nature. This level includes basic purchasing activities such as order processing, expediting orders, following-up on orders, and selecting suppliers based on price. At the end of the spectrum known as strategic purchasing performance is based on efficiency measures (Reck and Long, 1988), little inter-functional communication takes place because of low purchasing visibility. Purchasing's main job is to keep the factory running by providing materials and the buyer often has no relevant professional qualifications (Keough, 1994). At the strategic level, purchasing activities are integrative, Pearson et al. (1996) state that strategic purchasing has a proactive, long-term focus and result of purchasing activities is measured on terms of contributions to the firm's success. Which also includes fulfillment of all three pillars while caring for any type of operation in the supply chain. Sometimes it involves

actions such as ensuring that suppliers refrain from using child labor or polluting the environment with hazardous chemicals, however ensuring suppliers are following the above rules requires major efforts. The firm, and especially the purchasing function, need to develop a capability to ensure this compliance (Barney, 1991; Makadok, 2001; Teece et al., 1997). At this level, supplier management is critical (Keough,1994). Purchasing's selects the right type of relationship with its suppliers and supplier relationships are strategically managed. Purchasing, procurement, and sourcing decisions typically include internal buying processes that relate primarily to direct suppliers including various other factors such as supplier selection, contracting, ordering, expediting and evaluation (Van Weele, 2010).

Van Weele's (2010) describes a well-known definition of purchasing: "*Sustainable purchasing is the consideration of environmental, social, ethical and economic issues in the management of the organization's external resources in such a way that the supply of all goods, services, capabilities, and knowledge that are necessary for running, maintaining and managing the organization's primary and support activities provide value not only to the organization but also to society and the economy."*

The operating objectives of purchasing are to buy the right materials in the right quality, at competitive prices, in economic quantities, at the required time, and from reliable sources. Purchasing is narrowly defined in terms of process from origination to fulfillment of needs (Baily, 1987). The ability to buy firms to integrate, build and reconfigure internal and external resources using organizational processes to increase economic returns as well as social and environmental responsibility along the supply chain defines Sustainable Supply management as a purchasing capability. Involvement of suppliers at the earliest stage of product design to render cost-effective design and mostly leads to innovation in process and material technology to compete in global market (Monczka et al., 1994) moreover, manufactures maybe able to develop alternative conceptual solutions, select the best components and technologies, and solicit help in design assessment (Ragatz et al., 1997; Burt and Soukup, 1985).

2.7. Strategic sourcing:

Quinn (1980) states that strategy is a plan that integrates organization major activities, goals, policies and actions into a cohesive whole. However, other researchers like Certo and Peter (1994) stated, the strategy is attempting to direct firms' activities towards a long-term goal. However, during early 1980s procurement profession got boost when pioneers such as Kraljic (1983) and Porter(1980) pushed professionals of procurement to think more in a wider perspective and even strategically about the art, science, and practice of procurement. And the idea of strategic purchasing began to

emerge, but historically top management tended to view purchasing as having a passive role in the organization (Ammer,1989).

By the 1990s both the academics and mangers were giving much more attention to strategic purchasing, A.T. Kearney encouraged professionals to even think about the other aspects and to consider procurement in border perspective related to strategic sourcing and commodity management, many articles were published about how the purchasing process could be linked to corporate strategic planning (Watts et al., 1992) and the importance of purchasing's involvement in strategic planning was often mentioned (Pearson and Gritzmacher, 1990; Freeman and Cavinato, 1990). Many organizations and individuals responded, embracing the concepts for strategic sourcing such as Kraljic Matrix, Porter's Five Forces model and A.T. Kearney's popular seven-step framework (Clegg and Montgomery, 2005) as a result procurement profession slowly shifted from "buying desk" to full-fledged functions that drive strategic value for organizations. The main focus of the research during that time was on economies of Strategic Sourcing (SS) decisions in a transaction cost context and impact of this decisions on competitive advantage. (e.g.Freeman and Cavinato,1990;Welch and Nayak,1992). With this good dominant logic in sourcing, purchasing professionals were engaged in non-value adding activities and paperwork processing (Monczka et al., 2011), and supplier and customers were merely senders and receivers of those goods. As research emerged in the late 1990s and the year 2000 when SS expanded and considered relational and customer satisfaction as one of the important parameters. This evolution in a procurement made a lasting impact.

The literature describes Strategic Souring as a process of directing all the sourcing activities toward opportunities that help the firm to achieve its long-term operational as well as organizational performance goals. (Kocabasoglu and Suresh, 2006; Lawson et al., 2009). Decisions and processes are influenced in SS by the mindset (orientation) of top management. Further, this importance of strategic sourcing is widely accepted in both the manufacturing and service industries (Monczka et al., 2005). And as the importance of strategic sourcing is day by day increasing (Krause et al., 2001), it is necessary for researchers to continue to enhance the existing body of knowledge to offer theoretical and practical insights.

Sourcing activities include analyzing expenses, identifying potential suppliers, requesting quotations, negotiating contracts, monitoring and improving suppliers (Kumar et al., 2003) which aim to streamline sourcing and purchasing activities to support the vision of total supply chain to service the ultimate customer. It aligns the sourcing operations to support overall organizations strategy and service level (Kocabasoglu, 2002; Ellram and Carr, 1994; Pearson and Gritzmacher, 1990). It is a comprehensive and systematic process, which add value to a company (Smeltzer et al., 2003;

Anderson and Katz, 1998). The organization emphasizing strategic sourcing are already aware of the benefits associated with integrating purchasing into strategic planning (Tan, Kannan, et al., 1998)

Strategic sourcing architecture upholds the competitive profile of the company and develops, interconnect and manage the rings constituting the chain (De Toni et al., 1994). Banfield (1999), Greaver (1999), Carr and Smeltzer (1997) and Talluri and Narasimhan (2004) also labelled strategic sourcing as purchasing, procurement or outsourcing, where Carr and Smeltzer (1997) specifically point out that strategic sourcing consists of the strategic processes of planning, evaluating, implementing and controlling all sourcing activities by a company to achieve its long-term goals and Smeltzer et al. (2003) find that all strategic sourcing strategies emphasize the integration of business practices such as early supplier involvement, supplier development, supplier assessment, supplier certification, and measurement. The ultimate goal of the leading firms is to manage their suppliers throughout the supply chain for dependable delivery, decreased production lead time, reduce cost, and increased quality, strategic sourcing is way to for firms to obtain manufacturing capabilities without capital investment (Narasimhan & Das, 1999) as the cost of raw materials, components parts, and services purchased from external suppliers is significant for most of the manufacturing firms. Strategic sourcing builds competitive advantage for firms during the early stage of supplier involvement either in terms of product engineering, sharing of supplier technology or supplier assistance in developing the product. Therefore, strategic sourcing contributes to a firm's competitiveness by ensuring satisfactory quality for its inputs, which in turn leads to high quality of the final products. Uncertainty reduction and improvement of flexibilities when faced with supply, demand, and competitiveness uncertainties are the principal objective of strategic sourcing (Freeman & Cavinato, 1990; Narasimhan & Das, 1999).

Strategic sourcing includes Developing relationship with key suppliers to achieve shorter order cycle time resulting in a reduction in the supply chain response time, this factor is considering as important measures as well as a major source of competitive advantage, and it directly influences the customer satisfaction level.

The sourcing strategy consists of varieties of factors which include a number of suppliers that will be contracted, type of relationship with different kind of suppliers and type and conditions of the contracts that will be negotiated (Van Weele, 2009). Organization's strategic objectives and characteristics, as well as its supply chain, help to determine the most suitable sourcing strategy and once the strategy has been chosen, the actual ordering (i.e. the placement of purchase orders at previously arranged conditions) can take place. It is widely argued that sourcing strategies with high integration between buyer and supplier lead to high supplier performance (Tan et al., 1998; Bruce

and Moger, 1999; Trent and Monczka, 2003), Sourcing strategies with close collaboration are, however, difficult to realize when a low-cost focus is applied – due for example to cultural and geographical distances – and such a focus may thus contribute to hidden costs often neglected by firms (Lowson, 2001, 2003; Warburton and Stratton, 2002). Several performance indicators such as deliveries and lead times apart from price and quality which was often the focus of previous research (Cho and Kang, 2001; Warburton and Stratton, 2002; Teng and Jaramillo, 2005) must be considered to look for the tradeoff experienced by firms choosing between various sourcing strategies. In addition, performance in terms of issues concerning the relationship between buyer and supplier – such as communication, relationship atmosphere or obtained flexibility is also considered (Trent and Monczka, 2003; Bruce et al., 2004; Teng and Jaramillo, 2005; Tyler et al., 2006).

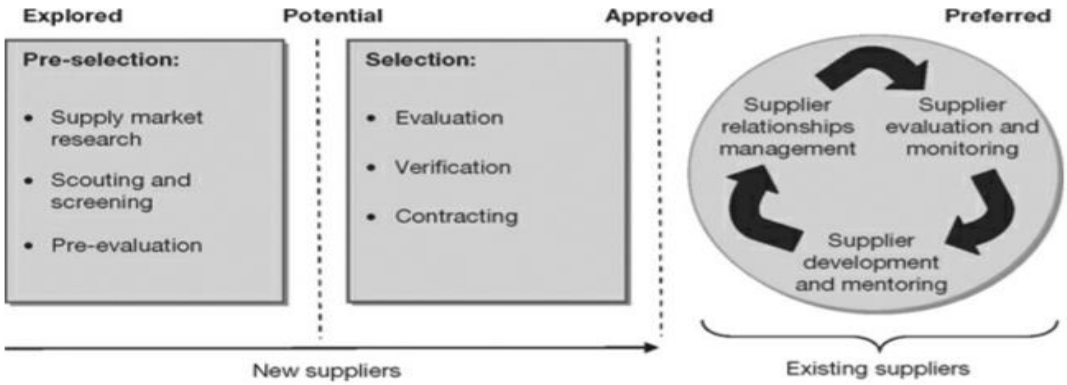

FIGURE 6: THE STRATEGIC SOURCING PROCESS: BUILDING AND MAINTAINING A SUSTAINABLE SUPPLY BASE

Source: inspired by a model used by Nokia Siemens networks.

"The purchasing process includes a number of stages; however, it is rare for a company to start the process without any prior knowledge of the supply market. Most companies want to avoid working with new suppliers as they don't have any experience with them moreover, new suppliers represent an element of risk. Best practice in purchasing involves building and maintaining a base of approving and preferred suppliers, so during purchasing suppliers are selected from the base (approve and preferred) in order to save the cost and time associated with evaluating, verifying and contracting with new unknown suppliers. As shown in (fig) those suppliers on the company's list of approved and preferred suppliers and then through different means such as supplier evaluation, supplier relationship management, supplier development company's take efforts to build long-term relationships. As illustrated in fig.6. The process of strategic sourcing begins by searching for a new supplier in the market which is also known as pre-selection process based on conducting a supply market research which involves different means such as internet searches, trade fair attendance, industry association liaisons or embassy consultation. Most of the time existing supplier's and

partners in the company also help by providing useful references. Scouting and screening is also part of pre-selection which help to find suitable and potential suppliers outside the market, once the pre-selection process is done, list of potential suppliers is identified which are further subjected to the more rigorous suppliers selection process such as evaluation and details verification, once everything has been checked, final step involves framing of contract.

Once the process of supplier selection is done and potential suppliers are selected, their details are saved in the company's database of approved suppliers; and the company will use these suppliers in future wherever possible to so that cost of steps involved during the process can be saved and even reduce the (transaction) cost moreover to overcome the risk involved in starting all over with new unknown suppliers material (Miemczyk, J., Johnsen, T.E., Macquet, M., 2012).

Pillania (2008) present key dimensions of strategic sourcing with empirical validation, where partnerships, flexibility, supplier selection, and trust are essential, Furthermore, Chiang et al. (2012) show that strategic sourcing and strategic flexibility have significant influences on the agility of supply chains. The determination of strategic sourcing by strategic purchasing, supplier development, internal integration, and information sharing has a greater influence on a firm's supply chain agility than flexibility. Buying firms are increasingly making an impact and are responsible for social or ecological externalities depending on the behavior of their suppliers (Hartmann and Moeller, 2014; Koplin et al., 2007; Parmigiani et al., 2011).

2.8. Sustainable sourcing:

Business academic interest in environmental and social concerns dates back to over a half-century ago (Leonidou et al., 2013), yet attention to understanding the relationship of these concerns to profitable decision making in business organizations has grown at an increasing rate over the past two decades (Leonidou and Leonidou, 2011). Recent trends in academic literature or business practices highlight the impact of business on the environment and society (Walker and Brammer, 2012). And in today's business world, sustainability is one of the important topics for most organizations (Dahlmann et al., 2008; Tuttle and Heap, 2008). This involves the simultaneous considering effect of all the factors of the triple bottom line in business activities (Elkington,1998; Goncz et al., 2007; Sikdar, 2003). But the result of research on sustainability suggests a tradeoff between economic outcomes and environmental and social impacts (Wu and Pagell, 2011). Purchasing has been considered as an important supply chain decision in protecting the company from unbalanced TBL, because of it's direct immediate and long-term impact on a company's total expenditures and its supply base (Goebel et al., 2012). Moreover, purchasing function particularly

fits in contributing sustainability to the overall organization, primarily due to its position as it is the starting point of the flow of materials into the company (Carter et al., 1998; Porter and van der Linde, 1995).

However, it is always a problem for purchasing managers as they are expected to buy at the lowest cost possible in the market while ensuring a selection of environmentally and socially sustainable supplier (Goebel et al., 2012). Sustainability goals in organizations can also be achieved by long-term partnerships (Elkington, 1998). Incorporating "the triple bottom line," that is including environmental, social, and economic considerations into the effective sustainability initiatives can improve an organization's image with its customers, improving overall economic performance (Carter and Jennings, 2004; Carter and Rogers, 2008; Ellen et al., 2006). Different aspects of sustainable sourcing can be seen as research is growing in this field (Pagell and Wu, 2009; Tate et al., 2010), such as select antecedents (Reuter et al., 2010) or some specific measures of a successful implementation of sustainable sourcing (Pagell et al., 2010). So far, no single definition about sustainable sourcing has been established that coins a comprehensive term reflecting economic, environmental and social aspects alike. Recently, Pagel et al. (2010, p.58) presented a definition "managing all the aspects present in upstream components of supply chain which results in maximizing triple bottom line performance", with the latter referring to a measure of business' impact on people, profits, and the environment (Kleindorfer et al., 2005).

Strategy related to sustainability is not easy to execute, sometimes organization may have trouble identifying opportunities that align with the stated goals and initiatives (Maignan et al., 2002; Porter and Kramer, 2006). More specifically, each organization is only sustainable as its upstream supply chain (Handfield et al., 2005; Krause et al., 2009), and if companies aiming for corporate sustainability then involving suppliers is must while creating environmental and social standards for supplier performance (Sharma and Henriques, 2005; Simpson et al., 2007; Tate et al., 2010). Moreover, incorporation of corporate social responsibility purchasing initiatives as part of an organization's strategic plan is typically examined with respect to the benefits of sustainability and has been studied extensively (Carter and Jennings, 2004; Carter and Rogers, 2008; van Hoek and Johnson, 2010; Pagell and Wu, 2009; Porter and Kramer, 2006). Implementing corporate sustainability relies upon involvement, alignment, and cooperation of all the several departments (Handfield et al., 1997; Wu and Dunn, 1995). Previous studies have shown that like strategic purchasing, sustainability initiatives that are incorporated into an organization's strategic goals are most effective (Elkington, 1998; van Hoek and Johnson, 2010), and the benefits to successful sustainability initiatives can outweigh additional costs associated with the initiatives (Carter and Jennings, 2002). Maignan et al. (2002) made recommendations on effectively using social

responsibility as a consideration in purchasing, and how purchasing could help an organization to meet sustainability goals. While sustainability has been incorporated into overall sourcing strategies, to date, a study that examines sustainability initiatives through a strategic purchasing lens has not been published, although Quarshie et al. (2016) recommend pursuing sustainability through strategic relationships instead of relying on discrete purchases. Aligning sustainability efforts in the purchasing arena and strategic sourcing efforts is a logical extension of current practice, becoming an additional factor in the portfolio review or spend analysis processes. When referring to "sustainable global supplier management" integration of environmental and social criteria into the supplier management process is important (Reuter et al., 2010). Similarly, Tate et al. (2010) require sustainable sourcing to ensure the selection of suppliers that (1) meets high environmental standards (2) provide good economic value at low cost (3) enforce the focal organization's social values and standards. In general, sustainable supply chain and sourcing strategies can range from compliance-oriented to holistic sustainability concepts and, thus, from reactive to proactive strategies (Kudla and Klaas-Wissing, 2012). In contrary to traditional sourcing strategies (Svahn and Westerlund, 2009), Sustainable Sourcing Supply Management (SustSSM) strategies cover a large number of additional practices to integrate sustainability. For example, focusing on environmental sourcing strategy which means integrating environmental issues in their supply base and sourcing activities.

