Supply chain in the readymade garments industry (Zara case study)

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Abstract:

Supply chain is the oversight of materials, information, and finances as they move in a process from supplier to manufacturer to wholesaler to retailer to consumer. Supply chain management involves coordinating and integrating these flows both within and among companies. **Objectives**: Achieve Efficient Fulfillment. On the most basic level, the purpose of supply chain management is to make inventory readily available in customer facing positions to fulfill demand. ... Such steps will help the organization reduce waste, drive out costs, and achieve efficiencies in the supply chain. **Methodology** The, experimental approach includes description and analysis, The limits of the research were limited to study a case of one more successful experiences in the field, Zara Clothing Company Supply Chain, , **Conclusions:** management was introduced, there has been a great deal of confusion about what it actually involves. While some managers and researchers continue to use supply chain management interchangeably with logistics ,there is an increasing understanding that it is much more than logistics. In recent years, many specialists have stressed the importance

Keywords:

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apparel industry
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1- Introduction

Supply chain is the oversight of materials, information, and finances as they move in a process from supplier to manufacturer to wholesaler to retailer to consumer. Supply chain management involves coordinating and integrating these flows both within and among companies. It is said that the ultimate goal of any effective supply chain management system is to reduce inventory (with the assumption that products are available when needed)
http://searcherp.techtarget.com)(
Fashion industry is one of the most primitive form of supply chain management and its practices have been extended, adopted and become the best practices that we use today
(http://www.supplychainopz.com)
A **supply chain** is a system of organizations, people, activities, information, and resources involved in moving a product or service from supplier to customer. Supply chain activities involve the transformation for natural resource, raw materials and components into a finished product that is delivered to the end customer In sophisticated supply chain system, used products may re-enter the supply chain at any point where residual value is recyclable
(https://en.wikipedia.org/wiki/Supply_chain)
Supply Chain Management is a cross functional approach, the management of the activities that procure materials and services, transform them into intermediate goods and final products, (Bowersox DJ, Closs DJ, Cooper MB.,2007)

What is Supply Chain Management (SCM)?

Supply chain management (SCM) is the active management of supply chain activities to maximize customer value and achieve a sustainable competitive advantage. It represents a conscious effort by the supply chain firms to develop and run supply chains in the most effective & efficient ways possible. Supply chain activities cover everything from product development, sourcing, production, and logistics, as well as the information systems needed to coordinate these activities.
The concept of Supply Chain Management (SCM) is based on two core ideas:

1. The first is that practically every product that reaches an end user represents the cumulative effort of multiple organizations. These organizations are referred to collectively as the supply chain.
2. The second idea is that while supply chains have existed for a long time, most organizations have only paid attention to what was happening within their "four walls." Few businesses understood, much less managed, the entire chain of activities that ultimately delivered products to the final customer. The result was disjointed and often ineffective supply chains.

The organizations that make up the supply chain are "linked" together through physical flows and information flows.

2- Statement of the Problem

1. Is our Supply Chain Efficient?

2. What Does our Supply Chain Really Cost our Business?
3. Where can we improve our Supply Chain to gain competitive advantage and improve the bottom line?
4. Do we have the right supply chain strategy in place?

3- Research importance :-

- Supply chain management involves optimizing your operations to maximize both speed and efficiency. Speed is important because customers value fast service. Increasing speed, however, can cause costs to skyrocket, so maximizing efficiency is equally important

4- Objectives:

1- Achieve Efficient Fulfillment. On the most basic level,
2- Make inventory readily available in customer facing positions to fulfill demand. ... Such steps will help the organization reduce waste, drive out costs, and achieve efficiencies in the supply chain

5- Methodology

The experimental approach includes description and analysis.

The limits of the research:

Were limited to the study of the case of one of the successful experiences in the field of supply chain apparel industry, (Zara).

