

## Supplier and Retailer Supply Chain Integration Model; Fashion Industry

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### ABSTRACT

**Purpose-** The aim of this study is to recommend a supply chain integration model to suppliers and retailers operating in the fashion industry and to define the features and benefits of the model.

**Design/methodology/approach-** The interview method is used as the primary research and books, journals and magazines are used as secondary research methods. The sample selection consisted of Turkish suppliers, manufacturers and British retailers.

**Findings-** While the SCI model implementation provides advantages and benefits with 33% higher rate in efficiency and lead time, 27% in competition and quality, 20% in profit margin and stability, in contrast, dependability and supplier/buyer commitments, new opportunities and implementation skills, new IT investment and labour commitments with 33%, 27% and 20% respectively were forecasted as disadvantages and concerns.

**Discussion-** Supply chain integration models have a significant impact on the functioning of companies operating in the fashion industry. While it creates a positive impact, especially in preventing waste, accelerating processes and reducing costs, it also creates risks in terms of dependency and trust.

## 1. INTRODUCTION

Fashion is one of the most volatile industries in the world. The high volatility in fashion trends and consumer demands create bullwhip effects or unavailability of stocks. Lack of efficient demand forecasts put companies in huge difficulties in product storing or new supply. Sometimes products stored in large quantities can quickly become old-fashion or products stored in low quantities can become high-fashion. Usually, this difficulty in predictability leaves companies with the inability to respond to customer demands or leave firms to face financial difficulties.

In addition to storing difficulties, sometimes, the designs in question can become old-fashion or trendy while the products ordered from suppliers are in production or on the road. Therefore, if suppliers and retailers want to ensure a long-term, stable and strong cooperation, they need to benefit from today's information technological opportunities to capture the trend of the moment, products lead time and sale period is likely to be so short and seasonal. The industry has had significant changes in last decades, as consumers have become more fashion-conscious and the need for traditional designs has been eliminated (Rethore, 2022).

Globalisation triggered a high competition especially in the fashion industry. Location (logistics), production cost and lead time became the main elements of the competition. Supply chain network has opened new doors for any sized fashion companies around the World to level up or enlarge their business capacities. Supply chain management took role to cut out all wasteful intermediaries during the business activities and to speed up the processes and achieve economies of scale while integrating the international networks of suppliers and customers. The role had taken by supply chain management, created efficiency in the most fashion supply chain efforts and became the determinant of success and failure in such environment (Sen, 2008).

Success or failure in this environment is highly determined by the businesses' ability of flexibility and responsiveness (Christopher et al., 2004). The main elements of supply chain; lead time, quality control, batching, warehousing and information technology and quick response became key factors in fashion markets. Also, right strategies, structures and managerial efforts enable products designed, production and delivery on the demanded time (Ramune & Milita, 2014).

#### Suggested Citation

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This study offers a new concept of supplier and retailer integration for fashion industry, 'Suppliers and Retailers Supply Chain Integration Model'. This model makes complex supply chains suitable avenue for efficient practices. This study examines a supply chain integration model for the fashion industry to answer the current operational disrupts and the industry' transformation. Intensely, it stands on the fashion manufacturer and retailer sides of the supply chain components. It begins with the definition of fashion industry, and then continuing with the responsiveness of supply chains and SCI model, research methodology, analysis and findings. Lastly, conclusion is provided at the final section.

## 2. LITERATURE REVIEW

### **Fashion Industry**

Fashion industry includes a wide range of areas such as clothing, shoes, accessories or textiles. Christopher (2004) defines fashion industry as a typical exhibition of short life cycle, volatile, low predictable, and high incentives. Barnes & Lea-Greenwood (2006), describe the fashion as business strategy that aims to satisfy consumer demand at its peak level, minimising buying cycle and lead times to get new fashion arrivals into the shop floors.

Charles Frederic Worth, the first fashion designer, avoid traditional dress design and created a new collection of fashion dresses in 1825 in Britain. With this development, the fashion industry has provided new employment opportunities and started to employ millions of people around the world, from designers to artists, salesperson to logistics experts (Krick, 2004). Furthermore, it has also strong impacts on the global supply chains, international trade and sourcing of the raw materials. A garment can be designed, manufactured and sold in different countries nowadays. Especially, traditional fashion industry has been totally replaced by fashion industry with the emergence of new trends, quick fashion and street fashion. These trends have been emerged intensely with globalisation, changes in customer habits, and the ease of entering new markets. Fashion industry is a very dynamic system that enables to respond quickly to customer demands. The industry pushed fashion firms to be more accurate and faster to respond consumers' changeable tastes (Turker & Altuntas, 2014).

As Hacıola and Atilgan (2014), stated that, fashion industry aims to achieve the perception that 'today here, tomorrow gone'. According to them, fashion aims to compete with changeable market conditions and provide affordable and latest fashion products. To achieve that, managements need to structure properly such as designing, displaying processes, supply chain and retail networks and information technology systems.