Similarly, Min and Galle (2001) pointed out the implementation of green purchasing practices to apply a green purchasing strategy. In line with Maignan et al. (2002), a socially responsible buying strategy can be understood as a combination of different practices in the supply chain where the proactivity increases with the number of practices included such as defining sustainability goals for the purchasing function; designating responsibility to personnel; and educating, monitoring, and sanctioning of suppliers. To start such practices, companies need to systemically set several internal analysis systems, where internal and external assessment can take place, and purchasing policies based on organizational values can be classified (Handfield et al., 2005; Maignan et al., 2002). Similar to Zimmermann and Foerstl (2014), we distinguish between such internal governance activities (Day and Lichtenstein, 2006) and supplier-facing practices. As sourcing and purchasing decisions are relate to direct suppliers (Miemczyk et al., 2012), supply management practices cover most of the parts in the chain such as selection, evaluation, and monitoring as well as development and collaboration activities (Maignan et al., 2002; Quarshie et al., 2015). However, the governance of sustainability includes multiple inter-connected actors, which requires the understanding of the roles and perspectives of different mostly non-traditional, stakeholders within the broader supply chain network (Miemczyk et al., 2012). Thus, firms increasingly collaborate with actors such as NGOs,

industry partners and competitors, trade associations, and other multi-stakeholder initiatives to leverage knowledge, experience, and credibility for SustSSM practices (Quarshie et al., 2015). In this rationale, sourcing strategies can be understood as a bundle of SustSSM practices describing the configuration of sourcing strategies (Miller and Roth, 1994).

Analyzing the different content foci is particularly germane for our approach as the substantial difference between social and environmental sourcing practices (Marshall et al., 2014) lies in the content focus of SustSSM practices and strategies. Socially responsible sourcing implies the consideration of human rights, safety, diversity, and philanthropy, including workers' rights, wages, and workforce issues in the focal firm's purchasing decisions (Leire and Mont, 2010). Green sourcing and practices look at the environmental performance of both suppliers and purchased products (Bowen et al., 2001).

Sustainable supply chain management (SSCM) and sustainable sourcing and supply management (SustSSM) have become an important phenomenon in research and management practice (Beske and Seuring, 2014; Quarshie et al., 2015; Walker et al., 2012; Zimmer et al., 2015). So far, scholars have analyzed different strategies and practices that companies can use to integrate sustainability in SSCM functions (Beske and Seuring, 2014; Grimm et al., 2014; Mamic, 2005; Pagell and Wu, 2009; Reuter et al., 2010; Seuring and Müller, 2008a). Taking triple bottom line perspective in consideration, SustSSM practices typically define sustainability in terms of social, environmental, and economic goals (Krause et al., 2009; Linton et al., 2007; Miemczyk et al., 2012; Seuring and Müller, 2008b). Thus, this focus makes buying firms to create more comprehensive sourcing strategies apart from considering common goals such as 'lowest material costs' (Handfield et al., 2005). From this perspective, the SustSSM function includes procurement and supplier management activities such as sustainability-oriented supplier selection and auditing, as well as supplier collaboration and development (Bowen et al., 2001; Hollos et al., 2012; Leire and Mont, 2010; Sarkis, 2012). The proactive SustSSM strategy can contribute a lot in improving sustainability performance, but it is important to figure out which practice get firms there (Gimenez and Sierra, 2012; Zimmermann and Foerstl, 2014). When considering firm's sourcing strategy reflect different buying settings (Svahn and Westerlund, 2009), companies facing diverse sustainability challenges, context factors, and supply chains (Lu et al., 2012; Paulraj et al., 2012) can focus on wider aspects and pick different sourcing strategies to address sustainability considerations.

2.9. Supplier selection:

SCM is process of planning, implementing, and controlling the operations of supply chain in most effective and efficient way, therefore Goffin et al., (2006) have stated that supplier management is one of the key issues of the SCM as the cost of raw materials and components parts constitute the main cost of a product and firms have to spend a considerable amount of their sale revenues on purchasing which represent 40 to 70 percent of the cost of goods sold, and 30 to 50 percent of revenues, hence supplier selection plays an important role. Companies focusing on Selecting right suppliers and excelling in strategic sourcing significantly reduces the purchasing costs, saves almost 10 to 20 times as much as it costs to operate their sourcing operations which means improvement in returns on investment by increasing both profit margins and asset turnover rate (Dobler and Burt, 1996; Leenders and Fearon, 1997) as well as corporates competitiveness resulting in improving the supply chain performance. Sourcing activities involve many interactions with existing suppliers and new suppliers: it is important for company to effectively distinguish between suppliers those best suits the requirements and long-term needs of the company's (Dobler and Burt, 1996; Pooler and Pooler, 2004) whereas supplier selection involves factors that organizations consider while selecting and evaluating key/ preferred suppliers' performance (Kannan & Tan, 2002). It is an important strategic decision and serves as a source of competitive advantage (Simpson, Siguaw, & White, 2002). The conventional approach of supplier selection is to contact as many potential suppliers as possible, issue them with procurement specifications, and ask for quotations, in this case, offers would be evaluated and purchasing order would issue to the lowest bidder. Increasingly organizations are going for long-term partnership with their suppliers for strategic items so as to get suggestions for new product development and resolving various operational issues by effectively allocating resources to enhance supplier performance, it provides benchmarks and continuous feedback to suppliers and in some cases engages in supplier pruning activities (Tomas and Hult, 1998; Talluri and Narasimhan, 2004). Choosing the right supplier involves consideration of quantitative and qualitative factors apart from considering price alone. The capability of firms to produce a quality product at a reasonable cost and in a timely manner is heavily influenced by its supplier's capabilities and supplier performance (Choi & Hartley, 1996; Krause et al., 2000; Shin, Collier, & Wilson, 2000). A wide range of activities is included in strategic sourcing such as creating an overall strategy for sourcing, evaluating and selecting suppliers, procuring materials/services and managing supplier relationships (Anderson and Katz, 1998) because of which Strategic sourcing is increasingly seen to be a business capability of firms. If properly structured sourcing can effectively combine the core competencies of a given firm with the skills and capabilities of its suppliers as sourcing decisions are

vital for any organizations that want to leverage on its core competencies and outsource other activities in order to gain and retain competitiveness.

There are four factors in this category. First, supplier evaluation and selection are taken into account with the actual choice of supplier, which involves evaluating the characteristics of suppliers based on the selection criteria and selecting that supplier which best matches the needs of the item/product (Liu et al., 2000; Weber et al., 2000; Tam and Tummala, 2001; Chin et al., 2006; Araz and Ozkarahan, 2006).

As we know in most of the industries cost of raw materials and components parts constitutes the main cost of product, thus purchasing department plays an important role in an organization's efficiency and effectiveness as it has direct effect on cost reduction, profitability and flexibility of a company, Since suppliers represent a critical resource to a firm, the perceptions of the buying organization regarding its suppliers' current and expected performance affect the performance of the buying firm directly and indirectly because of which experts believe supplier selection is the most important activity of purchasing department.

Supplier evaluation is a qualification process that not only evaluates buyer's company decision process but also evaluates supplying company's behavior (Hald and Ellegaard,2011), it is a tool to communicate the buyer firm's perceptions of supplier performance and capabilities (Prahinski and Fan, 2007).

Moore and Fearon stated that Price, quality and delivery are important criteria while selecting suppliers whereas Buffa and Jackson presented a model where two sets of factors are considered: (1) supplier attributes, which includes quality, price, service experience, early, late and on-time deliveries and (2) the buying firm's specification, including material requirement and safety stock. However, apart from attributes mentioned above Bender et al., (1985) included a quantity discount as one of the important criteria. It is important for evaluating buying companies to have a formal program or system for evaluating and keeping track on new and existing supplier's performance. Buying organizations can utilize supplier evaluation for supplier selection, supply base reduction decisions, supplier development and benchmarking, and development of strong and collaborative relationship with a group of key preferred suppliers (Cormican and Cunningham, 2007; Prahinski and Fan, 2007), it is also used to communicate buying firms perceptions of supplier's strengths and weaknesses and expectations of supplier performance and capabilities to maintain capable ,high performance supply bases (Modi and Mabert, 2007; Prahinski and Fan, 2007) and to make supplier aware of the discrepancy between its current performance and the buying firm's expectations (Modi and Mabert, 2007; Prahinski and Fan, 2007; Prahinski and Benton, 2004). The strategic supplier

evaluation criteria are listed in Table 2. It indicates that the key criteria and their priorities have changed with time and business environment. Nevertheless, cost/ price, delivery time, and quality are always the key strategic supplier evaluation criteria in the literature. To cope with the contemporary challenges of the dynamic market, numerous criteria have been taken into consideration, such as companies' financial performance, flexibility in service and production capability, and risk management.

TABLE 3: A SUMMARY OF STRATEGIC SUPPLIER EVALUATION CRITERIA.

AUTHORS	STRATEGIC SUPPLIER EVALUATION CRETERIA
Verma and Pullman(1998)	Cost, quality, lead time, on-time delivery, and flexibility of changing order
Ndubisi et al. (2005)	Technology, quality, cost and delivery performance
Su et al. (2009)	Product cost, product quality, delivery dependability, and delivery speed
Ho et al. (2010)	Quality, delivery, price/cost, manufacturing capabilities, service, management, technology, R&D, finance, reputation, risk, relationship, and safety
Kar and Pani (2013)	Product quality, delivery compliance, price, production capability, technological capability, financial position, and e-transaction capability

Taking a look at the above evaluation criteria few factors are considered to be the most important in all theories such as cost, quality, on-time delivery, but for some researchers and academics technology, R&D, production capability is significantly important while selecting a supplier.

Even though These evaluation criteria sometimes involve trade-offs because it is difficult for any single supplier to excel and fulfill all dimensions of performance (Petroni and Braglia, 2000; Bhutta and Huq, 2002).

Second, supplier monitoring should be performed continually (Chan and Qi, 2003; Krause and Ellram, 1997; Gunasekaran et al., 2004; Chin et al., 2006). Supplier monitoring keeps track of supplier performance, and provides feedback to suppliers for amelioration, if necessary, which eventually improves strategic sourcing performance.

Third, supplier development is required for those suppliers that are not performing well but are still useful to the company (Talluri and Narasimhan, 2004). Supplier development is defined as both the buyer and supplier applying effort to increase the supplier's performance and capabilities (Krause and Ellram, 1997; Hartley and Jones, 1997). When suppliers are selected with these criteria, both supplier performance and the buying firm's operations performance are expected to increase (Tan,

2002; Vonderembse & Tracey, 1999), thereby enhancing the firm's ability to gain competitive advantage.

The good and the best suppliers can be further developed, and partnership strategies can be applied (Talluri and Narasimhan, 2004). Finally, supplier collaboration is an appropriate first step towards building strategic alliances with supplier partners (Burt et al., 2003; Prevot and Spencer, 2006), whereby partners are willing to share information about future plans, design and R&D (Spekman et al., 1998; Krause et al., 2001; Lajara and Lillo, 2004).In order to manage supplier as assets and integrate suppliers in the supply chain, buying firms make all possible efforts develop a beneficial buyer-supplier relationship, mostly with their key supply partners to manage environmental uncertainties. A firm that considers sourcing to be as one of the strategic components is likely to appreciate buyer-supplier cooperative relationship and this relationship-specific capability can lead to collaborative advantages for both supplier and buyer firms in the dynamic marketplace. Souring managers play a pivotal role in developing a relationship and effective communication with suppliers (Chiang et al., 2012; Kocabasoglu and Suresh, 2006; Chen et al., 2004). Marketplace full of uncertainty, risk, and turbulence in this situation having a collaborative buyer-supplier relationship is more desirable for the buying firm, as an important resource of a firm, strategic sourcing drives the firm to access, acquire, or develop additional resources through buyer-supplier cooperation.

Companies that have established strategic purchasing relationships with their suppliers allows the buyers to enhance core operations while strengthening their market share, since the suppliers had the capability to manage all the non-critical portions of the business. Purchasing and logistical operations become more efficient in terms of reducing transactional purchasing costs, costs associated with the ordering process, and delivery costs if firms have a strong supplier and buyer relationships.

A relationship between the buyer and supplier may develop from repeated interactions during previous trade (Gulati, 1995) or it may result from the supplier's inclusion on strategic teams within the buyer's organization (Andersen et al., 2016; Lacoste and Johnsen, 2015). Successful relationships also require the buyer to define the supplier's role clearly prior to the commencement of the relationship, and not expand the supplier's role without discussions during the relationship (Ueltschy Murfield et al., 2016).

The closer buyer-supplier relationship is important to work with and provide better service. As SCM is constantly evolving which means changes in technology, competitive actions, suppliers and customer demands, making supply chain more strategic, dynamic and customer driven (Melnyk et al., 2007) and during the volatile demand context close to market sourcing play a vital role in

reduction of order response cycles time and the overall performance of the members of the chain (Sislian and Satir, 2000; Christopher et al., 2004). Strategic supply chain management enhances the ability of a firm to develop and maintain competitive advantages in a competitive market.

Words used while searching for papers: supply chain, supply chain management, sustainability, green supply chain, sustainable supply chain management, triple bottom line, SCOR model, closed loop, reverse logistic, sourcing, sustainable sourcing, strategic sourcing, procurement, purchasing, sustainable purchasing, supplier selection, buyer-supplier relationship.

2.10. Overview of Indian textile:

India is considered to be the world's largest producer of textiles and garments, because of abundant availability of raw materials such as cotton, wool, silk, and jute as well as cheap skilled workforce have made the country a sourcing hub. The textile industries are one of the biggest contributors to many national economies. The Indian textile industry is no exception to this, it has covered a unique position in the Indian economy. Not only in terms of its contribution to industrial production but also in employment and export because of which it is one of the largest segments of Indian economy accounting for 14% of the industrial production. After China, India is considered as world's second largest producer of textiles and garments whereas third largest when it comes for producing cotton. As the Indian textile industry is growing day by day, it is expected to reach the US $209 billion from the US $108 billion till the year 2021. The industry is also known for the second largest in terms of employment after agriculture by employing more than 45 million people directly and 60 million people indirectly. It contributes 14 percent to industrial production, and 4 percentage to GDP, moreover, 17 percentage to the country's export and 21 percentage employment (NCAER, 2009). India has taken over global markets such as Italy, Germany, and Bangladesh and consider as world's second largest textile exporter.

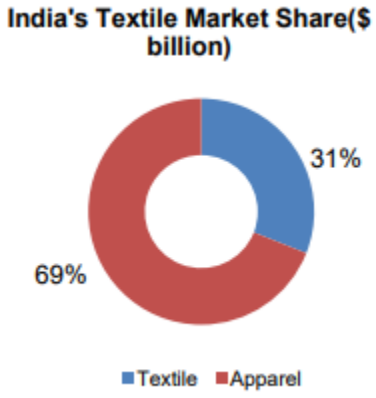

FIGURE 7: INDIA BRAND EQUITY FOUNDATION

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The structure of Indian textile is quite complex as it ranges from hand-spun khadi and traditional textiles woven on handlooms at cottage industry to the highly capital-intensive modern mill sector and synthetic fiber manufacturing units. In between these two lies decentralized power loom, knitting and garment sectors. The textile industry has diversified into two major segments, first which focus on traditional tools and methods and consist of unorganized sector operated on a small-scale

including handloom, handicrafts, and sericulture. The second is the organized sector which consists of spinning, apparel and garments segment consisting of modern machinery and techniques such as economies of scale. The unique structure is due to the legacy of tax, labor and other regulatory policies that have favored small-scale, labor-intensive enterprises while discriminating against larger scale, more capital-incentive operations. The Indian textile and clothing industry is considered too has one of the longest and most fragmented supply chains in the world, with the existences of many intermediaries between the producer and the final customer (NCAER, 2009).