6- Theoretical framework:

Physical Flows

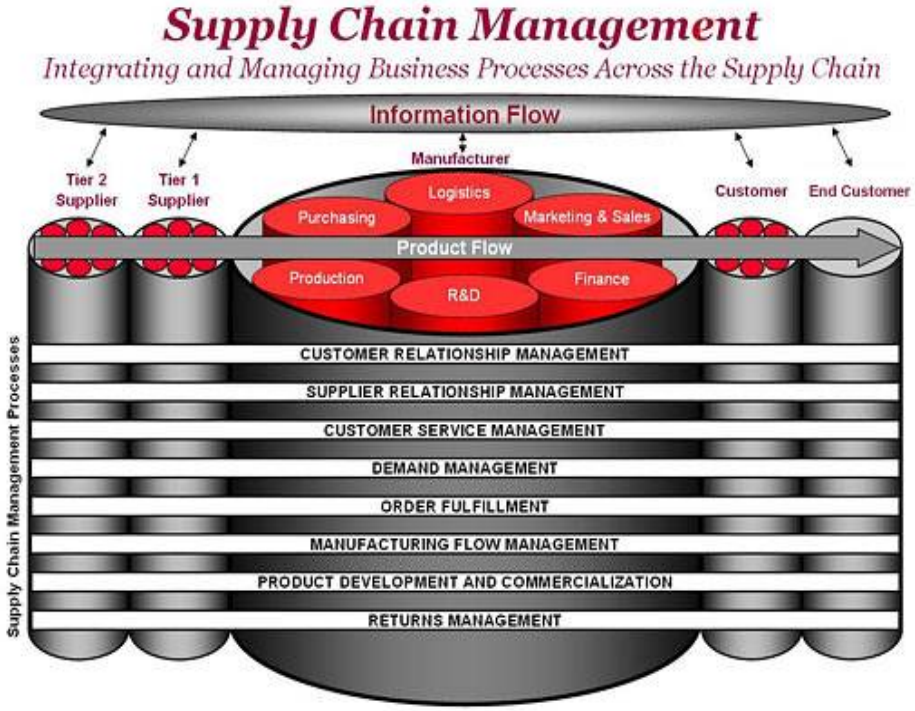
Physical flows involve the transformation, movement, and storage of goods and materials. They are the most visible piece of the supply chain. But just as important are information flows.

Information Flows

Information flows allow the various supply chain partners to coordinate their long-term plans, and to control the day-to-day flow of goods and materials up and down the supply chain.

https://scm.ncsu.edu/scm-articles

Supply chain management is a process used by companies to ensure that their supply chain is efficient and cost-effective. A supply chain is the collection of steps that a company takes to transform raw materials into a final product. The five basic components of supply chain management are discussed below



Figure(1) supply chain management

(Keely L. Croxton, Sebastián J. García-Dastugue,2001)

Plan

Every company needs a strategy on how to manage the resources in order to achieve their customers demand for their products and services. The supply chain management is developing a set of metric to monitor the supply chain so that it can deliver high qualities and values to customers..

Develop(Source)

To create their products, companies need to be very

careful when choosing suppliers to deliver their goods and services needed. The managers need to develop a set pricing and delivery system in the supply chain.They can also put processes for managing their goods and goods inventory, for example; receiving shipments (www.supplychaindigital.com)

Make

The third step in the supply chain management process is the manufacturing or making of products that were demanded by the customer. In this stage, the products are designed, produced, tested, packaged, and synchronized for delivery.

Here, the task of the supply chain manager is to schedule all the activities required for manufacturing, testing, packaging and preparation for delivery. This stage is considered as the most metric-intensive unit of the supply chain, where firms can gauge the quality levels, production output and worker productivity.

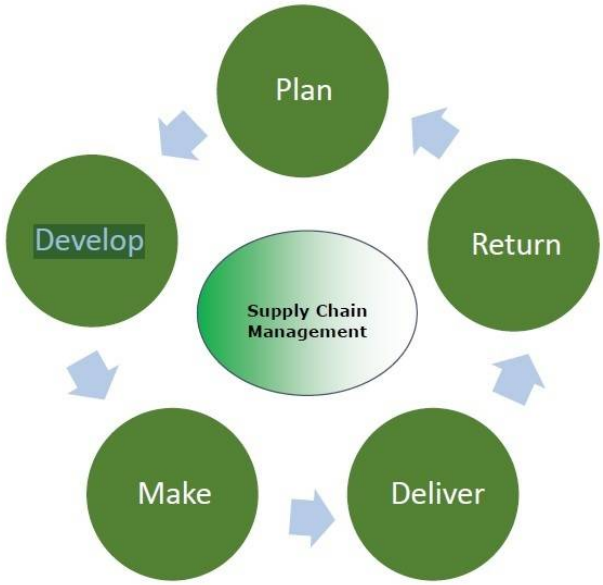


Figure (2) components of supply chain management Deliver(Brewer & Speh, 2000)

The fourth stage is the delivery stage. Here the products are delivered to the customer at the destined location by the supplier. This stage is basically the logistics phase, where customer orders are accepted and delivery of the goods is planned. The delivery stage is often referred as logistics, where firms collaborate for the receipt of orders from customers, establish a network of warehouses, pick carriers to deliver products to customers and set up an invoicing system to receive payments.