### **Supply Chain Management**

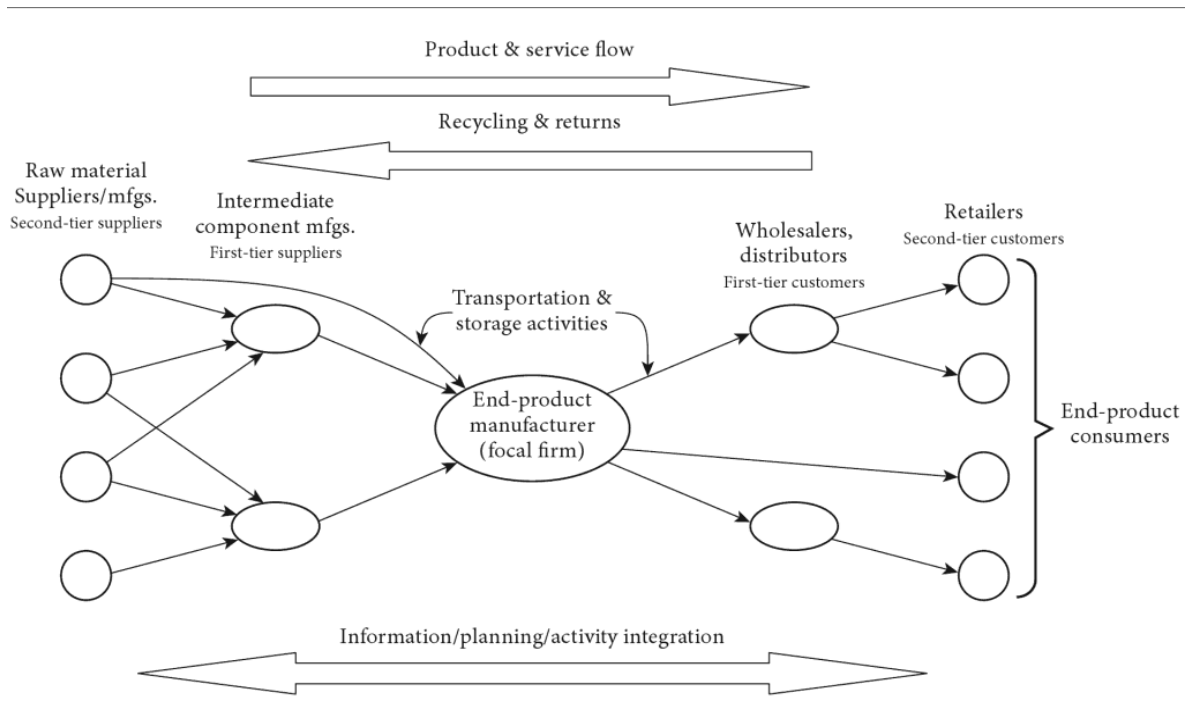
Today, it is possible to come cross many definitions defining supply chain management, but we can start with a definition that covers all activities carried out in transition process from the raw materials stage (extraction), through to the end user (Hausmann, 2000). There upon we can say, supply chain management is the integration of all these processes through improved supply chain relationships, to sustainable competitive advantages (Handfield, 1999). Supply chain management has gained an important place in fashion industry as it ensures the flow of all goods and services necessary to transform raw materials into final products. The supply chain has become an important requirement for the fashion industry as it provides real-time monitoring, tracking and visibility of all activities from start to finish.

Strategically, having multiple companies in the supply chain enter into long-term business agreements also enables trust and commitment to develop among themselves and extend the relationships to a longer term. And, a mutual sharing of information flow between the parties in logistics activities can create a new focal point in the field of logistics between the parties (Londe et al., 1994). And in short, the supply chain management, operates all flow of distribution channels and materials from supplier to the end user (Cooper et al., 1997), (Jones & Riley, 1985). It also manages all types of information related to supply chain, the flow of capital, materials, and so on. Customers and stakeholders take place between the partners of supply chain cooperation and collaboration (Seuring & Müller, 2008).

As can be seen in figure 1, the direct first-tier supplier and customers are suppliers and customers of the focal firm. The second-tier suppliers and customer of the focal firm' are the first-tier suppliers and customers (Wisner et al., 2016). All supply chains are not same exactly as the one shown in the figure. Some supply

chains, such as law offices or automobile may have less or more tiers or have multiple supply chains or sell directly to end users.

**Figure 1: A Traditional Supply Chain Model**



Source: Seuring & Müller (2008)

The development of supply chain management in the fashion and apparel industry probably started with the establishment of shopping malls by Walmart in 1970s in the USA (Nordas, 2004). There are many challenges associated with supply chain network through the variety of each sector essentials such as fashion and food industries; location of stored goods and speed of delivery to retailer shops take a considerable place. If we handle fashion industry; lead time, quality control, quick response, flexibility, batching, warehousing, information technology (IT) and just in time challenges must be taken in consideration.

### *Supply Chain Time-Based Elements*

#### *Lead Time*

Lead time, shortly, it is the period of goods order to delivery. Producers always look for ways to make lead times shorter to get next orders. Also, buyers prefer to receive their products in shorter lead time to increase their competitive advantages. Conversely, when lead time extends, suppliers may face delay penalties and lose their next orders, while retailers may face the risk of their products becoming out of trend and losing sales.

The most importantly, the firms must be realistic with their lead times forecasts, but constantly strive to improve their manufacturing process and shorten lead times. Shortening time may occur error for overall production quality (Suri, 2020).

#### *Quick Response and Information Technology*

Quick response is a process, uses real-time or near real time signals to trigger replenishments responses in the supply chains for suppliers or retailers. It improves inventory turns, product allocation and replenishment efforts and helps retailers not to be out of stocks (Suri, 2020). The investment in information technologies is considerable for fashion firms and the payback period of these investment is short (Christopher et al., 2004).

Technological advancement is one of the corner stone of globalisation that has brought new methods and views of supply chain concept. It gives big opportunities to observe, analyse and predict firms' previous, current and future segments such as inventories, finance, accounting and so on performances. Firms develop an effective intra-firm information system to serve a demanding marketplace (Mentzer, 2004). Lean

manufacturing (LM), apparel information management system (AIMS), enterprise resource planning (ERP) and electronic point of sale (EPOS) are the most known IT programmes nowadays.