2.10.1 Textile Sector Supply Chain Management: An Overview

The supply chain of a typical textile company consists of:

- Raw material
- Ginning facilities
- Spinning and extrusion process
- Processing sectors
- Weaving and knitting factories
- Garment manufacturing

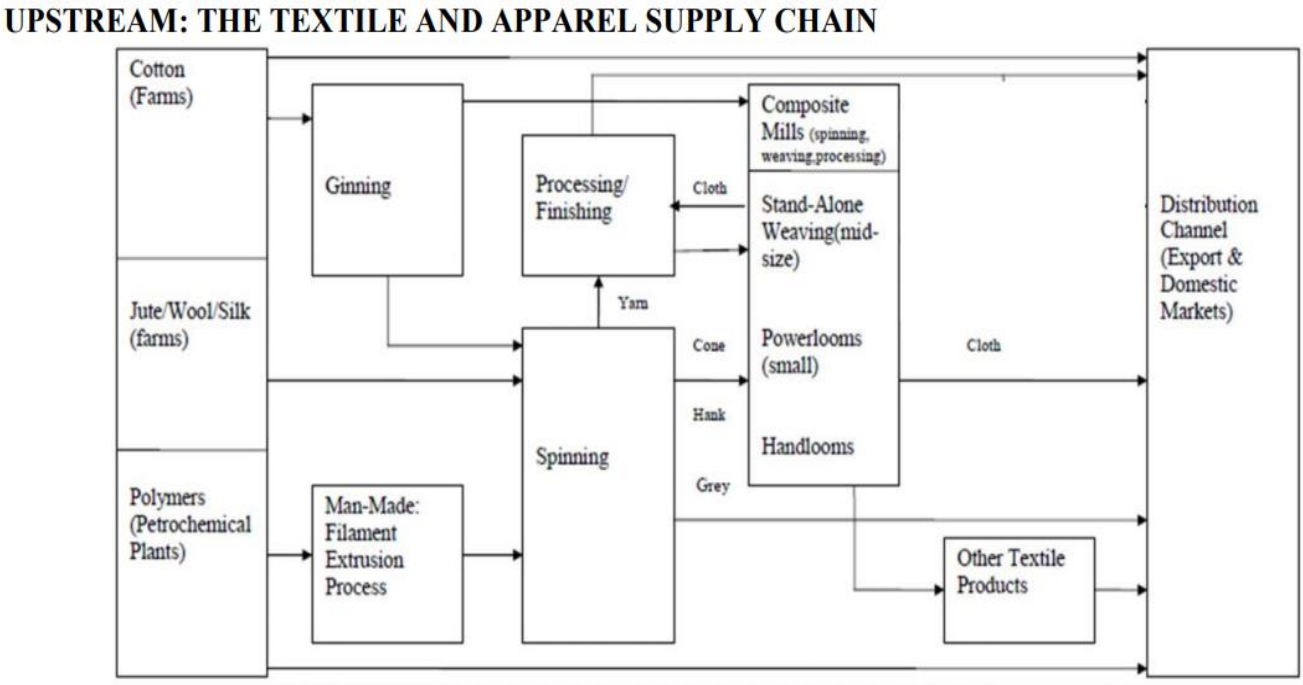

FIGURE 8: THE TEXTILE AND APPAREL SUPPLY CHAIN (CHANDRA,P. 2004)

UPSTREAM: AN OVERVIEW

Activities that are confined to the supplier side in the supply chain management is considered as upstream activities, which involves raw material sourcing, raw material extraction and processed material delivery to the production plant. The supply chain of textile and apparel consist of diverse raw material sectors, ginning facilities, spinning and extrusion processes, processing sector, weaving and knitting factories and garment (and other stitched and not- stitched) manufacturing that supply an extensive distribution channel. However, the supply chain is one of the most diverse in terms of raw materials used, technologies deployed, and products produced as seen in fig.8 (Chandra, 2016).

Near about, 70 percent by value of its production to the domestic market is supplied through this supply chain. Where distribution channel comprises wholesales, distributors and a large number of small retailers selling garments and textiles. Another feature of the distribution channel for more secure and consolidated orders for producers includes a strong presence of "agents". In the organized sector, an estimate of 65,000 garment units exists, of which about 88 percent are for woven cloth while others are for knits. However, only some portion of units approx. 30-40 units are large in size, as these firms are spread all over the country, an emerging cluster can be seen in National Capital Region (NCR), Mumbai, Bangalore, Tirupur/Coimbatore, and Ludhiana.

The heart of the industry lies in weaving and knits sector, the total production from the weaving sector account 46 percent was cotton cloth, 41 percent was non-cotton including khadi, wool and silk, and the rest 13 percent was blended cloth. Three distinctive technologies are used in the sector- handlooms, power looms and knitting machines with the distinctive supply chain. The handloom sector (includes khadi, silk, and some wool) which serves both low and high ends of the value chain from mass consumption products for the ruler India to niche products for urban and exports markets.

Traditionally, weaving was done by composite mills using power looms that combined it with spinning and processing operations. Over the years, the production move toward power looms factories and away from composite mills because of government incentives and demand for low cost, high volume, standard products (especially sarees and grey cloth). The most competitive sector globally in terms of variety, unit prices and production quantity is the spinning sectors. Though cotton is most preferable fiber, man-made fiber (polyester fiber) also produced by about hundred large and medium-size producers. About 1566 mills and 1170 small and medium enterprise are involved in spinning. The sector is technology intensive and productivity is affected by the quality of cotton and the cleaning process used during ginning. The processing sector involves dyeing, finishing and printing are mostly small in scale. In Indian textile industry, apart from any raw material, cotton remains the most significant raw material. Significant qualities of cotton, silk, and wool fibers are also

imported by the spinning and knitting sectors. Excellent managerial practice, technology and facilitating policies is required to manage such a complex supply chain.

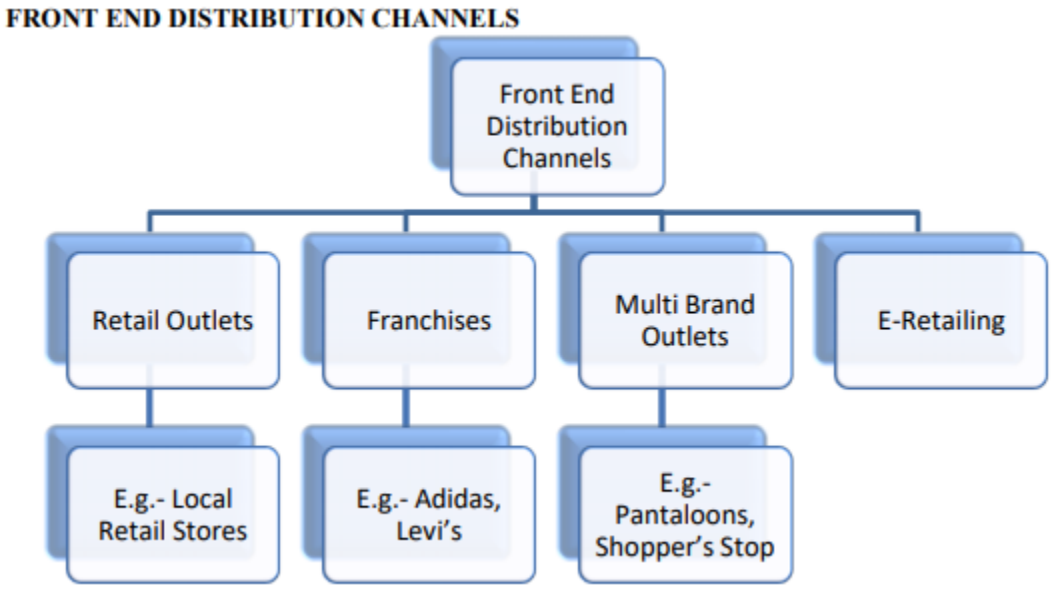

FIGURE 9: SUPPLY CHAIN MANAGEMENT IN THE TEXTILE SECTOR: A SEQUENTIAL PROCESS (PRIYANSHU RAPARIA.,2017)

Distribution:

Once the garments are assembled then labeling, packaging takes places after which it is shipped to a warehouse. Then the garment is shipped to the retailer's warehouses. In order, the reduce the time and cost for the placement of the retailer order to the customer's purchase of the apparel, several practices are added as shown in fig.9.

Retail operation:

A retailing organization is responsible for certain activities such as buying merchandise for the sale in stores, operating stores for the selling of merchandise and also for operating warehouses and truck for receiving, storage and transshipment of merchandise. Most large retailers perform all the three tasks separately, where general merchandise manager responsible for buying, a manager of stores responsible for store operations and an operations manager responsible for logistics.

Textile industries in India:

From diverse fibers to a large market India is considered as one of few countries with owns the complete supply chain.

2.10.2 Company overview:

The Indian textile has a significant presence in adding value to the economy of the country, as the industry contributes near about 14% to the country's industrial output. But as the textile industry is expanding it is also creating all sort of problem either in terms of environmental or social perspective. The supply chain is getting more complex with lots of varieties of players involved and their size and operational differences at every stage in the chain, which result in difficulty to manage and trace every step in the chain. However, Indian textile is dominated by the small-scale textile manufacturing companies which are creating more challenges in the textile industry.

Because of which for this case study eight different textile companies are taken into account, 4 big and major companies which include Company A, Company G, Company M and Company R considered to be one of the leading textiles manufactures in India with has its own brands and also manufacturers of some global brands such as GAP, ZARA, H&M etc. And 4 small scale companies such as Company O, Company S, and Company M, this are some of the companies operated on the smaller scale, where these companies manufacture products for global brands or for the local retail shops, however Company F is the small-medium company which has its own fashion brand and focus on encouraging Indian textile craft. By considering both kinds of industries will help to create a better understanding of how the companies react when it comes to adding sustainability in supply chain especially during supplier selection and sourcing. In table.5 below the analysis of the, all the eight companies have been done, to show how the Big Companies and SME's varies either in terms of the size of the company, or customers base. The main point which is important to be considered is about the level of interest and vision. As these two points show the level of dedication of the company in sustainability. The big companies have a vision which is not only align to fulfill the need of the peoples but also to take care of employees and to develop high-quality products which are not be harmful to the environment. But for SME's it is more about to fulfill the demand (fast fashion). Whereas the level of interest and vision is used to have a deep analysis, till what extent companies are taking steps to implement sustainability in the system and to monitor it with the help of third parties. This helps us to show the commitment of companies towards integrating sustainability into the supply chain.

TABLE 4: DESCRIPTION OF COMPANIES

VARIABLES	COMPANY A	COMPANY G	COMPANY M	COMPANY R	COMPANY F	COMPANY O	COMPANY N	COMPANY S
SIZE	Average No. of employees: 25,000	Average No. of employees: 10,000	Average No. of employees: 9,000	Average No. of employees: 10,000	Average No. of employees: 3000	Average No. of employees: 2000	Average No. of employees: 500	Average No. of employees: 4500
BRAND OWNERSHIP	The company has their own brands such as Flying Machine, Ruff & Tuff as well has a joint venture with international brands Tommy Hilfiger, Nautica, Lee, Wrangler	well known for its branded suiting's, Grasim and Graviera, mainly in the polyester - cellulosic branded menswear, with a strong presence in the international market.	Premier Indian brands such as Louis Philippe, Van Heusen, Allen Solly and Peter England And international brands Hackett London, Forever 21, Simon Carter, Ted Baker, American Eagle Outfitters	Has its own brand Park Avenue, ColorPlus, Raymond, Parx, Ethnix Covering almost 60% of the Indian market.	Has one Indian brand, Fabindia.	Indian brands OCM, siena.	Produce for local small retail stores in India.	Produce for local as well as for some international brands Zara and H&M.
CUSTOMERS	International and national market.	International and national market	International and national market	National market covering more than half of market.	National market.	National market and local brands.	National market	National market, with some international brands.
VISION	Enable People to experience a	To be a premium global	To passionately	Committed to supplying	Endeavour is t o	Strong belief that "to succeed	To supply our customers a	Our principles/sta

(company website)	Better Quality of Life by providing Enriching and Inspiring Lifestyle Solutions by considering long-standing commitment is to be a responsible organization.	conglomerate, with a clear focus on each of the businesses.	satisfy Indian consumer needs in fashion, style, and value, across wearing occasions in Apparel and Accessories, through strong brands and high-quality consumer experience with the ultimate purpose of delivering superior value to all our stakeholders.	high-quality product and superior services to the customers.	provide custo mers with hand crafted p roducts which help support a nd encourage goo d craftsmanship.	requires the highest standards of corporate behavior towards our employees, consumers, and the societies".	"Full Package" program of knitted apparel products at the highest level of quality, service, compliance, and value.	ndards reflect our commitment to our people, and the value they bring to our company.

LEVEL OF INTREST	Being a part of a responsible organization, it is important to focus on long-term commitments towards the purpose, best sustainability practices, and different international charters, principles and coalitions.	Actively contribute to the social and economic development of the Communities while providing the best quality product. collaboration with external actors to make CSR an integral part of corporate culture.	Achieving quality, customer service, design and brand equality comparable to the best worldwide While considering sustainability as an important factor.	Quality management (ISO 9001) as well as taking environment control system (ISO 14001) are considered as a priority.	Company try to work closely with artisans, and mainly focusing on maximizing the handmade elements in the products, mostly the products are natural, craft-based, contemporary, and Affordable.	The company is more focused on the quality of the process and product while considering customer satisfaction as an important key to succeed.	The companies don't work with other stakeholders (NGO'S) and don't focus on CSR. Focus on quality and service.	The company is customer-centric and focus on the quality of the product.

2.10.2.1 COMPANY A:

The company started in 1931 with a share capital of Rs. 2,525,000 ($55,000), with the aim of manufacturing the high-end superfine fabrics. The company invested in some of the very sophisticated technology with 52,560 ring spindles, 2552 doubling spindles and 1122 looms. Moreover, one of the few companies during that time to start along with spinning and weaving facilities in addition to fully-fledged facilities for dyeing, bleaching, finishing and mercerizing.

In the mid-1980's when the textile industry faced one of its major crises, with the power loom churning out vast quantities of inexpensive fabric, because of which many large composite mills lost their markets, and were on the verge of closure. At that point of time management coined a new word for it a new strategy – Renovision, which meant a new way of looking at the issues seeing more than the obvious and direct which became the corporate philosophy. Sooner the company shifted its focus from national to the global market, a market that expects and accept only good qualities. The company entered the export market for to sections – Denim for leisure & fashion wear and high-quality fabric for cotton and shirting and trousers. Till 1991 it reached 1600 million meters of denim per year and was considered as the third largest producer of denim in the world. Which also shifted the focus of business from economic to environmental perspective with zero effluent discharge capability.

The company has also carved out an aggressive strategy which includes an increase in its current operations by setting up world scale garmenting facilities and offering a one-stop shop service by offering garment packages to its international and domestic customers.

Of Lee, Wrangler, Arrow and Tommy Hilfiger and its own domestic brands of Flying Machine, Newport, Excalibur, and Ruf & Tuf, are some of its brand trying to set the vision of becoming the largest apparel brands company in India. Apart for being the world's fourth-largest producer and exporter of denim, it is also considered as India's largest denim manufacturer. Moreover, in 2010-11, the company became the first to implement the better cotton initiative in India which help farmers to enhance the profitability of farmers, while simultaneously minimizing the environmental impact of cotton farming.

In last few years, the company is trying to change the perspective of how the clothes are made and worn, by collaboration and also by enhancing the scope of sustainable fibers, moreover, continue to indigenize and innovate better equipment and production process. In the fast fashion world where customer demand is changing every hour, sustainable fabric plays an important role, because of

diligent choices while selecting the right raw material, and adoption of production processes that consume natural resources judiciously the product portfolio gives the customers an array of options to enhance the sustainability quotient of their offerings.

However, on the website the company describes its vision and mature business also considering the future perspective, moreover also about the Charters, Principles, and Coalitions of the company as:

VISION: WE WILL ENABLE PEOPLE TO EXPERIENCE A BETTER QUALITY OF LIFE BY PROVIDING, ENRICHING AND LIFESTYLE SOLUTIONS.

WE BELIEVE: In people and their unlimited potential; in content and in focus on problem-solving; in teams for effective performance, in the power of the intellect.

WE ENDEAVOUR: To select, train and coach people to obtain higher responsibilities; to nurture talent and to build leaders for the corporations of tomorrow; to reward, celebrate and activate all intellectual business contributions.

WE DREAM: Of excellence in all endeavors; of mutual benefit and prosperity; of making the world a better place to live in.

MATURE BUSINESSES: Denim Fabric Woven Fabric

ESTABLISHED GROWTH BUSINESSES: Garmenting | Knits Fabric Brands | Retail

FUTURE BETS: Technical Textiles Custom Clothing E-commerce

Charters, Principles, and Coalitions of the company:

Being a part of a responsible organization, it is important to focus on long-term commitments towards the purpose, best sustainability practices, and different international charters, principles and coalitions.

Some of the examples are shown: **SUSTAINABLE APPAREL COALITION (SAC):** Being part of a founding member of SAC, High Index, one of the key focus areas of SAC is to help gauge environment and social impact of the apparel industry.

BETTER COTTON INITIATIVE: Extensively collaboration with BCI in terms of production and sourcing of raw material – Cotton.

SOCIAL ACCOUNTABILITY INTERNATIONAL SA8000 STANDARD: the company has adopted 008 standards, which is externally audited by Bureau Veritas.

OCCUPATIONAL HEALTH AND SAFETY ASSESSMENT SERIES (OHSAS 18001: 2007 CLARIFICATIONS): risk is identified and prioritized and taken into management plan if it deems to be high in hazard identification and risk analysis.

GLOBAL REPORTING INITIATIVE: report to present the sustainability disclosures, using the GRI G4 Sustainability Reporting Guidelines.

INTERNATIONAL ORGANIZATION FOR STANDARDISATION – ISO 9001, ISO 14001: quality management systems and environmental management systems for the company operations are certified.