Return

The last and final stage of supply chain management is referred as the return. In the stage, defective or damaged goods are returned to the supplier by the customer. Here, the companies need to deal with customer queries and respond to their complaints etc.

This stage often tends to be a problematic section of the supply chain for many companies. The planners of supply chain need to discover a responsive and flexible network for accepting damaged, defective and extra products back from their customers and facilitating the return process for customers who have issues with delivered products.

The four elements of supply chain strategy:- To paraphrase Michael Porter,[7] while operational efficacy deals with achieving excellence in individual activities or functions, supply chain strategy defines the connection and combination of activities and functions throughout the value chain, in order to fulfill the business value proposal to customers in a marketplace

Industry framework. "Industry framework" refers to the interaction of suppliers, customers, technological developments, and economic factors that affect competition in any industrial sector. Within this framework are four main drivers affecting supply chain design, all of them interrelated

Unique value proposal. The second element, the unique value proposal, requires a clear understanding of the organization's competitive positioning in terms of its supply chain. A good approach to this is the concept of "order qualifiers" and "order winners" described in 1995 by Alex and Terry Hill.[8] These concepts define, respectively, the minimum requirements for being considered as a relevant option by customers, and the performance aspects that best differentiate the company from its competitors and therefore help

to win customer orders.

Managerial focus. Before discussing the fourth element—internal processes—it is important to explain the linkage and alignment between an organization's competitive positioning and its supply chain processes. The connection between these two areas is governed by the decision-making process and is driven by the supply chain's managerial focus.

Internal processes. The fourth element, internal processes, provides an orientation that ensures a proper connection and combination within the supply chain activities that fall under the categories of source, make, and deliver. (See Figure 2.) Among the many factors encompassed by this element, the most important are *asset utilization* and *the location of the decoupling point.* The decoupling point is the process in the value chain where a product takes on unique characteristics or specifications for a specific customer or group of customers

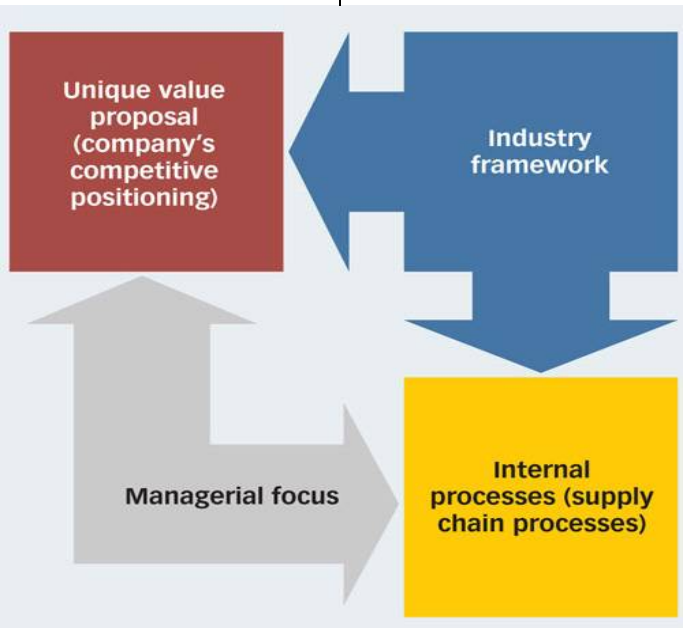


figure (3)the main elements of supply chain strategy

http://www.supplychainquarterly.com/topics/Strategy/20130306-supply-chain-strategies-which-one-hits-the-mark/

different between Logistics and supply chain:

Logistics and supply chain aren't the same things logistics. is the management of the movement of goods whereas supply chain management covers the many other areas we're discussing here.

But logistics is a part of supply chain and that means whoever manages your supply chain will be responsible for managing freight forwarders, shipping companies, parcel delivery companies (like Fedex and UPS), customs brokers and third party logistics providers (3PL).

Logistics providers should be managed in the same way that you manage your suppliers cost. Costs and contracts can be negotiated. You can source freight for warders the same way you would source suppliers of the products you need.

Shipping and warehousing costs can be one of the largest expenses in your supply chain and its critical that your logistics providers are measured and managed to control those costs.