### *Supply Chain Components*

Supply chain management mainly deals with designing, planning, executing, controlling, and monitoring various supply chain efforts to build a competitive infrastructure and boost net value. Supply chain consists of Planning, Information, Sourcing, Production, Inventory, Return of goods and Transportation components. The functions and benefits of the components are summarized in the below figure.

**Figure 2:** Supply Chain Components

<i>Components</i>	<i>Functions</i>	<i>Benefits</i>
<i>Planning</i>	Demand, Production, Supply, Sales & Operations Planning	Raw materials availability Fast delivery of goods Avoiding production excesses
<i>Inventory</i>	Keeping proper stocks Cost of inventory calculations Goods track keeping Inventory analysis	Confirming the time of goods delivery Reduction of inventory cost Ability of smooth production
<i>Sourcing</i>	Source finding Finalizing the supplier Delivery mode selection Making contracts	Regular raw-material supply Confirming raw-material availability Avoiding terms of ambiguity
<i>Information</i>	Convey of order details Sales forecasts Raw material information Information of goods delivery	Fast order execution Product availability confirmation Non stored raw materials Customer updates
<i>Production</i>	Unit, Batch, Mass and Continuous productions	Ability of customization Product availability confirmation Specialization improvement Increase in automation
<i>Returns</i>	Returns policy Gatekeeping & disposition Re-entry & reselling Performance alignment	Confirmation of customer loyalty Cost saving Wastage prevent Efficiency improvement
<i>Transportation</i>	Checking varies transport options Multiple modes usage Dealing transport risks	Product cost reduction Being sure about customer satisfaction Avoids delivery delays

Source: Talentedge (2022)

### *Supply Chain Integration*

Supply chain integration widely became a key concept of an effective supply chain management since few decades, because, from sourcing to manufacturing and delivering to end-user it needs a strong integration in all efforts. Each supply chain is a network of institutions that have strong bonds from upstream to downstream in all processes and activities in such a cohesive manner that make a value for organization and for end customer (Christoper, 1994)

Supply chain integration works on principles of collaboration, shared decision making, open communication, shared vision, shared technology and high level of trust between the producer and their customers (Flynn et al., 2010). Accuracy and effectiveness in operations, streamline product, information and cash flow from suppliers to end-user are the main objectives of supply chain integration (Sammuel & Kashif, 2013). Information integration, coordination and resource sharing and organizational relationship linkage are the key levels of supply chain integration (Alfalla-Luque et al., 2012).

Besides it varies benefits within supply chain, it also has some certain challenges and barriers which are lack

of information technology, sharing and trust, demand distortion-bullwhip, system incompatibility, lack of knowledge and cost of integration (Sammuel & Kashif, 2013).

### 3. SUPPLIER AND RETAILER SUPPLY CHAIN INTEGRATION MODEL; FASHION INDUSTRY

One of the main factor of globalization was the internet, changed consumer' purchasing habits and digitalized supply chains as many other issues. Digitalization and online practices peaked especially during the COVID 19 period, but also led to the emergence of logistics deficiencies and inefficiencies. Highlighted deficiencies in on-time production, supply and delivery processes. The instability in supply chains, deficiencies in ensuring quality standarts in services and products lead to business losses as too. Furthermore, the rapid changes; also leads to changes in production capacities, capabilities, costs, sale volumes and profit levels. Moreover, this development and transformation experienced in many sectors has reached its peak level, especially in the fashion sector. Normally, the fashion sector, known as the fast fashion industry, has quickly become as 'a hot meal service' with digitalization development.

These disruptions in supply chains push suppliers and seller to new researches. Supply chain management, which was not included in the curriculum of any academy just a few couple of years ago, began to take its place in undergraduate or graduate programmes at many universities in Turkey with the emergence of these disruptions. At the same periof of time, as in many sectors, companies operating in the fashion industry have tried to create the most suitable supply chain systems for themselves. These systems, which are generally purchased as ready-made packaged programmes cause vary problems in many organizations because of inappropriate company infrastructures and with the lack of labour knowledge. The ready-made package programmes are not structured specifically for each company, every company has its own unique working culture, capability and functioning skills.

The purpose of this study is to reveal strategic implications and become a competitive and strong player in the sector by minimizing the supply chain disruptions faced by firms operating in the fashion sector, by making fast/just in time production, fast and error-free supply efforts, timely and planned distribution, attractive and trendy presentations, and high-profitable sales volume. With this model, while the supplier company becomes a reputable and strong production brand, and on the other hand, the seller becomes a widespread sales brand with high sales volume, fast, quality product delivery and profitable sales.

Most of the supply chain management functions and formations are handled to build this model. It is aimed that creating a new synergy for any sized fashion companies to implement a just in time production and delivery system where to improve their capabilities, capacities and efficiencies in their business cycles. This philosophy can help to create a resilient and adaptable system to respond to ever-changing demands in the industry. Non-fragile structures can minimize potential risks and enable firms to benefit from emerging opportunities. This approach may also lead to the emergence of more sustainable and efficient practices in the fashion supply chain (Khodaparast et al., 2023). Feasibly, it can be seen in figure 3, the focal and retail companies are integrated as partner and shared duties between sub-suppliers as end-users. First and second tier suppliers are accepted as one supplier and wholesalers are ignored.