2.10.2.2 COMPANY O:

Company O has become a synonym for quality suiting. The first mill in India to get the prestigious ISO-9001 certifications. The company was established in 1924 by a British company for the manufacturing of hand-knotted carpets for the supply to its subsidiary company. the company is known for their fine quality and vibrant design both in the domestic and global market. All departments ranging from designing to finishing, work congenial for producing the right kind of fabric which has the right feel, fall, and drape, in-house production facilities have a strong impact on finished fabrics. All the process passes through stringent checks at every stage and help in delivering outstanding quality. At present company has a capacity which includes 34064 Spindles and 182 high-speed shuttle-less Looms thereby giving a spinning capacity of 12000 kg yarn and weaving capacity of 25000 Meters of fabric per day. People of the company plays an important role when it comes to being competitive in the market. A strong belief that "to succeed requires the highest standards of corporate behavior towards our employees, consumers, and the societies ". The company is committed toward the social perspective which includes providing employment opportunities and ensuring a cosmopolitan workforce. To achieve this management practice is adopted and designed to enrich the quality of life of its employees, develop their potential and maximize their productivity.

The company is composed of five different departments

- Production Department
- Finance Department
- Sales and Marketing Department
- Export Department
- Personnel & Administration

Each department is further divided into sub-departments and every department has its specific roles in the company. The production which has the primary role in the overall production of finished goods consist of different sub-department such as:

Designing Department	Production Planning and Control
Spinning Section	Dye House
Weaving Section	Finishing Section
Quality control departments	Inspection

Sourcing of raw material which are mainly polyesters and wool from different parts of the world as per required by the buyers to designing which plays a major role in the whole process of fabric making. The designing process starts only after analyzing the various factors received by the feedback from the market once everything is done the designs are developed keeping two seasons in mind i.e. spring/summer and autumn/winter. Around 300 designs per season are produced. New designs are developed according to market trends. Next step is the production plan, where the process such as yarn spinning, blending, dying takes place and output is finished products.

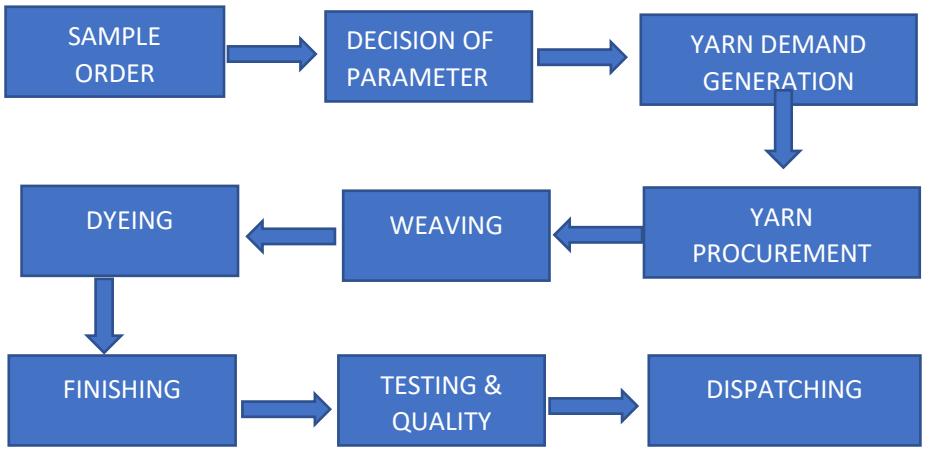

FIGURE 10: PROCESS FLOW OF RESEARCH & DEVELOPMENT (COMPANY REPORT)

On the website of the company, the vision of the company can be seen where the company state:

VISION: Company O recognizes that its people are the primary source of its competitiveness. A strong belief that "to succeed requires the highest standards of corporate behavior towards our employees, consumers, and the societies".

MATURE BUSINESS: Company O tweed suiting material is extremely popular for Blazer & Jacket fabric across India.

2.10.2.3 COMPANY G:

Company G is a flagship company of the XYZ group, which is ranked among the largest private sector companies in India. In 1948, the company started its core business in the textile industry and slowly spread to cement business. The company has been one of the pioneers of "MAKE IN INDIA" because of which it is the world's leading producer of VSF. The company has a strong presence in the fabrics and synthetic yarn sectors. The company is well known for its suiting's, shirting, and readymade garments whereas with strong design and development team which help to conceptualize and develops designs as per the latest international fashion trends and market needs. The company has not only invested in environmental aspects but also focus on familiarizing farmers with innovative cropping techniques involving sustainable practices resulting in higher returns through better yields. The company endeavors to become the leading Indian conglomerate for sustainable business practices across our global operations.

"Sustainable Business" is only the key to survive and thrive within the growing needs and tightening constraints of a "sustainable world", for which a sustainable business model is built capable of operating in the next three decades.

On the company website, the vision and mission are described where the mission focuses on fulfilling the needs of almost all the actors involved in the supply chain.

Vision: To be a premium global conglomerate, with a clear focus on each of the businesses.

Mission: To deliver superior value to our customers, shareholders, employees, and society at large.

2.10.2.4 COMPANY F:

Indian chain of stores retailing ethnic products made by craftsmen from different rural parts of India. More than 15000 craft persons and artisans across India are connected with Company F and through them, products are sourced. The company was founded by taking into consideration the strong belief that there was a need for a vehicle for marketing the vast and diverse craft traditions of India, the company tried to blend the indigenous craft techniques with contemporary designs to bring aesthetic products to today's customer. Which not only provided customers with handcrafted products but also helped and encouraged craftmanship.

Products are sourced from all over the villages in India, company tries to work closely with artisans by providing various inputs including design, quality control, access to raw material and production coordination. The company is trying to preserve and support the craft traditions of India by providing a market and moreover by encouraging and sustaining rural employment. More than 105 retail outlets can be found in all major cities of India as well as few international stores in UAE, Qatar, and Italy. The textile-based product range includes ready-to-wear garments and accessories for men, women, teenagers, and children; bed, bath, table and kitchen linen; floor coverings, upholstery fabric and curtains. Cotton, silk, wool, grass, linen, and jute are the basic fibers used. The company is mainly focusing on maximizing the handmade elements in the products, whether it is hand-woven textiles, hand block printing, hand embroidery or handcrafting home products, mostly the products are natural, craft-based, contemporary, and affordable.

However, on the company website, the vision and mission can be seen and also the company's value and principles:

Vision:

Our Endeavour is to provide customers with handcrafted products which help support and e ncourage good craftsmanship.

The Mission

- We will harness the transformative power of a well-run business committed to profitable growth in support of Company F's Vision.
- We will strengthen and support our community of customers, designers, artisans, farmers, makers, and entrepreneurs inspired by India.
- We will give our customers products that delight them by interpreting our rich heritage and traditional knowledge while protecting the natural environment.

Values & Guiding Principles

- To remain true to our company's history and our founder's original Vision: "In addition to making profits, our aims are constant development of new products, a fair, equitable and helpful relationship with our producers, and the maintenance of quality on which our reputation rests."
  – John Bissell
- To ensure that we delight our customers with our products and service, and always make them feel that they are getting great value for their money.

- To design, make and sell products with intrinsic worth that comes from the original designs, knowledge, care, and skill with which these are made.
- To be true to our commitment and history as an ethical and trust-worthy brand promoting a stake-holder based community model of inclusive capitalism.
- To constantly share our Vision with our employees, suppliers, business associates, and customers, so that we collectively ensure that all our actions are in service of our Vision, Mission and Guiding Principles.

2.10.2.5 COMPANY R:

The Company R Group was incorporated in 1925, and within few years it transformed itself for being Indian textile major to be a global conglomerate, keeping in mind the nurturing of quality and leadership. The company became the first in 1959 to introduce a poly wool blend in India and to be one of the world's finest suiting fabrics.

Today, the group is integrated not only horizontally but also vertically to provide customers total textile solutions with a diverse product range of nearly 12,000 varieties of worsted suiting to cater to customers across age groups, occasions, and styles. The group focus on manufacturing of finest fabrics – from wool to wool – blended worsted suiting to specialty ring denim as well as high-value shirting. Some of the highly respected apparel brands in the company portfolio include: Raymond, Manzoni, Park Avenue, ColorPlus, Parx, Be: Zapp and Nothing Hill.

With more than 500 million US$ turnover, today one of the largest players in fabrics, designer wear, denim, cosmetics & toiletries, and engineering in the national and international market. All the plants follow the highest quality parameters while being environmentally friendly, moreover, all plants are ISO certified.

Group companies of Company R:

Raymond Ltd.: largest integrated manufactures of fabrics in the world.

Raymond Apparel Ltd.: it has some of the high apparel brands in its portfolio such as colorPlus which is considered as largest smart casual brands in the premium category.

Be: offers a wide range of apparel and accessories for women with different categories name: women's western wear, women's ethnic wear, lounge wear, and club wear. the brand believes in

Affordability, Accessibility and Acceptability are the three attributes that define Be. Bringing designer products to the large audience.

Park Avenue: stylish and innovative wardrobe solutions to well- dressed gentlemen, considered as one of the premium lifestyle brands in India, however, considered as a most innovative brand of the year 2006-07, shirts are made from bamboo fiber for the first tie in India.

Company R covers more than 60% of the market shares in India, with a meter capacity of 31 million in wool & wool-blended fabrics. The company exports its suiting's to more than 10 countries including USA, Europe, Canada. Over the years the company has developed strong in-house skills for research and development, resulting in path-breaking new products. The company has raised the standard of the Indian textile industry. Three world-class integrated plants are included in manufacturing facilities, which also involves employing state of the art technology from wool sourcing to finishing the stage and modern quality management (ISO 9001) as well as taking environment control system as a priority (ISO 14001). Products are distributed to near about 300 retail shops in India.

On company website, vision can be seen, and the company stated its vision as:

- **Vision: committed to supplying high-quality product and superior services to the customers.**
- **Believe in the individual, and that shared values and common purpose provide the basis of team work.**
- **Value the franchisers and share with the principles the objectives of enhancing the image and success of the products.**
- **Believe in conducting business activities with integrity.**
- **Believe in optimizing the profitability in a manner consistent with the values.**

2.10.2.6 COMPANY M:

In 1999, Aditya Birla co, acquired company M and became the undisputed leader in the readymade sector in India. A number of brands are under the parent company such as Louis Philippe, Peter England, Planet fashion, Allen Solly, Van Heusen, people, and the collective. The company is a fastest growing industry and a leading player in the retail market. The brand portfolio includes product line that ranges from affordable and mass market to luxurious high-end style covering all age group. Near

about 1980 stores are present to reach discerning customers, which is covering 2.5 million Sq. feet of retail space, moreover it is present in more than 3800 premium multi-brand stores and 490+ departmental stores. The company's lifestyle store the Collective offers a unique, international and innovative global fashion as well as customer services whereas Planet fashion id the largest chain of stores in India with the multi-brand. Each of the company's brand has its own design department to work constantly on the recent international trends as well as innovative designs to be ahead in the market. The company harness the power of young, motivated, driven professionals from the country's best professional institutes and companies, because of Company M is achieving quality, customer service, design and brand equality comparable to the best worldwide. The company has ISO/IEC 27001:2005 standard certificate, which is accredited with periodic internal audits. It's manufacturing division recently became one of the most quality excellence units. Company M only source from the factories that are compliant with factory Act, however, each factory act is independently audited by the International Textile Services and Société general de Surveillance for international clients.

The company has its own model for sustainability known as "The ReEarth initiative": creating a framework to help all our businesses align their performance with international standards, ensuring stakeholder value and helping us stay within the shrinking operating space that will be created by pressures due to global and local mega-trends such as climate change, water scarcity, population migration, etc.

However, the vision of the company can be seen on its website. Where the company states its vision as:

Vision: To passionately satisfy Indian consumer needs in fashion, style, and value, across wearing occasions in Apparel and Accessories, through strong brands and high-quality consumer experience with the ultimate purpose of delivering superior value to all our stakeholders.

2.10.2.7 COMPANY S

Our people make the difference: The company believes in corporate leadership, and for the successful journey, responsibility with the freedom to work is needed.

The company started in 1974 in Delhi and expanded 60 times by the last 30 years, the largest exporter of readymade garments in India, selling to buyers around the world. Manufacture around 3 million pieces of high-quality woven & knits per month and catering to all segment in the apparel industry. 51 factories in 6 state and produce 135 million garments per year, a workforce of 100000 who are the heart of everything. Manufacturing units are located in the major cities of India such as Delhi, Bangalore, Tirupur. The core strength of the company is product development & design inputs which take place in-house studio. This core strength also helps to bring out the latest trends in the market coupled with in-depth study and shopping and create a line for a particular brand to bring newness in the ever-changing fashion world. The company is customer-centric, ore focused in understanding the need of the customers, becoming partners in the progress of customers and to deliver that needs to time to make the journey a success. Few brands for which the companies work is H&M, ZARA, GAP, Tommy Hilfiger etc.

The company is a small company and it doesn't clearly state its vision but, on the site, the principles of the company can be seen where the company stated its principles and standards as:

Our principles/standards reflect our commitment to our people, and the value they bring to our company:

• Integrity and ethics

• Respect for human values

• Nurturing human talent

• Continuous improvement

• Customer delight

2.10.2.8 COMPANY N:

Established in the year 2000, in Tirupur which is known as" Knitwear Capital of India". The company is known as manufacturer and supplier of a vibrant range of knitted garments, a vast collection of fashionable items from kid's T-shirt to men's shirt everything is manufactured. The company believes in manufacturing long-lasting, comfortable, elaborate design and patterns of products both in standard and customized choices at a very affordable price. The company is SME but consist of spacious and hi-tech manufacturing division with the latest machines to increase the productivity. For dyeing purpose which is done in-house latest technology machines such as KROMSAN-TURKEY-

HTHP dyeing machines with balloon padding, relax dryer machines are used to ensure a cleaner environment. The company believes in perfection, right on time and innovative ideas for design and production.

Plant data:

Physical Plant - 29,000Sq. Feet(100Employees)
Production System - Modular-Unit Production System Progressive Bundle Unit Piece Rate Compensation
Quality Data - Quality Manual Available Inspection Results Maintained

Although the company is operated on a small scale, he missions of the company can be seen on its website and the company stated its mission as:

Our Mission: Is to supply our customers a "Full Package" program of knitted apparel products at the highest level of quality, service, compliance, and value.

3. Research Questions

John Elkington (1992,2002,2004,2006) coined the concept of the triple bottom line (TBL) for different corporations for value creation and delegation towards economic, social and environmental domains. The reason behind including this approach is to highlights all the associated outliners and to attain the sustainability (Dubey et al., 2015; Dubey and Gunasekaran, 2015, 2016; Mani et al., 2016; Shibin et al., 2016; Dubey et al., 2017; Tayal et al., 2017). This study applied the TBL approach (Elkington,1997) to assess the performance of the textile industry in a different part of India in terms of the economic, social and environmental**.**

As the fundamental of the research questions, an increasing study mentioned in the literature is focusing on the issue of integrating sustainability in sourcing and supplier selection in Textile Industries, which is considered as an effective practice in improving the performance and to gain competitive advantage.

Throughout this thesis, the word sustainability is used everywhere to refer to the pursuit of the tripartite of economic, environmental and social performance which is also known as the triple bottom line of the organization (Carter and Rogers, 2008; Kleindorfer et al., 2005). Firms that take the concept of sustainability seriously and genuinely, distinguish themselves from other firms but as soon as any kind of harm is discovered and bought to their attention, they rectify their behavior and action and try to analyze the roots of the issue (Campbell, 2007).

In the study performed by Harwood and Humby (2008), 20% of the firms consider sustainability issues as their largest supply chain risk and near about 25% of firms want its suppliers to adhere to social and ecological standards in order to mitigate supply chain risks. As any kind of irresponsible supplier behavior can end up causing adverse publicity, reputational damage, and costly legal obligations (Carter and Jennings, 2004).

Studies have supported that considering all the three pillars of while implementing strategic purchasing can contribute to the firm's overall success, as strategic purchasing not only including sourcing but also include supplier selection and what are the right types of relationship should be

maintained and managed with each of its suppliers. But Considering the concept of strategic sourcing, which goes beyond sourcing and supplier selection mainly includes activities such as analyzing expenses for the organization, identifying potential suppliers, requesting quotations, negotiating a contract, monitoring and improving suppliers with the vision of improving the total supply chain to provide and satisfy its' end customers. It is overall step by step process for looking for a new supplier through the pre-selection phase to selection phase and also for the existing suppliers which include supplier development, relationship management, and monitoring and evaluation. Sustainability-focused supplier selection is a crucial decision in industrial supply chains. Suppliers play an important role in implementing sustainable supply chain initiatives and fulfilling all the three aspects of sustainability (Shen et al., 2013; Govindan et al., 2013) therefore, sustainable supplier selection is a key strategic decision in the management.

In particular, supplier assessment, supplier qualification and monitoring of supplier sustainability is done by conducting supplier audits, which require time and financial resources, so it's very important to prioritize and concentrate its sustainability engagement on those suppliers which add more value and likely to cause an adverse event in terms of sustainability and significant damage if the risk is realized (Harland et al., 2003).

So, it is very important to focus on the portion of Strategic Sourcing.