(https://www.thebalance.com)

There are many examples of prosperous companies that have correctly developed the supply change management concept and that enforce efficient practices. These are some examples.

The Coca-Cola Company.

Figure(4) Coca Cola company

Main makers, marketers and distributors of drink concentrates and non-alcoholic syrups. The main office is located in Atlanta, GA but their products are distributed to virtually every country in the world. Their preparation, distribution and transportation logistics are in line with a segmentation strategy for their customers when it comes to the size and presentation of their

products. **Aside from having an extremely successful supply chain, Coca-Cola participates in sponsorships, partnerships, and alliances; thus creating a great management and marketing of their products.**

adidas

Figure(5) adidas company

The United States is home to the largest Adidas Distribution center in the world, located in Spartanburg South Carolina. Distribution centers hold products in warehouses that are then sent to local stories or sent to homes if purchased online. Products purchased directly from the company can usually be bought cheaper than from stores because its cutting out a labor force.

Customer ,Once the products leave distribution centers they are redistributed to retail stores such as Adidas stores themselves, Walmart, Sports Authority and much more. The products usually comes in large totes shrink wrapped. Its up to employees at these stores to shelve these products for the consumers. Consumer Consumers are the final steps in the supply chain. The consumers purchase these Adidas products from different retailers. If consumers do not purchase these products companies do not make money, making consumers the most important part of the supply chain. Consumers pay for the labor involved with making and transporting these *products.*

http://www.supplychaindigital.com/magazine

-Eleven:

Figure(6) Eleven chain of convenience

Eleven is an international chain of convenience stores, based out of Dallas, Texas. The currently have around 58.308 in 16 different countries, most of them franchises. They are mainly focused on selling basic food items, medicine and toiletries and magazines, but this all depends on their host country. Their main stores are located throughout the United States and Asia. **They supply a huge variety of customer needs 24 hours a day in most locations. Their reach, capacity and management have made 7-Eleven one of the biggest and most productive companies in the world.**

Zara.

Figure(7) Zara store

Zara is one of the main clothing and accessory retailers internationally based in Spain**. They are mainly focused on new, trendy and cutting edge fashion for men and women alike. Currently it operates in 88 different markets worldwide, their main distributors are in Madrid and Zaragoza.** Zara is known for its energy saving efforts and techniques, as well as their minimization and efficient waste management. This commitment with the environment is paramount within their operations across all plants and departments and has helped create a collective conservation consciousness among members of the staff. In their fabrics, they used environmentally friendly fabrics like organic cotton amongst others. Their textile production comes from Spain, the Far East, India and Morocco. Biodiesel fuel is used to transport their products, according to their environmental policies. The have a great concern for animal treatment and under no circumstances, use animal products that come from animals that were not treated ethically or sacrificed for the sole purpose of commercializing their leather, skin, horns, feathers, etc. While other retailers use third-party production, Zara produces about 60% of the fabrics they use and use cutting-edge technology to cut and measure the handling of fabric so this is done in a precise and efficient manner, thus reducing waste overall.

Amazon.

Figure(8) Amazon company

Amazon is a US electronic commerce and cloud computing company. Their headquarters are based in Seattle, Washington and they are the largest internet-based retailer in the United States. Amazon was one of the first companies that started selling book online, Amazon takes the top spot in Gartners 11th annual Supply Chain Top 25, identifying global supply chain leaders and highlighting their best practices. Analysts announced the findings from the 2015 research at the Gartner Supply Chain Executive Conference, which was held in Phoenix (United States) on 12-14 May 2015.**.** Their supply chain goes from the lowest levels of inventory, through the logistics of the order itself all they way up to an outstanding distribution chain of their products in an international scale.

(www.supplychainmovement.com/amazon) can currently ship close to 10 million different products. This diversity gives it an edge against competitors and makes it a perfect example of what efficient supply chain management can accomplish.

https://davidkigerinfo.wordpress.com

Fashion Supply Chain :

Fashion industry is one of the most primitive form of supply chain management and its practices have been extended, adopted and become the best practices that we use today.

In 1984, US Apparel Industry created the task force called "Crafted With Pride in the U.S.A. Council" with the goal to improve the overall competitiveness of the industry. One year later "Kurt Salmon Associates" was assigned to investigate the whole apparel supply chain. The result showed that materials were in the warehouse or in transit as long as 40 weeks! In order to reduce lead-time, Quick Response (QR) strategy was developed and there are 2 core principles, namely, partnership between retailers and suppliers to improve the information sharing and the adoption of technologies such as EDI, UPC Code and point of sales data (POS).