The main elements of the model are suppliers (focal firms) and retail firms. The firms must agree on a framework and then follow the model. A reliable way to have advised them, a long-term agreement that includes risks, losses, and gain within the organisation such as expenses, profits and production errors (Bessant, 1991). Whether all the stages of the model are designed and structured perfectly such as manufacturing, delivery, sales, flexibility, inventories, quick response policies and information system to response customers' demand sharply the suppliers will be able to do deliveries less than expected time period and error free (Castellano, 2002).

Literally, high competition in the fast fashion industry push suppliers and buyers to come close with variety of collaborations to minimise errors and lower cost and inventories. For instance, Benetton adopted a subcontracting network model called Pareto, combining new forms of production and distribution via information technology (Bessant, 1991). The model provides flexible response opportunity to survive in the fast-changing fashion market. Similarly, to SCI model, Pareto advises long-term contracting between members of organisations and the link between activities and outcomes are very clear and transparent.

#### *A Generic Supply Chain Integration Model (SCIM)*

As can be seen in previous figure 1, the first-tier supplier and customers are the direct suppliers and customers of the focal firm. The second-tier suppliers and customer are the first-tier suppliers as customers of the focal firm. All supply chains are not the same as shown in the figure. Some supply chains, such as law offices or automobile may have less or more tiers or have multiple supply chains or sell directly to end users.

**Figure 3: A Generic Supply Chain Integration Model (SCIM)**



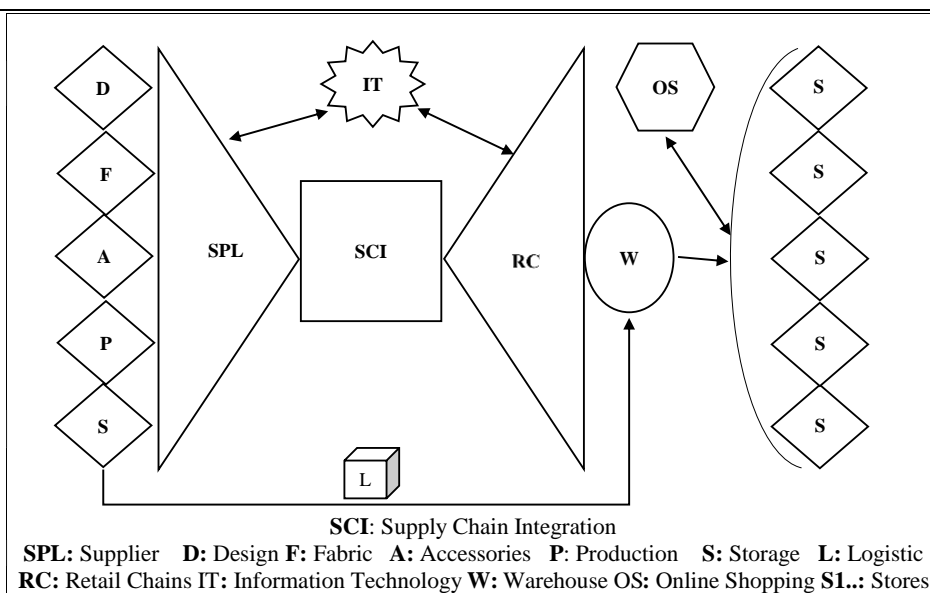
According to the generic SCI model, Focal and Retailer firms agree on a framework and then follow the below specialized supply chain system. Both sides schedule seasonal meetings for future business activities and correspond over a specifically structured software programme.

In particular, sale forecast is the most important topic in seasonal meetings. Due to differences in estimates, the quantity and delivery dates of the ordered products may vary, therefore, it is essential to monitor suppliers' production capacities and competences (Bindi et al., 2023). The integration and collaboration of the supplier and retailer firms can be seen in figure 3. Obtaining transparency and tracking functions between suppliers and buyers are easy in geographical distances, the distance is not a significant factor in supplier selection or material selection or purchasing.

The important thing is to integrate an efficient and effective technology that can ensure mutual transparency and control activities (Saygili & Yargi, 2019). The selection of suppliers can happen in any stages of supply chain; a firm can look for an overseas raw material supplier and another one can seek for a subcontracted producer to only for manufacturing process. On the other hand, a supplier can seek an overseas buyer to supply their goods (Kao et al., 2021).

The SCIM model mainly consists of four components: supplier (1-2 Tiers), focal firm (main supplier), retail stores and end-users. The most basic feature of this business model is to create stability, continuity and long-term cooperation between the parties. It is to create a supply mode instead of the classical ordering method. Therefore, the processes are created in a way that is included in the cooperation agreement made before the start of work. The sample operating method suggested by the SCI model, similar to the working systems generally followed by companies operating in the fashion industry, is detailed below.

**Figure 4: Supply Chain Integration Model (SCIM)**



The model advises to focal and retail firms to meet periodically to handle future plans of their business activities. The meetings can be scheduled monthly, quarterly or seasonally. As it can be seen in figure 4, the parties agree on the scope of whole supply chains; volume of quantity, purchase amount, payment modes,

profit margin, and they plan designing, sampling, etc. processes all together.

When we look at the operation of the model in question, the supplier company purchases raw materials and accessories in line with the results of periodic meetings and acts with retailer’s production approvals. The supplier complies with the distribution plan to different stores coordinated by the retailer, and the products packaging and awaiting check-out instructions. The supplier sends prepared products to the retailer's main warehouse. Nowadays, almost every retailer has online sales. The products sold online can be shipped from warehouses or shop floors as well.