Thus, the following research questions shall be addressed in my thesis,

1 ***'How do Indian textile companies measure sustainability while selecting a new supplier and for the existing suppliers in the supply chain?'***

In order to approach these questions, strategic Sourcing framework is used, which not only cover the steps during supplier selection but also focus on improving the condition of the existing supplier. The overall notion of the framework is that a firm that follows all the steps and invests in development and tries to improve the condition of the suppliers, end up being more sustainable and profitable than firms that neglect some of the steps in the framework.

RQ1. In sustainability-focused supply chain, supplier selection and evaluation are extremely important because an organization success depends on the part played by the suppliers, so it is very important to know which are the factors that are considered by the firms while selecting the supplier and also after the supplier is selected how the companies are helping the suppliers to develop and to have deep insight if they consider sustainability as major factor or not. Moreover, supplier selection

is considered to be one of the difficult problems for managers as the performance of suppliers are varied based on each criterion (Liu and Hai, 2005). It is very important to choose scientific and rational evaluation Indicators.

4. Methodological Approach

This study was carried out in a process of two phases, in the first phase a literature review was conducted, and the result of the analysis leads to a literature-based indicator framework. The second phase is an empirical study of eight different companies in India in search of sustainability practiced in the industries.

4.1. Literature review

A systematic literature review includes relevant topics from earlier research in the specific subjects, which means involving the judgment of what to include and what to exclude. Comprehensive and unbiased search based on keywords as well as search terms are involved while conducting the revieww (Bryman and Bell, 2015). Different combination of words was used as search terms in the database such as ("supply chain", "supply chain management", "sustainable supply chain", "green supply chain", "sustainability", "sustainable supply chain management" and "close loop"). Data were retrieved and analyzed following an extensive review of published materials such as books, companies reports and some journals from libraries and online resources such as science direct, emerald insight, Scopus, google scholar. The database was searched for key phrases) appearing in the titles, abstract, or text of peer-reviewed scholarly articles. Research Focus for on literature was mainly concerned towards most of the papers that were published after 2000, to be updated with the information. This initial search led to more than 350 journal and conference articles, books or book chapters, graduate research thesis, and official reports in different subjects and areas. Not all the search terms were covered in the identified study or were in line with the statements about research gaps in the introduction. After carefully examining the results of the search and refining it, removing references that did not investigate either a supply chain application or a definite set of metrics to evaluate sustainable performance and exploring the remaining papers and the papers that cited them, we ended up with 250 reference as there are not so many papers on Indian textile so the paper which had similar topics and research methodologies (interview-based) where selected.

4.2. Case studies

The second phase was focused on comparing the literature-based framework with empirical use in textile companies to communicate the sustainability practice in companies, companies has increased the accessibility of sustainability reports to stakeholders (Tate et al., 2010), but for this phase only few sustainability reports were taken into consideration as for some of the companies no sustainability report was present on the company website. To examine the sustainability report, eight large/small manufacturing as well as retailers of textile and fashion where taken into consideration, which is likely to have more resources to devote to sustainability measurement and reporting and thus present more comprehensive reports. An overview of materials used in the empirical study appears **in Table 7.**

TABLE 5: COMPANY REPORT

COMPANY A AND COMPANY R	COMPANY G AND COMPANY M
SUSTAINABILITY REPORT (2015-2016)	ENVIROMENTAL REPORT (2015-2016) SUSTAINABILITY REPORT (2015-2016)

Moreover, to have better insight about the sustainability practice done in companies' and to form a case study method based on qualitative techniques a personal interview was also conducted with the business executives/ textile industry experts.

In a third phase, the finding from the sustainability report and interview was compared to the literature-based framework, to fill those gaps based on the research.

4.3. Case Study Method:

A case study research approach has been followed for this thesis as it provides a platform that allows to study the current situation in depth and produce the products the level of academic inquiry that is needed for this thesis. Moreover, help to closely examine the data within a specific context, it is considered to be bounded by time and activity and researchers collect detailed information using a variety of data collection procedures over a sustained period of time.

Clothing is one of the basic human need, because of which there is large demand and this demand cannot be ignored. Whereas, the practices are done in textile industry from the initial stage which includes from cotton plantation to fiber production or production of clothing, finishing of clothing and end of life treatment all this phase is considered mostly unsustainable. Because of which Focusing on textile industry such as Indian textile and clothing industry which is one of the longest and most fragmented supply chain industries, and with abundant availability of raw materials such as cotton, wool, silk, and jute as well as skilled workforce was good option to have a better insight about the strategic sourcing,

India offers a favorable market for global retail brands, but it is mostly dominated by small firms. However, it plays an important role in adding value to the country's economy, because of which the level of competition has increased. And to remain competitive in the existing global market, the Indian textile sector irrespective of its size and scale is focusing on the business strategies for improving operational performance in terms of lead time, cost reduction and delivery performance improvement.

The case is rather "exploratory", emphasizing the dynamics of the industry in different perspective, rather than "in-depth" on as a single company case. The case is designed considering two units of analysis: the analysis focuses on the company level, how each individual company responds to sustainability challenges, for which some textile industries where selected for its high importance for sustainability transformation of the economy, environment and society.

Taking into account all the above points, eight Indian textile companies where selected four consists of big companies to know as major players in the market and four SME's because even if they are small in number but the major portion of the Indian market is covered by them. The selection was based on the information available through personal interview and the reports and data provided on the website of the companies. Moreover, some companies such as Company A, Company R and Company M and G where considered as they are the biggest players in the market and covers most of the national and international market. These companies claim to be sustainable in all the perspective because of which it was important to consider it into the case study to understand more how these companies implement sustainability in terms of supplier selection and sourcing in the same market and why some companies are still lacking behind.

4.4. Cross-case Analysis:

A research method that facilitates the comparison of commonalities and differences in the events, activities, and processes that are the parts of analyses in the case studies. With the help of cross-case analysis investigators can expertise beyond the single case, it helps to prove the researcher's imagination, prompts new questions, reveals new dimensions. Moreover, help them to come up with different models, alternatives and construct ideas and utopias (Stretton, 1969). Cross-case analysis helps the case study researchers to combine the factors that have contributed to the outcomes of the case and come up with the explanation as to why one case is different or the same as others, make sense of puzzling or unique findings. Cross-case method enhances researcher's capabilities to understand the relationships among the cases, accumulate knowledge from the original case, refine, define and develop a concept (Ragin, 1997) and build or test theory (Eckstein, 2002). The method help researcher to compare case from one or more settings, communities or groups, to find the opportunities to learn from different cases and gather critical evidence to modify the policy.

There are several well-known cross-case analysis approaches and techniques such as Variable and case-oriented research as two approaches to cross-case comparisons. For this thesis both the method has been used.

In variable oriented research, variables in the cases take center stage, outcomes observed in the cases vary across observations and causes appear to compete with one another. In variable oriented, the cases are selected in advance keeping the randomness or the degree to which they represent the general population, the main goal is to demonstrate why the cases vary, the pathways are often represented as probabilistic relationships among variables. Whereas in case-oriented research, the outcomes of the cases are enough alike to be treated as an instance of the same thing. The central question of the case-oriented research is in what way the cases are alike. Therefore, special attention is given to the case itself instead of looking for the variable across the case.

4.5. Data collection

4.5.1 Company overview:

To write about the company overview a qualitative method was used, which included the use of secondary data. Annual report, as well as the report online published by other organization such as fiber2fashion, was used. Moreover, use of open publishing platform such as Scribd was used to

download some reports published on the site about the companies, as no detail description papers are published on this topic.

4.5.2 Interview data collection

Before collecting the data, a sample of questioner was formed which included 13 questions focusing not only on the sustainability perspective but also covered the overall supply chain of the company. But, to be more specific with the thesis topic strategic sourcing and supplier selection where given more preference while forming the questions. Three items that are used to measure the strategic sourcing were developed by referring Carr and Pearson (2002) such as strategic orientation, relationship development with the key suppliers, and top management support was also included while forming the questioner. Whereas for supplier evaluation during supplier selection, three items were adopted from Carr and Pearson (1999) which included formal supplier certification program, a formal system to track the performance of the suppliers, and a formal program for evaluating and recognizing suppliers. Moreover, the semi-structured question was also aimed to generate discussion around the relationship with suppliers, and also to understand the concept of the closed loop if practiced in any company. Once the questioners where formed it was verified by the professor and was mailed to different recipients of the different companies. The recipients were selected carefully through LinkedIn and were believed to be the most knowledgeable about the sourcing and suppliers of the textile or apparel products for their companies with the titles such as purchasing/ chief officer or sourcing manager, buyer, etc. It took near about one month to collect the data as it was time-consuming process moreover, it was important to consider that the answers provided are related to what exactly is asked. Due to the very limited scale of this thesis, estimation of the collected data has not been carried out. About 15 peoples where contacted from different companies by email, LinkedIn, WhatsApp messenger and follow-up phone calls but only 8 people responded. A thank you mail, or message was sent to every company once the data was collected.

TABLE 6: INTERVIEW DATA COLLECTION

Companies involved in interviews	Interview Protocol	Data Analysis
Company A	Sustainability Report, LinkedIn, mail	Cross-case Analysis method was used for all the analysis of interviewed data.
Company M	Phone call	

Company R	Mail. WhatsApp messenger
Company G	WhatsApp messenger, phone call
Company O	Phone call
Company F	Phone call
Company S	Mail, WhatsApp messenger
Company N	Mail

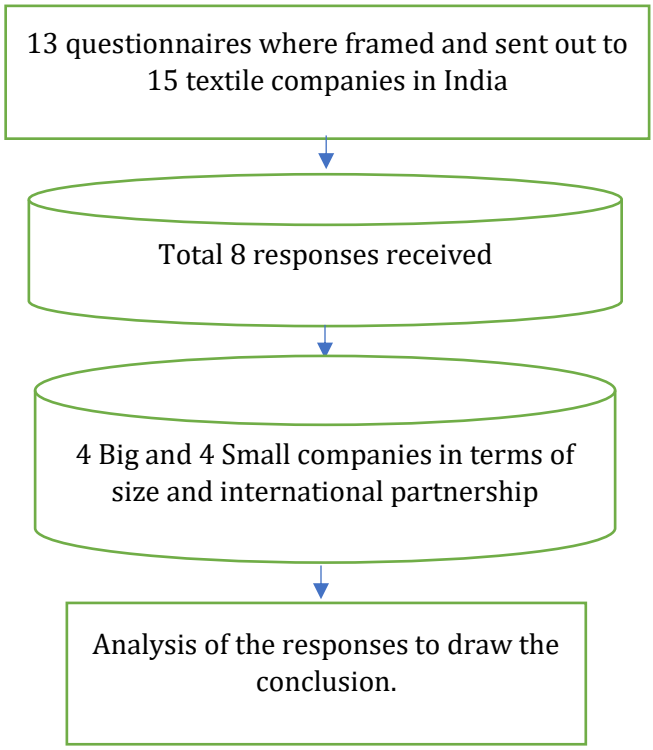

FIGURE 11: STEP BY STEP PROCESS OF CASE STUDY

5. Findings

Responses from different organizations can be seen in below table which will be used for analysis. In the table Company A, Company R, Company G and Company M are considered to be one of the biggest textile manufacturing industries because of its' size and production capacity whereas Company O, Company S, Company N, and Company F is operated on a smaller scale and few of the companies work for global brands such as GAP, ZARA etc. During the interview people especially from Company A were skeptical while providing the answers, they didn't want to share any kind of information as they thought it's something confidential and can't be shared with someone out from the company. Even though the questions framed were not something which needed confidential data. But for some organizations which include Company M, Company N and Company S people where very clear with the idea that Indian people look for "Good quality, but cheap price" which is not an easy task as the company won't be able to earn any profit, so most of the organization has adopted "cheap price for cheap or average quality" in this fast moving fashion trend which has created imbalance between the three pillars of sustainability, and resulted in adopting economical pillar as important aspects, and directly impacting environment and the social as

TABLE 7: RESPONSE FROM INTERVIEW

	Company A	Company O	Company G	Company R	Company F	Company S	Company M	Company N
DRIVERS ENCOURAGING SUSTAINABILITY IN ORGANIZATION	• Responsibility towards society, environment. • Changing demands. • stakeholder's involvement related to sustainability.	• Changing trend • Law/pressure by the government.	• Changing market • stakeholder's concern about the planet. And customer demand.	• Alignment with current demand and market conditions. • Social responsibility	• Help society and environment • Provide employment	• Government, brands and global environmental awareness.	• Pressure by government and international partner brands.	• Pressure from the buyers, government and environmental reasons.
PROCESS AND CRITERIA OF SUPPLIER SELECTION	• Sustainable and responsible Local procurement. • Sharing of mutual expectations such as • Quality • Cost • Timely delivery • Growth plans.	• Market research based on requirements of the product. • The financial position of the supplier, • Reputation • Payment terms. • (price/quality/delivery time) • The supplier is outsourcing or insourcing.	• Sample collected, tested. • Quality and price fit requirement. • Contract. • Quality and delivery of material based on clusters of suppliers. • Cost/manufacturing capacity • Financial status • Supplier turnover and their values. • Supplier's customers • Supplier raw material sourcing method	• Market research • Supplier aligns with company values. • Delivery time • Quantity can be supplied • Quality	• Local suppliers. • Competences in Indian craft. Basic parameters • Quality • Price • Delivery time.	• Identification of supplier on: • Product type • Locations/logistics • Price effectiveness • Competences of suppliers • Quality, cost and delivery and compliances. • For sustainability certificates and affiliations.	• A sample of fabric. • Quality check. • Other requirements. • Price • Delivery time, credit payment terms • Quality. • Supplier producing the fabric in-house or outsource.	• Analyze different suppliers based • Market search • Reliability • Delivery time • Price • Quality.
LOOK FOR CERTIFICATION IN TERMS OF SUSTAINABILITY?	• Environmental Certificates. • Certificated implemented by the government. • The supplier must follow Code of Conduct by the organization.	• General ones (legally required) regarding the environment and social (condition of workers working in sites).	• General and some specific certificates • Use the third party to assess the strategic suppliers. • Certificates on sustainability frame work including international standard.	• Certificates for the eco-friendly method used in the manufacturing process and also for the certificates related to quality.	• General certificates. • Especially related to social aspects as well as environmentally as most of the product are ecofriendly.	• General certificates in terms of social and environmental aspects.	• General certificate asked by the government. • And also, the certificates with some international standards.	• Standard ones asked by the governments.
SUPPLIER AUDITING AND FREQUENCY OF MONITORING.	• Periodic interaction with the suppliers, to assess the performance. • Visit sites to check child labor and other	• Frequently visit sites to check all the process/done by third parties regarding the production process • Every 6months	• Visit site from time to time to assure the process is aligned. • Every year/2 year's renewal of a certificate is important.	• Visit site when needed or ask suppliers to submit the sample of fabric again for testing.	• Visit the site to check if suppliers need something or things are going according to requirement. • Every 6 months	• Monitor by checking certificates, visit the site often. • Data analysis to check performances. • Every 6months.	• Visit supplies site to see all the requirements are fulfilled. • Every 6months	• On-site verifications are done before pre-selection process. • Every season based on the audit report.

	important criteria. • Every 6months		• External auditing by using the third party. • Monthly or quarterly basis if the material is very important.	• 6 months or 1 year				
LONG TERM RELATIONSHIP WITH SUPPLIERS	• Believe in partnership for the growth of the business.	• Believe in partnership (win/win) • Communicate to share the objectives	• the supplier is strategic and facing problem, then organization tries to help to develop long-term relationship.	• Believe in having long term but also look for options with other suppliers • (dual strategy)	• Have a relationship with suppliers from the last 30-40 years.	• Prefer long-term relationship.	• Believe in win-win situation and having a partnership and long-term relationship is benefit.	• Try to maintain long-term relationship, but it is not always the case.
ANY JOINT PROJECT TO IMPROVE SUPPLIER PERFORMANCE	• Implementation partners of the Better Cotton Initiative (BCI), one of the proponents of organic cotton cultivation.	• Help supplier in terms of coming up with the idea of new raw material.	• Help suppliers in terms of technological innovation to reduce cost and environmental issues • Try to improve their performance in terms of raw materials. • Work with farmers on innovative cropping techniques involving sustainable practices.	• Help Supplier involved in innovation regarding raw materials. And also, to gain global standards. • Collaboration with Khadi and Village Industries Commission (KVIC) to introduce a new line of clothing under the brand Khadi	• Work with suppliers tries to help them with their small projects if it adds value to the company.	• Help in making cotton more effective and efficient.	• Suppliers with issues, try to help them mostly with new technologies as they are the major source for production.	• Being an SME, don't focus on joint projects.
SUSTAINABILITY MATTERS AND AWARENESS ABOUT SUSTAINABILITY IN ORGANIZATION	• Sustainability one of the key points of success for the organization. • Two Supplier Days organized during the year. Training programmers, quality workshops. • Revision strategy	• The tradeoff is present, can't fulfill everything as it needs a lot of costs to implement. • People care about price, not eco-friendly products.	• Try to cover all aspects by using the third party. SAC (used to access the organization) • The seminar, conferences, event are organized to make supplier and people aware of sustainability. • Sustainability Model in the organization.	• Trying to follow and consider sustainability in the supply chain even if cost plays an important role. • Have Corporate Responsibility to maintain social and environmental sustainability	• For organization environmental and social aspect is important. • Purchasing goal is aligned with a business goal.	• Because of awareness and criteria to add value to our product. • Mainly focus on economic and social aspects.	• Sustainability is a broad topic covering everything is not possible. But try to cover Major environment aspects. • The Re-Earth initiative for sustainability	• Implementation of economic aspects. • Cheap price product it is difficult to implement sustainability.
CLOSE LOOP ONCE THE PRODUCT IS	• Co-creation strategy and asset-light	• Recycle process is implemented	• Leftover waste products if not harmful to the	• Depend from product to product, and	• Don't do anything related	• Our brand partners such as GAP, ZARA is	• Our brands are doing but for us no	• Sell clothes to the buyer such as small stores,