(http://www.supplychainopz.com)

Challenges of global fast fashion supply chains:

There is no doubt that the fast-changing and glamorous image the fashion industry projects to consumers and the rest of society is very appealing. Nonetheless, it is this very aspect of its nature which poses significant challenges for supply chain professionals. One such challenge is the marking-down of slow-moving items at the end of the season, an example which highlights the rationale behind a number of important decisions made by companies in relation to network design and inventory location.(John Gattorna ,2014)

Zara Clothing Company Supply Chain

Zara changes its clothing designs every two weeks on average, while competitors change their designs every two or three months. It carries about 11,000 distinct items per year in thousands of stores worldwide compared to competitors that carry 2,000 to 4,000 items per year in their stores. Zara's supply chain is absolutely critical to its business success http://www.zara.com).

The company was founded in Spain in 1975. It is the flagship business unit of a holding company called In ditex Corporation with headquarters in A rteixo, Galicia, Spain. The heart of the company and its supply chain is a huge, highly automated distribution center (DC) called "The Cube". The screenshot above shows a close up satellite view of this facility.

Zara's Business Model

Agents for the company are always scouting out new fashion trends at clubs and social gatherings. When they see inspiring examples they quickly send design sketches to the garment designers at the Cube. New items can be designed and out to the stores in 4 – 6 weeks, and existing items can

be modified in 2 weeks.

The company's core market is women 24 – 35 years old. They reach this market by locating their stores in town centers and places with high concentrations of women in this age range. Short production runs create scarcity of given designs and that generates a sense of urgency and reason to buy while supplies last. As a consequence, Zara does not have lots of excess inventory, nor does it need to do big mark-downs on its clothing items.

In Spain customers visit Zara stores 17 times per year compared to 3 times per year for competitors. They don't sell clothes over the Internet because the returns rate is too high. Since their clothes are unique and not standard, it is harder for people to see them clearly on the Internet and thus they are encouraged to come into the stores instead and try on the unique fashions that Zara offers.

Zara has 12 inventory turns per year compared to 3 – 4 per year for competitors. Stores place orders twice a week and this drives factory scheduling. Such short term focused order cycles make forecasts very accurate, much more accurate than competitors who may order every two weeks or every month.

Clothing items are priced based on market demand, not on cost of manufacture. The short lead times for delivery of unique fashion items combined with short production runs enable Zara to offer customers more styles and choices, and yet still create a sense of urgency to buy because items often sell out quickly. And that particular item or style may not be available again after it sells out. Zara sells 85 percent of its items at full price compared to the industry average of selling only 60 percent of items at full price. Annually there is 10 percent of inventory unsold compared to industry averages of 17 – 20 percent.

Zara spends its money on opening new stores instead of spending a lot on ad campaigns. Estimates vary on the number of Zara stores worldwide. An article in the *New York Times Magazine* (November 2012, "How Zara Grew into the World's Largest Fashion Retailer" see reference in bibliography below), places the store count at around 5,900. An article in *Forbes* simply states there are more than 2,100 stores. Annual sales at the end of 2015 were estimated by *Forbes* to be $15.9 billion. Because Zara is a privately owned company, it is not required to disclose information routinely released by public companies. Zara uses a flexible business model where its stores can be owned, franchised or co-owned with partners.

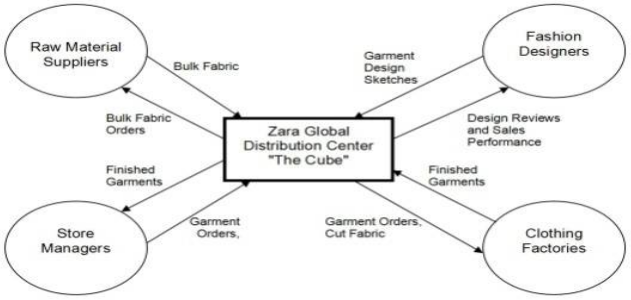
Manufacturing and Supply Chain Operations

Factories can increase and decrease production quickly, thus there is less inventory in the supply chain and less need to finance that inventory with working capital. They do only 50 – 60 percent of their manufacturing in advance versus the 80 – 90 percent done by competitors. So Zara does not need to place big bets on yearly fashion trends. They can make many smaller bets on short term trends that are easier to call correctly.