Stock level monitoring can be doing through the software programme that given to the supplier by the buyer. When a replenishment is needed for a specific product, supplier can get retailer’s order approvals by the software programme immediately. This feature provides just in time production and delivery abilities to replace quick sale products. Especially, these abilities give highly competitive advantages to fast fashion product providers.

One of the most important reason about the lack of long-term businesses between supplier and retailer firms is, the fast changing market conditions. Due to the changes, the party making a loss wishes to stop the work, the party making more profit insists on continuing the work. Therefore, trust and good relations between companies break down and long-term business relationships ends.

The parties that have make agreements through the SCI model do not experience this problem because they make updates with mutual profit decreases etc. privileges in line with changing market conditions and business relations do not disrupt at all. The pricing strategy they agree on, is sensitive to market variables, increases and decreases are directly reflected. In this model, relations arising from pricing stop or break down only in extraordinary situations experienced in the countries in question.

As can be seen in below figure, the parties have seasonal meetings periodically to describe, schedule and agree on the main indicators of the supply chain efforts.

**Figure 5: Seasonal Meetings**

Volume of quantity	Volume of purchase	Payment Modes	Profit Margin
Products categories	Price ranges and Sale Targets	Certifications	Inspection methods
<i>Designing</i>	<i>Sampling</i>	<i>Product Types</i>	<i>Collection Shooting</i>
Future trend forecasts	Selected designs' sampling	Seasonal products (fast fashion)	Inside management presentation
Trend sources; design offices, magazines, celebrities, etc.	Waiting for order confirmations	Nonseasonal products (Basic)	Online shopping
Design collections	Product development	Single orders	Marketing; Catalogues, fashion shows

One of the most important features of this model or supplier-retailer long-term relationship is pricing. In a supply model without a specific or stable pricing strategy, achieving a long-term sustainable business relationship between the parties if often a dream. The model advises both parties to agree on a pricing strategy transparently and update it in accordance with the changes in market conditions and government policies. A garment cost consists of fabric, accessory, confectionary, management, inspection, logistics costs and profit margins. In general, the fashion firms work on the base of ordering systems and have no chance to consider future changes in the market. Ordering system, a basic single sale or purchase, therefore, it is open for any changes. Therefore, this system is not advised by SCI model. The model prefers supply system to order system.

Pricing strategy takes one of the most important place in a supply system to implement a stable and long term supply chain integration model between supplier and retailer fashion firms. The main indicators and calculations can be seen on the below figure. To create the strategy, both parties determine the ratios of cost variables and agree on the selling or purchase price of the product line to be produced.

According to the below strategy, any changes in the components; currency fluctuations are related to fabric and accessory costs, increases in basic salary is related to production costs, operating and logistics costs are

related to increase or decrease in inflation rates etc. are updated and approved between both parties. When any extreme increase or decrease occurs in one or more components both parties held extraordinary meeting to evaluate the changes whether to continue or stop working. These changes not usually happen by individual parties; it happens nation-wide.

The cost related variables can be changed according to products and profit margins are belongs to firms so, these amounts are shown as “?” on the below figure.

**Figure 6: SCIM Pricing Strategy**

Components	Fabric	Accessory	Production	Operating	Inspection	Logistics	Profit Margin	Sale Price
Cost Variables	?%	?%	?%	?%	?%	?%	?%	100%
Amounts	?	?	?	?	?	?	?	100
Factors affecting Cost	Exc. Rate	Exc. Rate	Basic Salary	Inflation	Inflation	Basic Salary	Profit	Total

Overall, the model provides high efficiency, stability and quality in most supply chain indicators.

- *Lead Time:* Shorten lead time via autonomy in supply chains.
- *Quality:* Standardize quality of products making.
- *Stability:* Consistency in inventory system and replenishment.
- *Cost:* Long term business partnership reduces costs and increase credibility.
- *Risks:* Collaboration and partnership lower future risks in finance and sale.
- *Inventory:* Strong quick response increase communication skills and reduce bullwhip effects.

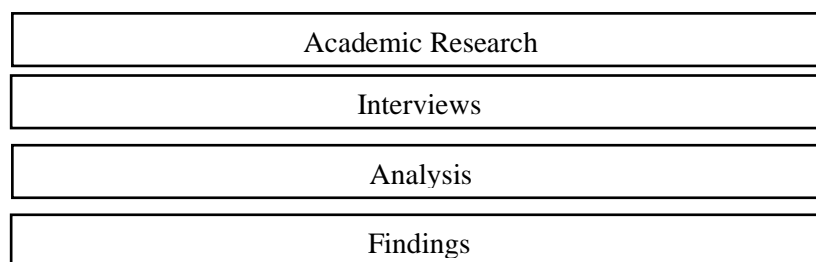
On the other hand, a single or contracted supplier or buyer option may bring some concerns such as dependability, errors beside the contract. Attractiveness of new challenges can be another loss for both sides.

### 3. METHODOLOGY

#### *Research Purpose, Model and Hypotheses*

The purpose of this study to recommend a supply chain integration model to fashion industry and reveal strategic implications and benefits of the model. Investigating the supply chain integration with lead time, flexibility, quality, stability, cost minimization, inventory, distribution and customer satisfaction with the study model presented in below figure. In this study, the study was conducted within the framework of the descriptive research.

**Figure 7: Conceptual Model of Research**



The primary research method was interviews and used in a semi-structured shape. It gave a deep understanding of supplier and retailer collaborations and partnerships via IT systems. Semi-structured interviews may more flexible, and the types of questions may more general but also it covers in-depth interviews (Bryman & Bell, 2007). The secondary research method was material from books, articles and journals. The materials were studied and placed in the literature sections above in parallel with the primary methods to reach a valuable result.