AT END OF LIFE CYCLE	business model transforming from a textile/garment producer into an end-to-end solution.	• Wool converted to yarn and used to produce rough products.	environment then dispose of, else used for any other manufacturing process.	cost but mostly recycle is done.	to close the loop.	doing, not our company.	closed loop concept.	so nobody does in both cases.
IF COMPLIANCE NOT FULL FILLED	• Policies, code of conduct sustainability practice followed by suppliers • then a warning is given, else contract is terminated.	• The reminder is given, a chance to improve. • Else terminate the contract.	• Not able to fulfill then new development of supplier is required, which means better cost control, better quality improvement, and technical aspects.	• The penalty is charged as per contract or the company looks for alternative option. Still, they don't perform contact is canceled.	• Warning, but don't cancel the contract unless in worse circumstances.	• Debits and penalties post discussion.	• Warning, try to understand why they are not able to fulfill, help them out else, penalties.	• Find out the reason or cancel the future orders.
DIFFERENT RAW MATERIALS USED APART FROM COTTON	• Cotton farming is an extremely resource-intensive process, belief in making the farming process more efficient and responsible.	• Try to use different eco-friendly material but can't eliminate cotton.	• LINEN, fabrics and synthetic yarns. But Cotton is essential.	• Look for a new raw substitute. But the cost of implementation is very high.	• Use of different materials and fabrics. • But cotton is a must for any textile and it's cheaper than any material.	• Use BCI and organic cotton, other substitutes are expensive than cotton. • Suppliers are working on making them cost-effective.	• Use of yarn and manmade fibers, but not so good when compared to cotton.	• Using cotton is cheaper compared to any material.

5.1 Considering the above response a few observations can be made

5.1.1 Drivers encouraging organization for sustainability:

In case of big companies, they feel including sustainability in the supply chain is their responsibility towards society as they understand that textile industries are considered as second largest to pollute the environment, with the majority of the population is working in the textile industry. And they also consider that sustainability topic is a new topic between the customers, even if the demand is not so high in India, but still there is demand and market trend. This big companies want to be ahead in the market and want to follow the trend. However, the companies have tie-up with international brands and different stakeholders which has customers with a focus on sustainable clothing and the quality of the product not on the price, and the pressure created by them can also be considered as one of the main drives that encourage big companies to include sustainability.

Whereas, for small companies or SME's the main reason to adopt sustainability is that of pressure created by the government by making rules and regulation or sometimes by its buyers else for them adding sustainability in the supply chain is a cost adding activity. But still, this rule are general ones, which prevent companies to produce pollution or improve the working conditions of workers but not to that extent. Moreover, SME's mostly deals with small buyers and small retail shops where the demand from the customer is not focused on sustainable clothing or products but on what price they have to pay because of which they prefer to follow some of the standards and some sustainability aspects.

5.1.2 Process and criteria for Supplier selection:

While selecting suppliers every company do market research and look for suppliers who can fulfill the requirements. Once the search for the supplier is over to select the potential suppliers, companies focus on few criteria's such as price, delivery time and quality. This step is the same for all types of companies. But apart from that the major difference in Big textile companies such as Company A, Company G and Company M prefer suppliers who share the same values as the company have, which means if the company is concerned about its employees or the environment, suppliers should also share the same mutual expectations and companies also look for supplier competencies such as supplier outsource fabric or produce the fabric in-house as the companies consider if supplier produce fabric in-house then the quality will be good compared to outsourced fabric and for them it

is easy to monitor its suppliers activities as fewer actors are involved in the process. Moreover, for Big companies' price is not the priority they have already occupied a large market base in India as well as in the global market, for them quality plays an important role in customer satisfaction.

Whereas, for small companies or SME's apart from price which plays an important role during supplier selection, logistics, and local sourcing is also important as local sourcing will end up in reduces the cost of transportation or delay in getting the raw material.

5.1.3 Certificates For sustainability:

When companies try to add sustainability in their supply chain then, During the process of pre-selection phase of supplier selection they look for certain kind of certification which help them to understand more about their supplier motivation towards sustainability in different aspects (environmental, social and economic). For SME's they prefer looking for general or standard certificates regarding the environment and social aspects asked by the government of India which is the basic one and can improve sustainability in the supply chain to some extent, they don't look for something specific. But For big organization they want to focus on all the three pillars of sustainability, they want their suppliers to have certificates not only the general ones but one aligned to international standards, code of conduct issued by the companies or some different ISO certificates to be more precise and align with sustainability. Which helps this company to be surer of the sustainability practice by the supplier, as this certificate are not only improving the quality of the product and helping to reduce environmental pollution, but also cover the social standards which include a working condition or working hours and making suppliers suitable for the Big companies.

5.1.4 Supplier Auditing and monitoring frequency:

Both the groups either SME' or Big textile companies both have the same patterns, they prefer visiting site of suppliers to check whether they are aligned to what they mentioned in contact or not in terms of child labor or the manufacturing process used in product and mostly this takes place every season or six months or in a year depends on the complexity or importance of the product for the monitoring. In extra, big companies they also prefer to hire a third party to do auditing for them, a a number of suppliers working for this companies are higher. Moreover, they also carefully consider the renewal of certificates in every 2 years (or according to its expiry) and interaction with suppliers periodically to assess the performance, so that companies can help them to improve.

5.1.5 Long-term relationship with suppliers:

When it comes to having a long-term relationship or short-term relationship with the suppliers, all the companies prefer long-term relationship with the strategic suppliers as it is easy to communicate with them, and make them understand what exactly the company expectations are which can also be considered as one of the key elements to reducing the cost of raw materials and even for production process. This partnership can also be used for making suppliers to come up with innovative ideas to make the product for cheap and in good quality. Moreover, for companies it's about partnership not just supplier-buyer relationship, which aims to create a win-win situation for both the actors.

5.1.6 Joint project with suppliers:

In this case, the big companies, understand the value of helping the supplier to overcome any issues and to support the suppliers in terms of development or innovation through some joint projects. Either in terms of coming up with some new technologies to be more efficient in production or endorectal issues or to produce some different raw materials. Moreover, Big companies are also more involved in making cotton more sustainable, because of which they want their suppliers to be part of Better Cotton Initiative projects. Or trying to look for other raw material other than cotton so work with the suppliers to come up with a product that is not harmful to the environment. But for SME's for them, this kind of project is a cost adding activity. They try to help the supplier to some extent if that will add value to the companies. Supplier development and mentoring are not considered to be one of the important practices in the SME's.

5.1.7 Sustainability matters:

For SMEs such as Company O, Company S, Company F sustainability matters, but for them the major constraint is cost, and to implement sustainability is all perspective is difficult, so mostly organization focus on environmental and social perspective to some extent, as for them sustainability is a broad perspective, covering all the aspects is not an easy task even if the organization is aware of the importance of sustainability as the demand from customers are also more focused on price not on the quality of the product. Whereas for Big companies' they want to cover all the perspectives. They want to help the farmers with innovative techniques to grow the cotton, also use innovative technologies to reduce the impact on the environment. The companies have its own sustainability model which is followed by its supplier. Some companies have its strategies such as Renovison or

The Re-Earth initiative for sustainability which is aligned with purchasing and business strategy and followed by everyone in the supply chain. Most of the companies have CSR (corporate social responsibilities) which focus on maintaining sustainability in the organization. Apart from that the big companies also organize supplier training day, conferences and seminars to make suppliers and people's awareness of the major issues impacting sustainability. Which help the companies to clearly communicate its goal about sustainability and make suppliers understand the importance of it.

5.1.8 Closed loop:

The concept of closed loop can only be seen in big organizations, either with the help of recycling or using the left-over fabric which is harmful to the environment when disposed of are used for manufacturing things such as carpet or secondary items which are not so good in quality. Sometimes they prefer to convert Wool to yarn and used to produce rough products from it. Moreover, Different strategies such as Co-Creation and asset-light business model are also used in transforming a textile or garment products into an end-to-end solution. Whereas for small companies, once the product is out, they don't focus on closing the loop. Some of the SME's are not even aware of the concept of closed loop.

5.1.9 Compliance not fulfilled:

In both the cases either SME's and Big companies if compliance is not followed companies try to understand the problem as they don't want to break its long-term relationship with the suppliers to try to help them to overcome the problem and solve it, else warning is given at first place and still if suppliers continue to repeat the same mistake then contract is canceled and companies start looking for a new supplier, after charging some penalty, which helps companies to compensate the loss occurred because of the suppliers.

5.1.10 Used of Raw Material:

In case of using other raw material apart from cotton, all the companies prefer cotton over any raw material because it is cheaper and can be easily available and the demand for the cotton product is higher than any other material as the quality of the product made up of cotton is good when compared to others. But big companies are also trying to come up with a new substitute of man-made fiber such as a liner or syntenic yarns.

Lastly, an overview of companies the big organization such as Company A and company G and Company M or Company R has the vision and mission which is aligned with the sustainability motto, whereas for SME's it is more about fulfilling customers' needs as fast as possible at low price, sustainability is the secondary priority.

In India, now growth of SME's can be seen faster as compared to the big organization which means the SME's are higher in number, moreover SME's are customer-centric, which focus on fulfilling the needs of customers, which will directly impact the environment as their primary concern while selecting a supplier is price(low price of raw material, better the chances to be part of organization) resulting in lack of proper technology to prevent wastage and pollution of water, around 20,000 liters of water is used to produce nearly 1kg of cotton and during the dyeing process different chemicals are used which pollute the water (Fiber2Fashion report). Same for poor quality fabrics which will end up in landfill as there is no closed loop or reuse strategy, suppliers don't have enough money to follow international standards neither proper awareness about sustainability is present in the entire supply chain. The SME's are not using the partnership relationship with suppliers as a tool to create innovations in terms of raw material or the process in textile industries or to communicate their goals or to help the suppliers to get the certification aligned to sustainability standards or international standards or to help them to upgrade the technologies.

The summary of the response can be seen in the below table.8 to show the similarities and differences in all the criteria followed in both the cases of Big companies and SME's. The major difference can be seen in terms of drivers encouraging companies to integrate sustainability and in terms of sustainability matters in the companies or not. Rest are same in some of the other way, with just a little difference.

TABLE 8: SUMMARY OF THE RESPONSE

	Big Companies	**SME's**
Drivers encouraging organization for sustainability	Responsibility towards the society is one of the key factors encouraging big companies to integrate sustainability, moreover, the customer demand and stakeholder pressure are also the other factors.	The pressure created by the government is one of the major factors else for SME's adding sustainability is the cost adding activity. Even the SME's deal with the small retailer and the demand for sustainable products is not present.
Process and criteria for Supplier selection	Supplier research is the initial step followed by both the category. But Big companies	SME's prefer to look for the suppliers on the bases of the price, delivery time and local

	look for the suppliers who share the same value, for the the price is not the major focus, instead of that they look supplier competencies.	sourcing. As local sourcing will reduce the cost of transportation.
Certificates For sustainability	Big companies look for general as well some certificates which are followed internationally. Also, want suppliers to follow their code of conduct.	SME's prefer to look for only the general certificates asked by the government mainly focusing on environmental pillars.
Supplier Auditing and monitoring frequency	In both case, the companies follow the same pattern of auditing suppliers every 6month and to visit the site. But one thing which is different is that in big companies they also use third parties to access supplier performance.	
Long-term relationship with suppliers	In both, the case companies prefer to form a long-term partnership relationship with the suppliers as it will create a win-win situation for both the parties.	But SME's are not using this partnership relationship to communicate its goal or to hep the suppliers to innovate.
Joint project with suppliers	In this case, Big companies prefer to work with suppliers either in terms of making better cotton or to look for an alternative of cotton as raw material. They try to provide the suppliers with new technologies that will help suppliers to grow and will also add profit to the company.	SME's consider it as a cost adding activity. Because of which no such activity which can help supplier to develop or innovate take place in the SME's.
Sustainability matters	Companies have its own sustainability model which should be followed by everyone such as Re-earth. Big companies try to cover all aspects of sustainability. Try to create awareness in their suppliers by organizing seminars, workshops. The purchasing goal should be aligned with a business goal.	For SME's it's a cost adding activity, to make its suppliers aware through seminars etc. As these companies know they won't be able to cover all aspect of sustainability, so they mainly focus on the environmental pillar. And even the demand from customers is not related to sustainable clothes, because of which the primary focus is

		price and customer satisfaction.
Closed loop	The concept of the closed loop is only followed by Big companies either in terms of recycling or Co-creation strategy.	SME's don't have the concept of a closed loop. Once the product Is out, they don't care about the end life cycle. And for some SME's they are not aware of the closed loop concept.
Compliance not fulfilled	For SME's and Big Companies, they prefer not to remove the supplier immediately. They try to solve the problem for not performing well, and still if supplier doesn't follow their instruction then after warning contract is terminated.	
Used of Raw Material	Cotton is preferred by both SME's and Big companies as raw material even if there are alternatives, as it is easily available and customer demand for the cotton product is high	

6. Conclusion

During the year's integration of social, economic and environmental dimensions into supply chain management has evolved and considered to be the most significant strategic issues which are not only owning to strict local and global environmental regulations but also increasing concerns and awareness of customers. As mentioned earlier, SME's plays a significant role in Indian economy and are the largest contributor to environmental degradation, lack of knowledge and awareness in the area of supplier selection exist in developing countries (Luthra et al., 2016a) and even in customers because of which customers are not willing to pay more for sustainable products and the demand for sustainable clothing is low (Gandhi et al.,2016). The Big companies consider sustainability as their responsibility and quality as the main goal because of which before selecting the suppliers they look for all the important certificates which show that even the suppliers are also concerned about the sustainability issue. and even they look for the supplier who has the same vision as the company. whereas for SME's sustainability is adopted in the SC because of pressure created by the government. And because of which SME's only look for the basic certificates asked by the government of India, which is not up to the mark in adding sustainability in the chain. The application of the proposed model Strategic Sourcing was demonstrated for the case of an Indian textile SC to show how the supplier selection process is carried out and how to work with existing strategic suppliers, but a gap that has been identified with the interview data:

In **Pre-selection phase** or **pre-qualification** phase: During this phase, one of the important steps is to look for certificates related to sustainability as a supplier who can meet the company's standards for environmental and social issues can help to reduce the impacts in the supply chain. In this case, big companies not only look for general certificates but also look for international standards followed by the suppliers. They want the suppliers to follow the sustainability framework and code of conduct invented by the companies. For big companies, while selecting suppliers they also look for suppliers who share the same value such as green or sustainable ones. And in case of SME's they just look for the normal/ general certificates in terms of sustainability which is not enough to add changes in the

supply chain. These companies don't even have a code of conduct to clearly demonstrate the company's expectations such as Prohibiting the prospective supplier/partner from using child labor or expecting that suppliers follow health and safety standards. And because of this the SME's supply chain is not fully sustainable or in other words they are not able to make SC sustainable.

In terms of **supplier development and mentoring**: In Big industries they understand the value of supplier development and involvement of new technologies to make the process efficient and they try to help the suppliers through increased communication, inter-team collaboration, creating awareness and cooperation in terms of workshops, seminars, conferences that not only bridge the gaps encountered in SCM but allow suppliers to improve their current success and reap greater rewards of SC collaboration. Whereas for small industries it is a cost adding activity. They don't consider it as an important part of the strategic sourcing because of which they lack the innovative or cost reduction ideas by the suppliers. And supplier working with this SME's don't have much knowledge about sustainability, global standards followed in international markets or about the impact of normal clothing on the environment. Moreover, SME's are not using partnership relationship with suppliers to communicate their goals and to help the suppliers to develop and innovate because of which they lack the important understanding and skills which end up losing market and creating problems in the environment or socially.

Sustainable supply chain management can be a remarkable strategy considering environmental and social impacts in selecting and managing suppliers for organizations aiming to improve their performance through cost reduction, quality improvement, delivery performance, lead time reduction along with waste minimization while enhancing the company's brand. Although cost reduction is a prime motivator to strategic SC, for SME's to produce short-term gains that can lead to long-term losses in value from strategic SCM. People (suppliers and employees) are the key to successful collaborative innovation. However, managers must not overlook the importance of certificates during the pre-selection phase and even the importance of training, educating, making people aware of the impact, the focus on innovation, technologies and enhanced productivity. That will not only help to capture the domestic market but also tap the opportunities emerging in the global market.