Zara buys large quantities of only a few types of fabric (just four or five types, but they can change from year to year), and does the garment design and related cutting and dyeing in-house. This way fabric manufacturers can make quick deliveries of bulk quantities of fabric directly to the Zara DC – the Cube. The company purchases raw fabric from suppliers in Italy, Spain, Portugal and Greece. And those suppliers deliver within 5 days of orders being placed. Inbound logistics from suppliers are mostly by truck.

The Cube is 464,500 square meters (5 million square feet), and highly automated with underground monorail links to 11 factories within a 16 km (10 mile) radius of the Cube. All raw materials pass through the cube and all finished goods also pass through on their way to stores. The diagram below illustrates Zara's supply chain model.

The 11 Zara owned factories are connected to the Cube by underground tunnels with high speed monorails (about 200 kilometers or 124 miles of rails) to move cut fabric to these factories for dyeing and assembly into clothing items. The factories also use the monorail system to return finished products to the Cube for shipment to stores. Here are some facts about the company's manufacturing operations:



Figure(9) Zara global distribution

Zara competes on flexibility and agility instead of low cost and cheap labor. They employ about 3,000 workers in manufacturing operations in Spain at an average cost of 8.00 euro per hour compared to average labor cost in Asia of about 0.40 euro per hour

Zara factories in Spain use flexible manufacturing systems for quick change over operations.

- 50% of all items are manufactured in Spain
- 26% in the rest of Europe
- 24% in Asia and Africa

The screenshot below illustrates how the Zara supply chain is organized. Manufacturing is centered in northwestern Spain where company headquarters and the Cube are located. But for their main distribution and logistics hub they chose a more centrally located facility. That facility is located in Zaragoza in a large logistics hub developed by the Spanish government. Raw material is sent by suppliers to Zara's manufacturing center. Then finished garments leave the Cube and are transported to the Zara logistics hub in Zaragoza. And from there they are delivered to stores around the world by truck and by plane.

http://blog.scmglobe.com

Zara supply chain analysis - the secret behind Zara's retail success

It's not unusual to pass a Zara store and do a double-take - didn't you just see that on the catwalk? As a brand, they value their speed and responsiveness to the latest fashion trends. Owned by the distribution group Inditex, we had a look at what makes Zara so fast that the New York Times called it "mind-spinningly supersonic."

Ortega founded Zara in 1975 as an attempt to better understand world markets for his fashion merchandise. From that first store in Spain, Zara has since expanded to 1,770 stores in 86 countries around the world .

Figure (10) Zara products

In 2012, In ditex, Ortega's parent company made up of Zara and other retail concepts and suppliers, reported total sales of US$20.7 billion, with Zara representing a powerful 66 percent, or US$13.6 billion, of that total.

The practices of SCM are not only benefited by the reduction of spending, but also by incrementing profitability in investments, commercial growth and reducing the overall cost of doing business. Businesses faced with overruns, due to bad supply chain management have a higher propensity to being affected by economic crises; therefore the difference between a struggling company and a successful one can usually be seen in an adequate and representative use and upkeep of their supply chain from beginning to end.

https://www.forbes.com

7- Conclusions

Since the concept of supply chain management was introduced, there has been a great deal of confusion about what it actually involves. While some managers and researchers continue to use supply chain management interchangeably with logistics, there is an increasing understanding that it is much more than logistics. In recent years, many authors have stressed the importance of implementing supply chain management as part of a process orientation to

management. However, most of what is written about supply chain management advocates business process reengineering and integration without specifying the processes that are to be included in these efforts. It would be much easier for management to implement a process orientation within their firm if there were clear guidelines as to what the processes ought to be, what sub-processes and activities are included, and how the processes interact with each other and with the traditional functional silos. Further, how

can the members of a supply chain practice process integration if there is not a common understanding of what the business
processes are? The members of The Global Supply Chain Forum identified eight business processes that must be implemented within a firm and then linked up, as appropriate, with key supply chain members In this paper, we provide strategic and operational descriptions of each of these processes. Our goal is to provide:

1) companies with a common structure for implementing supply chain management,
2) instructors with material that can be used in teaching supply chain management, and
3) researchers with fertile groundwork for delving more deeply into the issues within each process and with their integration between companies.

8- Recommendations:

Teaching a course to study the management of the supply chain for students specializing in fashion, Study of the most important institutions that implement supply chain management and its impact on production

9- References

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