#### *Sample Selection and Questionnaire*

This study is based on supply chain practices in the fashion industry. For the purpose of this research, the participants were selected on the basis of clothing and retailing. They were selected from Istanbul and London



cities. The interviews were conducted on-site and by zoom meetings. The sample size consisted of Turkish suppliers, manufacturers and British retailers. The participants' occupations were varying degrees of title such as IT, production, purchase, sale and online shopping managerial levels and directors. In total, 32 questions were asked to the participants and each interview took in average of 60 minutes and the sample of the questionnaires is given in Appendix section. The details of participants can be seen in the below figure.

**Figure 8: Sample Selection**

Sample	Function	Occupation	Location	Sample	Function	Occupation	Location
Ecem Textile	Fashion Manufacturer	Production	Istanbul	Frencheye	Retailer	Director	London
Selegna Textile	Fashion Supplier	Director	Istanbul	Pepper Tree	Online	Onlineshop	London
Delfin Textile	Fashion Supplier	Sale	Istanbul	Protexmart	Retailer	Buyer	London
Hazard Textile	Fashion Manufacturer	Sale	Istanbul	Kaf Intern.	Retailer	Buyer	London
Rusaw Textile	Fashion Manufacturer	Production	Istanbul	Elegance In	Wholesal	Director	London

### *Research Analysis*

The ground theory of qualitative data analysis is used to analyse interviews results. With the method, I aimed to analyse local and foreign accounts and experiences to develop a ground. The theory emphasizes process over a time and the constant possibility of new conditions that may not fit the existing theory. It develops concept and categories for a general analytical framework which may relevance beyond the research setting.

In total 32 questions were asked to the participants; first two questions were about interviewers' profiles and the next 20 questions were about supply chain management and their firms' inventory systems. And then, 10 questions were asked about SCI model in the last section. The question types were varying; Yes/No, comments and ratings. The rating questions were prepared as; each question was consisted of 5 options; the highest score was 5 and the lowest score was 1. The results were analysed by Excel programme and placed on the finding section.

Due to lack of time, limited number of questions and member of participants were interviewed, inclusion of more participants or questions would increase the reliability and validity of the research results. The selected participants had similar knowledge and experiences; data strength would increase whether the selection of varied firms in the industry.

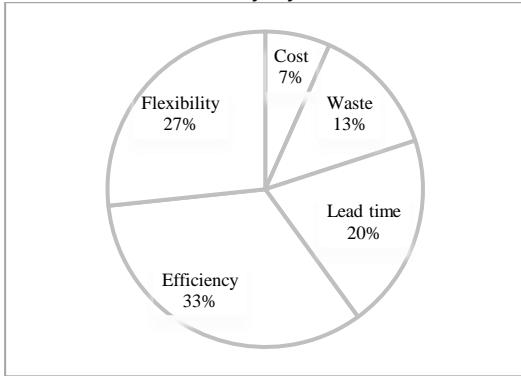
### *Research Findings*

Supply chain integration model can be defined as a capability that covers basic supply chain functions, information systems, logistic processes and especially business mind-sets. Compared to the traditional supply chain models, SCI model provides a more flexible supply chain management which is more responsive and can characterize high volume of quantities. And, it has a high predictive power that enables quick actions. Market data and information sharing, allows the supply chain to become more responsive to changes in demand in the marketplace.

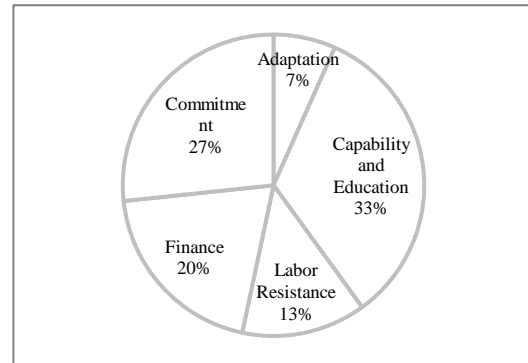
A short brief of SCM was given and SCI model was presented to the participants before the interviews. Initially, the perception of the respondents was asked about SCM and then their reaction on the SCI model was observed. The research outcomes as below.

According to participants, the most benefits of the inventory systems was organisational efficiency, the highest risk of the system implementation was capability and education level of labour.

**Table 1: Inventory System Benefits**

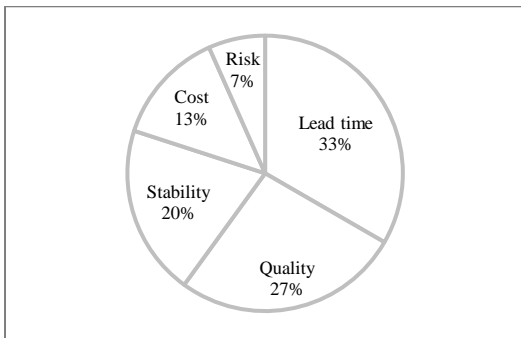


**Table 2: Inventory System Risks**

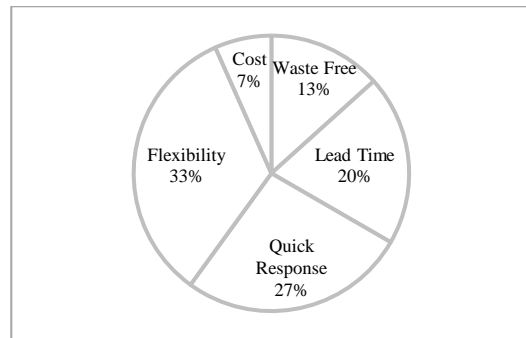


The participants were believed that the supply chain integration model can increase supply chain components' performances; lead time with 33%, quality with 27% and stability with 27% respectively. Also, the model can provide a higher flexibility, quicker response and shorter lead time with 33%, 27% and 20% respectively.