7. Limitations

The paper is limited by its choice of industry, a reference database and the methodology applied. The focus on innovation and enhanced productivity will not only help capture the domestic market but also tap the opportunities emerging in the global market, the future researchers should use a larger sample size and the methodolgy used to find the gap. Moreover, this study used a limited number of performance criteria for analysis, in future, the study can be extended to analyze a larger number of performance criteria to explore a deeper understanding of interrelationship among them. Future work should be extended to analyzing sustainable Supply Chain performance issues in different industrial sectors including different methodologies to have more clear idea.

Lastly, I believe that this study will contribute to enhancing the effectiveness and efficiency of Supply Chain performance improvement strategies while integrating sustainability in Indian textile. The results should help Supply Chain managers decide how and in which area to incorporate sustainability stratergy in Strategic Sourcing with effectively to enhance both operational and environmental performance. Also how to use the partnership relationship with their suppliers to communicate companies goal and help the strategic suppliers to develop.

Appendix: A

Interview questions to different Companies:

- What is the nature of the business (main category of the business' function)?
- During the process of sourcing, which factors are mostly considered?
- What are the main criteria (e.g. Price, delivery time, quality etc.) your organization considers before selecting a supplier? And how it is different when sustainability is incorporated in the process?
- What values are important for your customer?
- Can you tell me how your supplier selection process works?
- What exactly your organization looks for during the pre-selection phase?
- Does the purchasing strategy to be sustainable (fulfilling all **three pillars**: economic, environmental and social) is aligned with business strategy? Or the firm just focus on any one of **the pillars** mentioned above?
- How do you monitor supplier sustainability compliance? Do you audit suppliers? If yes, then How frequent supplier audits take place?
- Do you visit their site to be assured, whatever your supplier promised, they are following it? Or you have some different methods for auditing?
- If the supplier is not able to comply on whatever they promised, what actions are taken?
- What challenges are perceived in managing supplier sustainability risk?
- What framework or certification system you ask your suppliers for the fulfillment of sustainability criteria?
- What are the drivers pushing companies toward the adoption of environmental sustainability? And what types are problems coming in between while implementing sustainability in the supply chain of the textile industry?
- In terms of sourcing, what raw materials are used, e.g. are they renewable? Ever thought of replacing the cotton or other raw material with natural fibers such as wool, linen and silk are also common and other possibilities include hemp, ramie, flax, jute, sisal, and coir? or is there any joint- project or close collaboration with suppliers to support them for production of this kind of raw material?

- What is the role played by the company and supply chain cultures (e.g., internal values, national culture, etc.) in improving the results in a sustainable supply chain?
- Once the product is at its end of life, do you have to follow any legal requirements to use, store or dispose of it? Or Can it be reused, remanufactured or recycled? (the concept of a closed loop)

Appendix B

Raw data of company response:

Company S

- Can you explain in a few lines about your organization? (vision and mission). What are main/core activities are performed in the company?
  A*: My organization is a garment export company based out of India working for many global and domestic brands. Core activities are marketing, production, procurement, logistics & design.*

- A rough framework about the supply chain of organization (different actors involved)?
  A: *Demand by the client – identify the sources – analyses best option – place order – check material – payment application*.

- What is the nature of the business (main category of the business' function)?
  A: *Garment manufacturing & Export.*

- During the process of sourcing, which factors are mostly considered?
  A: *quality, cost and delivery and also compliances*.

- What are the main criteria (e.g. Price, delivery time, quality etc.) your organization considers before selecting a supplier? And how it is different when sustainability is incorporated in the process?
  A: *Main criteria is QCD as mentioned above, for sustainability it is important to check for certificates and affiliations.*

- What values are important for your customer?
  A: Price, quality, on-time delivery, fair trade practices, and factory compliances.

- Can you tell me how your supplier selection process works?
  A: *Identification of supplier based on product type, locations suitable for logistic purposes, then sampling is the first step so as to make sure that the supplier can manufacture quality when it comes to bulk order placement. Price effectiveness is also a factor which plays a vital role.*

- What exactly your organization looks for during the pre-selection phase?
  A*: Infrastructure, financial stability, experience & expertise in the product category and most important price factor.*

- Does the purchasing strategy to be sustainable (fulfilling all **three pillars**: economic, environmental and social) is aligned with business strategy? Or the firm just focus on any one of **the pillars** mentioned above?
  A: *The primary focus is economic and social however the strategy also includes parts on environmental and due to increasing awareness of sustainability. all purchases are getting aligned with it. But implementing sustainability in wider range is not a easy task.*

- How do you monitor supplier sustainability compliance? Do you audit suppliers? If yes, then How frequent supplier audits take place?
  A: *Monitor by checking certificates. Audit yes, half yearly.*

- Do you visit their site to be assured, whatever your supplier promised, they are following it? Or you have some different methods for auditing?
  A: *Yes, we visit very often, and also run through data to analyze the performances and promises.*

- If the supplier is not able to comply on whatever they promised, what actions are taken?
  A*: Debits and penalties post discussion.*

- What challenges are perceived in managing supplier sustainability risk?
  A: *Challenges can be flawed data, incorrect informations etc.*

- What framework or certification system you ask your suppliers for the fulfillment of sustainability criteria?
  A: *Government certificates and BCI certifications.*

- What are the drivers pushing companies toward the adoption of environmental sustainability?
  A: *Government/brands and global environmental awareness.*

- What types are problems coming in between while implementing sustainability in the supply chain of the textile industry?
  A: *Organized suppliers can afford all certificates, but unorganized sectors cannot.*

- In terms of sourcing, what raw materials are used, e.g. are they renewable? Ever thought of replacing the cotton or other raw material with natural fibers such as wool, linen and silk are also common and other possibilities include hemp, ramie, flax, jute, sisal, and coir? or is there any joint- project or close collaboration with suppliers to support them for production of this kind of raw material?
  A: *Mostly cotton, we use BCI and organic cotton, other substitutes are expensive than cotton, however, suppliers are still working on making them cost-effective.*

- What is the role played by the company and supply chain cultures (e.g., internal values, national culture, etc.) in improving the results in a sustainable supply chain?
  A: *Internally we are trying to add sustainability to our supply chain but for time being an environmental factor is taken into consideration.*

- Once the product is at its end of life, do you have to follow any legal requirements to use, store or dispose of it? Or Can it be reused, remanufactured or recycled? (the concept of a closed loop).
  A: *this we cannot be sure as we supply to other brands such as GAP, ZARA, ETC… they might and would be re-using or something.*

COMPANY N:

- What is the nature of the business (main category of the business' function)?
  A: *Manufacturing and exporting largely.*

- During the process of sourcing, which factors are mostly considered?
  A: *Reliability, Resources they have like machinery, Cost, Lead time.*

- What are the main criteria (e.g. Price, delivery time, quality etc.) your organization considers before selecting a supplier? And how it is different when sustainability is incorporated in the process?
  A: *Quality, Price*

- What values are important for your customer?
  A: *Price, how fast we adopt new trends.*

- Can you tell me how your supplier selection process works?
  A*: Reliability, Delivery time, cost*

- What exactly your organization looks for during the pre-selection phase?
  A: *Analyze different suppliers based on their profile to check whether they'll be suitable for this work.*

- Does the purchasing strategy to be sustainable (fulfilling all **three pillars**: economic, environmental and social) is aligned with business strategy? Or the firm just focus on any one of **the pillars** mentioned above?
  A: *Economic*

- How do you monitor supplier sustainability compliance? Do you audit suppliers? If yes, then How frequent supplier audits take place?
  A: *Yes, we do audit based on the report. Generally, audits are conducted every season.*

- Do you visit their site to be assured, whatever your supplier promised, they are following it? Or you have some different methods for auditing?
  A: *On-site verifications is usually done before the pre-selection phase.*

- If the supplier is not able to comply on whatever they promised, what actions are taken?
  A: *Find out the reasons, cancel all the future orders, If there's any mistake which is unsolvable then we levy a huge fine on the suppliers*

- What challenges are perceived in managing supplier sustainability risk?
  A*: Timely delivery, Suppliers try to compromise the quality*

- What framework or certification system you ask your suppliers for the fulfillment of sustainability criteria?
  A: *We background check whether the supplier legally satisfies government norms*

- What are the drivers pushing companies toward the adoption of environmental sustainability? And what types are problems coming in between while implementing sustainability in the supply chain of the textile industry?
  A: *Textile industry one of the most polluting industries in the globe. It's a huge threat to human species that the chemicals used for processing are highly toxic. Now a day's buyers initiate to make a product based on Better cotton initiative (BCI) standards.*

- In terms of sourcing, what raw materials are used, e.g. are they renewable? Ever thought of replacing the cotton or other raw material with natural fibers such as wool, linen and silk are also common and other possibilities include hemp, ramie, flax, jute, sisal, and coir? or is there any joint- project or close collaboration with suppliers to support them for production of this kind of raw material?
  A: *Cotton is called as king of fibers because of its superiority than other fibers replacing cotton with other fibers is not possible in this phase. Bring a small company we don't have such joint projects.*

- what is the role played by the company and supply chain cultures (e.g., internal values, national culture, etc.) in improving the results in a sustainable supply chain?
  A: *Manufacturing product using sustainable techniques.*

- Once the product is at its end of life, do you have to follow any legal requirements to use, store or dispose of it? Or Can it be reused, remanufactured or recycled? (the concept of a closed loop)
  A: *We sell the product for tier2 buyers who are ready to buy the export garments at a cheaper price later they would sell it to stores.*
  And because of the cheaper price we don't invest money in closed loop.

Company F

- What is the nature of the business (main category of the business' function)?
  A: *Craft based organization, promote Indian craft*

- During the process of sourcing, which factors are mostly considered?
  A: *Quality, price and delivery time.*

- What are the main criteria (e.g. Price, delivery time, quality etc.) your organization considers before selecting a supplier? And how it is different when sustainability is incorporated in the process?
  A*: we look for local suppliers when it comes for supplier selection and their competences as our organization are known for handmade products by crafted people across rural India. As such we don't cover all aspects of sustainability, but we try to fulfill social criteria, by providing employment in rural India on the same end we try to be environmentally sustainable as most of the product which is made is with organic colors. And the fabric is also not harmful to the environment.*

- What values are important for your customer?
  A: *Price, quality, on-time delivery.*

- Can you tell me how your supplier selection process works?
  A*: Identification of supplier based on product type, looking for local suppliers, then sampling is the first step so as to make sure that the supplier can manufacture quality when it comes to bulk order placement. Price effectiveness is also a factor which plays a vital role.*

- What exactly your organization looks for during the pre-selection phase?
  A: *Look for product requirement, on bases of that scouting of suppliers, check local suppliers, look on their competences.*

- Does the purchasing strategy to be sustainable (fulfilling all **three pillars**: economic, environmental and social) is aligned with business strategy? Or the firm just focus on any one of **the pillars** mentioned above?
  A*: The primary focus is economic and social as the company wants to give employment to peoples however the strategy also includes parts on environmental and due to increasing awareness of sustainability.*

- How do you monitor supplier sustainability compliance? Do you audit suppliers? If yes, then How frequent supplier audits take place?
  A: *Monitor by checking general certificates asked by the government. Audit yes, half yearly.*

- Do you visit their site to be assured, whatever your supplier promised, they are following it? Or you have some different methods for auditing?
  A: *Yes, we visit very often, and also run through data to analyze the performances and promises.*

- If the supplier is not able to comply on whatever they promised, what actions are taken?
  A*: Warning is given to the suppliers, but we don't cancel the contract unless in worse circumstances. As we have a relationship with the suppliers from the last 30-40 years.*

- What challenges are perceived in managing supplier sustainability risk?
  A: *Not all suppliers are able to provide the certificates.*

- What framework or certification system you ask your suppliers for the fulfillment of sustainability criteria?

A: *Government certificates.*

- What are the drivers pushing companies toward the adoption of environmental sustainability?
  And what types are problems coming in between while implementing sustainability in the supply chain of the textile industry?
  A*: Government and social awareness are leading an organization to adopt sustainability. Organized suppliers can afford all certificates, but unorganized sectors cannot.*

- In terms of sourcing, what raw materials are used, e.g. are they renewable? Ever thought of replacing the cotton or other raw material with natural fibers such as wool, linen and silk are also common and other possibilities include hemp, ramie, flax, jute, sisal, and coir? or is there any joint- project or close collaboration with suppliers to support them for production of this kind of raw material?
  A: *Cotton is used mainly, as the demand for cotton is high but we also use some other materials and fabrics which is somewhat environmentally friendly. Our organization works with the supplier to make a different kind of fabrics and with small issues faced by them.*

- What is the role played by the company and supply chain cultures (e.g., internal values, national culture, etc.) in improving the results in a sustainable supply chain?

- Once the product is at its end of life, do you have to follow any legal requirements to use, store or dispose of it? Or Can it be reused, remanufactured or recycled? (the concept of a closed loop)
  A: *No, we don't have the concept of closed loop.*

Company A

- What is the nature of the business (main category of the business' function)?
  A: *Denim Fabric Woven Fabric, Garmenting, and Knits Fabric Brands*

- During the process of sourcing, which factors are mostly considered?
  A*: Quality, price and delivery time.*

- What are the main criteria (e.g. Price, delivery time, quality etc.) your organization considers before selecting a supplier? And how it is different when sustainability is incorporated in the process?
  A*: Price and quality are important either in sourcing or supplier selection, but when sustainability is included, we Look for responsible and sustainable local suppliers which share mutual expectations with the company.*

- What values are important for your customer?
  A: *Price, quality plays an important role.*

- Can you tell me how your supplier selection process works?

A*: Look for the requirements on the bases of that, the supplier is selected. But for our company, it is important that the supplier also has the same values which our company follow moreover, for supplier scouting we prefer local suppliers. While selecting supplier we also look at their growth plans, how well and developed suppliers are.*

- What exactly your organization looks for during the pre-selection phase?
  A: *Look for product requirement, on bases of that scouting of suppliers, check local suppliers, look on their competences.*

- Does the purchasing strategy to be sustainable (fulfilling all **three pillars**: economic, environmental and social) is aligned with business strategy? Or the firm just focus on any one of **the pillars** mentioned above?
  A: *In our organization sustainability plays an important role, we try to cover all three aspects. We want our suppliers to follow the code of conduct, we just don't look for general certificates by the government but make them adapt more eco-friendly certificates.*

- How do you monitor supplier sustainability compliance? Do you audit suppliers? If yes, then How frequent supplier audits take place?
  A: *We have third-party organization to evaluate the performance of our suppliers as well as for our organization. We visit the site of suppliers to check if they are following all our code of conduct or not. And the auditing is in every 6 months.*

- Do you visit their site to be assured, whatever your supplier promised, they are following it? Or you have some different methods for auditing?
  A: *Yes, as I mentioned, we have the third party to evaluate our performance. Apart from that, we look for different certificates. we look if the supplier is following our renovation strategy.*

- If the supplier is not able to comply on whatever they promised, what actions are taken?
  A: *Warning is given to the suppliers, try to understand why supplier is not able to comply on what they promised. If they are trying to be careless, then we prefer to terminate the contract*.

- What challenges are perceived in managing supplier sustainability risk?
  A: *Not all suppliers are able to provide the certificates, they are not aware of the outcomes. Because of which we organize training day to make them aware of the sustainability issues.*

- What framework or certification system you ask your suppliers for the fulfillment of sustainability criteria?
  A: *Government certificates, environmental certificates, better cotton initiative certificates.*

- What are the drivers pushing companies toward the adoption of environmental sustainability?
  Government/brands and global environmental awareness.
  And what types are problems coming in between while implementing sustainability in the supply chain of the textile industry?
  A: *Government and social awareness are leading an organization to adopt sustainability. Problem is the demand for sustainable clothing is less in India. Because consumers are not so*

aware. So, while adding sustainability the cost increases. And even for suppliers it's expensive to get all the certificates.

- In terms of sourcing, what raw materials are used, e.g. are they renewable? Ever thought of replacing the cotton or other raw material with natural fibers such as wool, linen and silk are also common and other possibilities include hemp, ramie, flax, jute, sisal, and coir? or is there any joint- project or close collaboration with suppliers to support them for production of this kind of raw material?
  A: *Cotton is used mainly, as the demand for cotton is everywhere, so are trying to make cotton farming effective by making farmers aware of the effective methods of farming.*
  And by providing them financial help and with better cotton imitative project.

- what is the role played by the company and supply chain cultures (e.g., internal values, national culture, etc.) in improving the results in a sustainable supply chain?
  A: *Company is trying to create awareness inside the organization as well as to its customers. The strategy of the company is followed by all actors in the chain.*

- Once the product is at its end of life, do you have to follow any legal requirements to use, store or dispose of it? Or Can it be reused, remanufactured or recycled? (the concept of a closed loop)
  A: *yes, we have closed loop strategy which includes co-creation, business model transforming from a textile/garment producer into an end-to-end solution.*

Company M

- What is the nature of the business (main category of the business' function)?
  A: *Readymade sector of clothes with varieties of product.*

  During the process of sourcing, which factors are mostly considered?
  A*: Quality, customer service, design, Price.*

- What are the main criteria (e.g. Price, delivery time, quality etc.) your organization considers before selecting a supplier? And how it is different when sustainability is incorporated in the process?
- A: *Apart from Price, quality and delivery time the most important aspect which plays an important role in selecting suppliers are credit payment term and the supplier producing fabric on its own or they outsource it. As outsourced fabric may lack the quality which we need. So, we prefer someone who produces that fabric.*

- What values are important for your customer?
  A: *Price, quality plays an important role.*

- Can you tell me how your supplier selection process works?
  A: *Sample of fabric is collected from the suppliers from the market as per requirement. Then a quality check is done for the samples and another requirement. Once the sample quality check is done, the other aspects are considered such as price, quality.*

- What exactly your organization looks for during the pre-selection phase?
  A*: Apart from common aspects, we look for a supplier who is aligned with our sustainability strategy. As the Re-Earth initiative for sustainability is followed by the company. So, we also look for suppliers whose strategy is aligned with ours.*

- Does the purchasing strategy to be sustainable (fulfilling all **three pillars**: economic, environmental and social) is aligned with business strategy? Or the firm just focus on any one of **the pillars** mentioned above?
  A: *In our organization sustainability plays an important role, but the major concern is an environmental pillar. We want our suppliers to follow international law in terms of sustainability, not just the general certificates asked by the governments.*

- How do you monitor supplier sustainability compliance? Do you audit suppliers? If yes, then How frequent supplier audits take place?
  A*: we look for different certificates, before the selection of suppliers.*
  Yes, we audit our suppliers every 6 months.

- Do you visit their site to be assured, whatever your supplier promised, they are following it? Or you have some different methods for auditing?
  A*: Yes, we visit the supplier's site to check whether they are aligned with the strategy or not.*

- If the supplier is not able to comply on whatever they promised, what actions are taken?
  A: *Warning is given to the suppliers, try to understand why supplier is not able to comply on what they promised. Or penalty is charged from the suppliers*.

- What challenges are perceived in managing supplier sustainability risk?
  A*: it's very hard to make people understand about sustainable fashion. Which means people want products which fit their pocket and adding sustainability means end product will be expensive. Which create a problem and act as a hindrance to implement sustainability in all aspects*.

- What framework or certification system you ask your suppliers for the fulfillment of sustainability criteria?
  A: *Government certificates, environmental certificates*, *international standards and code of conduct.*

- What are the drivers pushing companies toward the adoption of environmental sustainability?
  Government/brands and global environmental awareness.
  And what types are problems coming in between while implementing sustainability in the supply chain of the textile industry?
  A: *Government and partner brands create pressure which is leading an organization to adopt sustainability. Covering social aspect in India is difficult as it is very difficult to monitor child labor for each supplier.*

- In terms of sourcing, what raw materials are used, e.g. are they renewable? Ever thought of replacing the cotton or other raw material with natural fibers such as wool, linen and silk are also common and other possibilities include hemp, ramie, flax, jute, sisal, and coir? or is there any joint- project or close collaboration with suppliers to support them for production of this kind of raw material?
  A: *Cotton is used mainly, but we also use yarn and manmade fibers for some of the products. As it is not so good when compared to cotton. We work with supplier to provide them with better technology or in innovation which will not only help them to grow but also our company will have benefit.*

- What is the role played by the company and supply chain cultures (e.g., internal values, national culture, etc.) in improving the results in a sustainable supply chain?
  A*: Company is trying to create awareness inside the organization as well as to its customers. The Re-Earth initiative for sustainability plays an important role.*

- Once the product is at its end of life, do you have to follow any legal requirements to use, store or dispose of it? Or Can it be reused, remanufactured or recycled? (the concept of a closed loop)
  A: *We don't do it. But maybe our brands are working on it.*

Company R

- What is the nature of the business (main category of the business' function)?
  A: *Blended suiting to specialty ring denim as well as high-value shirting.*

- During the process of sourcing, which factors are mostly considered?
  A*: Quality, Price, delivery time*

- What are the main criteria (e.g. Price, delivery time, quality etc.) your organization considers before selecting a supplier? And how it is different when sustainability is incorporated in the process?
  A: *Quantity the supplier can provide is also considered apart from price and quality while selecting a supplier.*
  When sustainability is involved then other aspects such as environmental, social and economic are also considered, in that case, certifications are also considered.

- What values are important for your customer?
  A: *Price, quality plays an important role.*

- Can you tell me how your supplier selection process works?
  A*: We have existing suppliers for some of our products need and when there is some need for which we need a new supplier then we do market research. Then we look at how capable this supplier is in providing the products on time. And for the existing suppliers, we already have a record of their performance so on the basis of that we decide to select them or not for new orders.*

- What exactly your organization looks for during the pre-selection phase?
  A: *before selecting suppliers, we look if suppliers' policies are aligned with our company policies or not. And suppliers are following standard norms issued by governments or not which is related to sustainability in terms of social and environmental aspects.*

- Does the purchasing strategy to be sustainable (fulfilling all **three pillars**: economic, environmental and social) is aligned with business strategy? Or the firm just focus on any one of **the pillars** mentioned above?
  A*: Environmental pillars play an important role, but as implementing sustainability is very costly, we try to narrow it down and look for opportunity, if sustainability is adding value to certain segment then we implement it else, we don't consider it for all products.*

- How do you monitor supplier sustainability compliance? Do you audit suppliers? If yes, then How frequent supplier audits take place?
  A: *we look for different certificates such as eco- friendly ones, before selection of suppliers.*
  Yes, we audit our suppliers in every 6 months or 1 year.

- Do you visit their site to be assured, whatever your supplier promised, they are following it? Or you have some different methods for auditing?
  A: *Yes, we visit the supplier's site to check whether they are aligned with the strategy or not.*

- If the supplier is not able to comply on whatever they promised, what actions are taken?
  A: *We try to find the reason behind his performance and try to help them. But after that also if they are not performing well, we replace the order and give it to some other suppliers. And raise the debit note. Or in the worst case, we cancel the contract*.

- What challenges are perceived in managing supplier sustainability risk?
  A: *Sustainability is not a new topic to the Indian market, but it was never taken seriously by anyone, now the government is creating pressure, but still demand for sustainable fashion is not high which makes company focus on few products to implement sustainability, for rest of the products only general requirements are fulfilled. Which doesn't create a big change in environment or social?*

- What framework or certification system you ask your suppliers for the fulfillment of sustainability criteria?
  A: *Government certificates, environmental certificates related to eco-friendly.*

- What are the drivers pushing companies toward the adoption of environmental sustainability?
  Government/brands and global environmental awareness.
  And what types are problems coming in between while implementing sustainability in the supply chain of the textile industry?
  A: *Government and other stakeholders create pressure which is leading an organization to adopt sustainability.*

- In terms of sourcing, what raw materials are used, e.g. are they renewable? Ever thought of replacing the cotton or other raw material with natural fibers such as wool, linen and silk are also common and other possibilities include hemp, ramie, flax, jute, sisal, and coir? or is there any joint- project or close collaboration with suppliers to support them for production of this kind of raw material?
  A*: Look for a new raw substitute. But the cost of implementation is very high., so focus on making cotton as a better option. We are working with suppliers for khadi production clothes.*

- what is the role played by the company and supply chain cultures (e.g., internal values, national culture, etc.) in improving the results in a sustainable supply chain?
  A: N/A

- Once the product is at its end of life, do you have to follow any legal requirements to use, store or dispose of it? Or Can it be reused, remanufactured or recycled? (the concept of a closed loop)
  A: *We do recycle of some of the products. But not for all. It depends on the cost factor.*

Company G

- What is the nature of the business (main category of the business' function)?
  A*: Suiting's, shirting, and readymade garments for the national and international market.*

- During the process of sourcing, which factors are mostly considered?
  A: *Quality, Price, delivery time*

- What are the main criteria (e.g. Price, delivery time, quality etc.) your organization considers before selecting a supplier? And how it is different when sustainability is incorporated in the process?
  A: *Quality and delivery time plays an important role as our company produces a product for other international markets and providing the product at right time is a major concern for our partners. Apart from that cost and supplier sourcing method.*
  Awareness in the market about sustainability has created a large impact on everyone, now most of our partners look for some specific certification according to international law, which sometimes is difficult for suppliers to get. And because of which we get less option to choose a supplier in the market particularly for that brand or product.

- What values are important for your customer?
  A: *We believe our customers are more forced on Quality when compared to price.*

- Can you tell me how your supplier selection process works?
  A*: Before selecting any supplier, we look for the requirements. Then we collect samples from different suppliers and test the samples. The sample should be good in term of quality required. After that we look on price, supplier's turnover to know more about supplier's condition, manufacturing capacity. And when everything is fine, we consider contract conditions. And*

after selection of supplier, we divided our suppliers into different clusters according to the product or material importance.

- What exactly your organization looks for during the pre-selection phase?
  A: *In terms of sustainability our companyy focuses on all the aspects especially the environmental and social. Before selecting any strategic suppliers, we look if they are following all the international standards and certifications or not, people working in their company should be more than 18years and the working condition should be proper, the material or the color used in any product is not harmful to the environment.*

- Does the purchasing strategy to be sustainable (fulfilling all **three pillars**: economic, environmental and social) is aligned with business strategy? Or the firm just focus on any one of **the pillars** mentioned above?
  A: *Yes, our purchasing and business strategy is aligned with each other, we also have a sustainability model which is followed by all the different departments in our company in all aspects.*

- How do you monitor supplier sustainability compliance? Do you audit suppliers? If yes, then How frequent supplier audits take place?
  A: *We look for different certificates and laws followed by our strategic suppliers. We even use the third party to evaluate them.*
  Yes, we audit our suppliers in every 6 months or monthly if the product is very important.

- Do you visit their site to be assured, whatever your supplier promised, they are following it? Or you have some different methods for auditing?
  A: *Yes, we visit the supplier's site to check whether they are aligned with the strategy or not. And sometimes we use the third party to do all this. We also look on certifications provided by the suppliers on the time of selection, that the certificates are renewed from time to time.*

- If the supplier is not able to comply on whatever they promised, what actions are taken?
  A: *We prefer to have a long-term relationship with our suppliers, and if suppliers are not performing well instead of terminating them and using all the money again for searching a new supplier, we invest that money or supplier's development. Which can help the supplier the problems because of which they are not able to fulfill the promises? As supplier development means better cost control, better quality improvement, and technical aspects*.

- What challenges are perceived in managing supplier sustainability risk?
  A*: Adding sustainability is challenging but not impossible, our company values the importance of sustainability and so our suppliers. Because of which we have clustered or suppliers. And for different suppliers, they have a different requirement. Suppliers with less important don't have to follow international standard just the basic law, which is easy for them to adopt. But strategic suppliers have to follow all the rules, and sometimes because of this thing, only a few suppliers are left in market and company end up selecting someone from that. Which increases the bargaining power of the suppliers.*

- What framework or certification system you ask your suppliers for the fulfillment of sustainability criteria?
  A: *Sustainability framework model is developed by our company which is followed by all our suppliers. Apart from that Government certificates, environmental certificates related to the environment or social aspects and also some international standards.*

- What are the drivers pushing companies toward the adoption of environmental sustainability?
  Government/brands and global environmental awareness.
  And what types are problems coming in between while implementing sustainability in the supply chain of the textile industry?
  A: *Change in market demand and other stakeholders create pressure concerning about the environmental issues which are leading our organization to adopt sustainability.*

- In terms of sourcing, what raw materials are used, e.g. are they renewable? Ever thought of replacing the cotton or other raw material with natural fibers such as wool, linen and silk are also common and other possibilities include hemp, ramie, flax, jute, sisal, and coir? or is there any joint- project or close collaboration with suppliers to support them for production of this kind of raw material?
  A: *Cotton plays a very important role, we can't just replace cotton, but we try to improve our cotton and work with our suppliers to make it more sustainable. Help our farmers with innovative cropping techniques involving sustainable practices Or the products made up of cotton should be more sustainable. LINEN, fabrics and synthetic yarns are also used for our products.*

- What is the role played by the company and supply chain cultures (e.g., internal values, national culture, etc.) in improving the results in a sustainable supply chain?
  A: *Company is trying to make whole supply chain sustainable for which a separate sustainable model is developed, which not only focus to make sustainable the manufacturing part but also the other departments. The seminar, conferences, event are organized to make supplier and people working in a company to be aware of sustainability*

- Once the product is at its end of life, do you have to follow any legal requirements to use, store or dispose of it? Or Can it be reused, remanufactured or recycled? (the concept of a closed loop)
  A: *if the left-over waste is not harmful then we dispose of it else we use it for manufacturing low-quality small products.*

Company O

- What is the nature of the business (main category of the business' function)?
  A: *Company is known for its Tweed suiting material across India.*

- During the process of sourcing, which factors are mostly considered?
  A: *Quality, Price, delivery time*

- What are the main criteria (e.g. Price, delivery time, quality etc.) your organization considers before selecting a supplier? And how it is different when sustainability is incorporated in the process?
  A: *Before selecting suppliers, we look for some of the important factors such as price, quality, delivery time, suppliers' competitive advantage their financial status and reputation in the market. It is different from a sustainability perspective, as including sustainability means adding other factors too, such as environmental and social aspects. Which should be at the higher level.*

- What values are important for your customer?
  A: *Price, quality plays an important role.*

- Can you tell me how your supplier selection process works?
  A*: The process of supplier selection is based on the requirement of the product, once the group of suppliers is filtered based on the requirement then different factors are compared mentioned above, and the best supplier who can provide good quality which is our requirement at a low price is selected. For our company supplier who produces the fabric in-house are given more priority.*

- What exactly your organization looks for during the pre-selection phase?
  A: *Before selecting suppliers, we look if suppliers are following standard norms issued by governments or not which is related to sustainability in terms of social (working condition of its workers) and environmental aspects*.

- Does the purchasing strategy to be sustainable (fulfilling all **three pillars**: economic, environmental and social) is aligned with business strategy? Or the firm just focus on any one of **the pillars** mentioned above?
  A: *We basically believe to be successful we need to take care of our employees and our customers. So, purchasing strategy is not aligned with business strategy. When we talk about sustainability our is focus on social and somewhat Environmental pillars.*

- How do you monitor supplier sustainability compliance? Do you audit suppliers? If yes, then How frequent supplier audits take place?
  A: *We look for different certificates asked by the government of India, before selection of suppliers.*
  Yes, we audit our suppliers every 6 months.

- Do you visit their site to be assured, whatever your supplier promised, they are following it? Or you have some different methods for auditing?
  A: *Yes, we visit the supplier's site to check whether they are aligned with the strategy or not. We also use the third party to check all the process involved in the production. To know more about suppliers' condition.*

- If the supplier is not able to comply on whatever they promised, what actions are taken?
  A: *We remind our supplier about the mistake they did and not to do it again. We believe in long-term relationship and try to create win-win situation for both the parties, and we believe clear*

communication with the clear objective is the only way, but I still supplier is not performing well then, we terminate the contract.

- What challenges are perceived in managing supplier sustainability risk?
  A: *People of India look for a cheap product with high quality which is very difficult to get and being an SME, it is more difficult. Even if sustainability is not a new topic still some of our suppliers and customers are not aware of it. To make them aware and to make them understand is a difficult task*.

- What framework or certification system you ask your suppliers for the fulfillment of sustainability criteria?
  A*: Government certificates, environmental certificates, social certificates.*

- What are the drivers pushing companies toward the adoption of environmental sustainability?
  Government/brands and global environmental awareness.
  And what types are problems coming in between while implementing sustainability in the supply chain of the textile industry?
  A: *Government and changing market trend is the reason for organizations to adopt sustainability.*

- In terms of sourcing, what raw materials are used, e.g. are they renewable? Ever thought of replacing the cotton or other raw material with natural fibers such as wool, linen and silk are also common and other possibilities include hemp, ramie, flax, jute, sisal, and coir? or is there any joint- project or close collaboration with suppliers to support them for production of this kind of raw material?
  A: *Yes, we have joint projects with our suppliers, we Help supplier in terms of raw material to make them more effective.*
  Even if there are alternatives for cotton, but cotton cannot be replaced. It makes the product good and demand for cotton products are high.

- What is the role played by the company and supply chain cultures (e.g., internal values, national culture, etc.) in improving the results in a sustainable supply chain?
  A: *N/A*

- Once the product is at its end of life, do you have to follow any legal requirements to use, store or dispose of it? Or Can it be reused, remanufactured or recycled? (the concept of a closed loop)
  A: *We do recycle of some of the products. Wool is converted to yarn and used to produce some rough products for household purpose.*

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