**Table 3: SCI Model Performance**

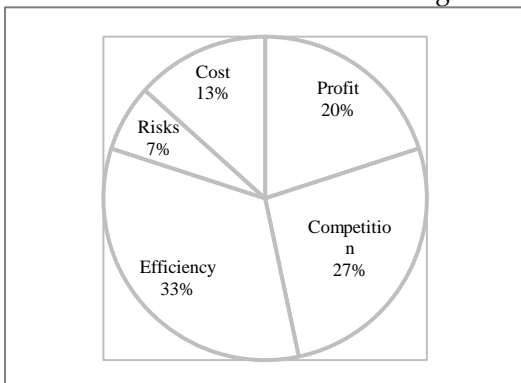


**Table 4: SCI Model Benefits**

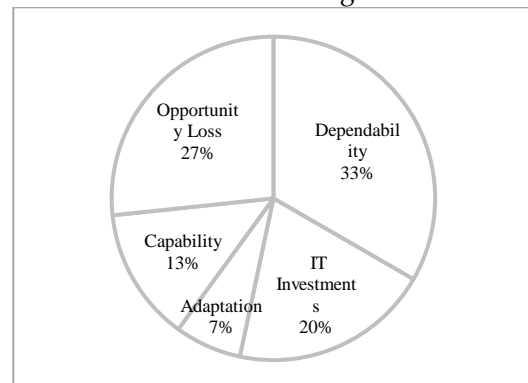


According to research survey, while the SCI model implementation provides advantages with 33% higher rate in efficiency, 27% in competition and 20% in profit margin, in contrast, dependability, new opportunities and new IT investment with 33%, 27% and 20% were forecasted as disadvantages, respectively.

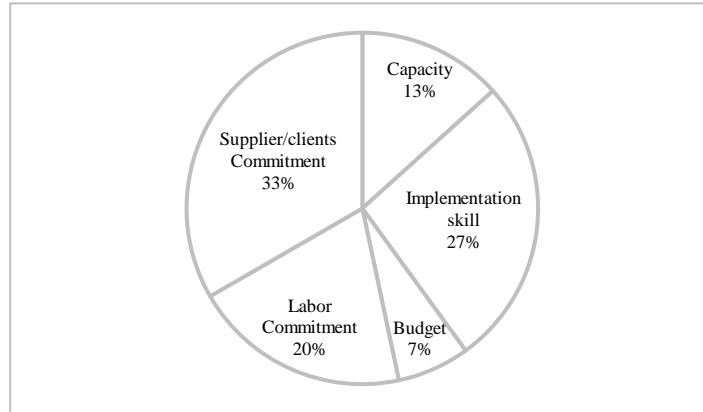
**Table 5: SCI Model Advantages**



**Table 6: SCI Model Disadvantages**



On the other hand, the participants were concerning about supplier and buyers' commitments, implementation skills and labour commitments with 33%, 27% and 20% separately.

**Table 6: SCI Model Disadvantages**

Overall, most of the respondents were using similar inventory systems but also, they were open to learn, develop and implement SCI or similar SCM systems. The results of this research can be useful for researchers from theoretical and empirical perspectives, and for practitioners in the fashion industry.

#### 4. CONCLUSION

Especially with globalization, changing market conditions and consumer consumption habits, many searches have been made to adapt to these changes in the fashion sector, as in every sector. Ease of entry into global markets has increased both cost and sales competition. Now a manufacturer has competed not only with manufacturers in its own geography but also with manufacturers all over the world. Likewise, a retailer. In the fashion race, consumers have entered the elegance race not only with their own circle but also with the people of the whole world. In particular, the ease of buying and selling on the internet has turned all competitive conditions upside down. In addition to manufacturers and retailers, logistics modes also had to participate in these brutal competitive conditions.

Therefore, commercial relations between producers, sellers and consumers have been reshaped and continue to be shaped. Quality product, trendy design, fast delivery, stability and reliability have become the most sought-after factors. Let's leave the changing payment methods aside for now. All these developments have made the creation of new supply modules an important need, especially among manufacturers and large store chains. In addition to supply chain management and logistics management, it has become essential to create new supply modules between companies. The SCI model proposed from this study is just one of them.

This study began with conducting fashion and supply management literature reviews, and then the SCI model was introduced. The most appropriate research theories and methods were determined to investigate the applicability of the model. Written sources on the subject were researched and studied, then interviews were carried out with experts from several companies operating within the sector, and the results of all this research was summarized and concluded.

The results of the research were summarized in findings section. Elimination of waste, short lead time, cost reduction, better communication skills and flexibility are accepted as the advantages and on the other hand, dependability, investment in new technologies, labour adaptation and capability risk are forecasted as concerns of SCIM implementation. The participants also believed that a high degree of supplier and retailer integration will create opportunities to develop their competences. Retailers' belief was high about displaying new and trendy products on their shop floors in a speed manner. Both sides believe that highly integrations build trust, loyalty and develop friendships.

Additionally, these kinds of developments improve whole company performance, rather than just a team or department. Overall, when looking at the research results, it seems that the feasibility of the proposed model is accepted.

This integration model can be advised in many industries other than the fashion industry, which requires high speed in production and delivery, such as furniture, food-beverage and fruit and vegetables.

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**Appendix**  
**Research Consent Form**

**Title of Research:** Supplier and Retailer Supply Chain Integration Model; Fashion Industry

**Researcher:** Mehmet DUZEN

Ph.D. In management and MSc. in Global Supply Chain Management

**Contact Information:** mehmetduzen@stu.aydin.edu.tr

Many thanks for agreeing to participate in my research paper. The Research has a great important in my academic career path and so, your assistance is much appreciated.

**Purpose of the research:** The aim of this study is to advise a supply chain integration model to suppliers and retailers operating in the fashion industry and to define the features and benefits of the model.

**What is involved in participating:** In this research, you will be interviewed. Your signature below serves to signify that you agree to participate in this paper.

Your participation is voluntary and you can choose to decline to answer any question or even to withdraw at any point from the paper. Anything you say will only be attributed to you with your permission: if not, the information will be reported in such a way as to make direct association with yourself impossible.

Confidentiality also means that the background information form will be coded and stored in such a way as to make it possible to identify them directly with any individual (e.g. they will be organised by number rather than name).

**Consent:**

I wish to be identified in the paper YES..... NO.....

I have read the above information and I agree to participate in this study (please tick).....

Signature:.....

Date:.....

**Research Questionnaire**

Where do you work?.....

What is your position within the organization?.....

**Section A: Supply Chain Management**

Q1. Have you got knowledge about supply chain management? YES / NO

If Yes, can you briefly explain your perception of SCM?

.....

Q2. Do you have an inventory system? YES / NO

If Yes, can you briefly explain it?

.....

Q3. Does your inventory system provide information only within your organisation (internal) or between your organisation, suppliers and clients (external)?

.....

Q4. Can you rank the benefits of your current inventory system?

Cost reduction

Elimination of waste

Shorten lead time

Efficiency

Flexibility

Q5. Can you rank the problems associated with the implementation and usage of the system?

Lack of management commitment

Lack of capability and education

Resistance from current employee

Lack of finance

Lack of supplier/clients commitment

Q6. Does your company have any training course? YES/NO

If Yes, can you briefly explain it?

.....

Q7. In your point of view, does the inventory system has a high influence in your supply chain performance in terms of manufacturing, ordering and costing, replenishment or etc.?

.....

Q8. Switching from a traditional inventory system to supply chain system fully bring several changes including; please tick as appropriate:

	Strongly Agree	Agree	Disagree	Strongly Disagree	Neutral
A physical change in the plant layout					
A change in relationship with supplier and buyer					
A mental change on the part of management and employee					

Q9. Can you rate your delivery performance overall?

Very Fast	Average	Slow	Very Slow	Neutral

Q10. Can you rate your response performance overall?

Very Fast	Average	Slow	Very Slow	Neutral

Q11. Can you rate your manufacturing/supply performance overall?

Very Fast	Average	Slow	Very Slow	Neutral

Q12. Do you think; specially fashion organisations should invest in inventory systems continuously? YES/NO

Q13. Do you open for any specialized supply chain systems for your company? YES/NO

Q14. Do you believe that first and second tier supplier, focal firms and retailers can have an integrated supply chain system between first and second tier supplier and retailer directly by eliminating wholesaler or etc.? YES/NO

Q15. Do you prefer single orders to long term supply option? YES/NO

Can you explain it please?

.....

Q16. Do you usually work with contracted/subcontracted or non-contracted supplier? YES/NO

Can you explain it please?

.....

Q17. Do you usually work with contracted/subcontracted or non-contracted buyer? YES/NO

Can you explain it please?

.....

Q18. Is your relationship with supplier or buyer usually formal or informal? YES/NO

Can you explain it please?

.....

Q19. Do you think how supplier and buyer can build trust between each other?

.....

Q20. Do you think, a stable pricing strategy formula can help supplier and buyer to build a long term business integration system via new technological improvements? YES/NO

Can you explain it please?

.....

**Section B: Supplier and Retailer Supply Chain Integration Model; Fashion Sector**

Q1. After the SCIM presentation, have got any idea about the model? If yes, do you think, this model can be a useful solution for fashion supplier and retailer long term business efforts? Shortly, YES/NO

Q2. Do you think, what are the main features of SCI Model?

.....

Q3. Do you think, SCI model can increase supply chains performances? If yes, can you rank them please?

- Lead time
- Quality
- Stability
- Cost
- Risks

Q4. Do you think, SCI model pricing strategy is applicable for long term business? YES/NO

Q5. Do you think, SCI model can minimise bullwhip effect? YES/NO

Q6. Do you agree with the benefits of SCI model? If yes, can you rank them please?

- High Profit Margins
- Competitive Advantages
- Efficiency in Workload
- Low Risks
- Cost Reduction

Q7. Do you agree with the advantages of SCI model? If yes, can you rank them please?

- Waste Free



Short Lead Time

Quick Response

High Flexibility

Low Cost

Q8. Do you agree with the disadvantages of SCI model? If yes, can you rank them please?

High Dependability

New IT Investments

Adaptation Risks

Capability Risks

New Opportunity Loss

Q9. Do you agree with the concerns of SCI model? If yes, can you rank them please?

Lack of capacity

Lack of implementation skill

Lack of budget

Lack of labour commitment

Lack of supplier/clients' commitment

Q10. Do you think; SCI model can be applicable for fashion firms' integration overall? YES/NO

Thanks for your cooperation!