Why do Swedish clothing firms choose single or multiple sourcing?

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Abstract
This thesis is about the Swedish clothing industry and their production sourcing strategies in China, why they chose between single or multiple sourcing and the factors behind the choice. Further on this thesis take up theory about supply chain, procurement, outsourcing and the different sourcing strategies. According to theory possible factors why the firms choose between single and multiple are price, quality, JIT, risk, delivery and relationship with the supplier. The empirical material is collected through a quantitative survey and one interview. Analyze from the empirical study was contradictious to the theory and showed that size was one of the major factors in the decision between single and multiple sourcing. But also factors as delivery, total cost and risks seemed to be of importance.
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1. Introduction

The world has become more and more competitive, companies does not only compete on a
domestic market but on a global market with competitors from all around the world. To be
able to survive in this competitive world companies have to become cost efficient and offer
something unique and create value for the end customer. Manufacturing firms spends
approximately 55 percent of their earnings on the manufacture\(^1\). Therefore outsourcing the
production to lower cost labor (LCL) countries could reduce the expense for manufacturing
dramatically, hence the company becomes more competitive on the market. Outsourcing also
helps companies to focus on their core competence.

The year 2007 the Swedish textile and clothing industry (including shoes) imported for 3 744
million SEK and had a 15 percent growth between 2007 and 2008\(^2\). Approximately 20 percent
of the imported items came from China\(^3\). The Swedish clothing firms outsource their
production to lower cost labor (LCL) countries like Poland, the Baltic countries, China and
other Asian countries. However this phenomenon is not new, the European clothing industry
has been outsourcing their manufacture since long before the 1980’s\(^4\). Outsourcing can be
done through many different supply channels, e.g. directly from manufacture suppliers or
indirectly from these through intermediaries\(^5\). In this thesis outsourcing, will refer to both of
these dimensions.

On the other hand outsourcing comes with freights, quality control and longer lead time which
are both expensive and time consuming\(^6\). To improve the factors that companies directly can
affect, quality control and lead time, they have to build a strong relationship with their
supplier/suppliers. To build a successful relationship with the supplier the firms have to apply
a carefully planed outsourcing strategy, this to ensure and guarantee the required product
quality and that the products are delivered in time. Different sourcing strategies may be more
suitable than others for specific niches in the clothing market. Zara the Spanish clothing firm,
business concept for example is based on the ability to react fast on changes in the
international fashion developments, to frequently update and to bring new models and/or lines

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\(^{1}\) Burk, G.J., & Vakharia, A.J., 2004
\(^{2}\) SCB
\(^{3}\) Tekoindustriernas årsmöte 2005
\(^{5}\) Popp 2000
\(^{6}\) Samad Arbid, Sameer Kumar, 2007
into their stores\textsuperscript{7}. Zara is thereby dependent on the flexibility and ability to quickly change their production line at the suppliers. The right outsourcing strategy can make a difference between 41 days of lead time to 91 days of lead time\textsuperscript{8}.

2. Problem formulation
Today the clothing market changes rapidly, what is modern today may be out of fashion tomorrow. This puts lot of pressure on clothing firm’s ability to change the production line quickly and thereby also on the flexibility of the supplier. The debate about child labor, employees’ work condition and environmental questions has put further pressure on clothing firms and their control and supervision of their suppliers. Therefore we are going to investigate why Swedish clothing firms choose between single or multiple sourcing. We have chosen to look closer on this problem because there have not been any extensive investigations of the choice between single and multiple sourcing strategies for Swedish clothing firms before. We are going to investigate and determine if there are any clear patterns and variables for the outsourcing strategies and the factors behind the decision. We hope to provide the reader with knowledge of how to decide on the best outsourcing strategy that would provide a clothing firm with the best outcome after their specific resources and production line.

*Our research problem is: Why Swedish clothing firms choose single or multiple sourcing?*

3. Purpose
The purpose with this paper is to see why Swedish clothing firms adapt different sourcing strategies and see why they differ. We are going to focus on the choice between single and multiple sourcing and try to find factors that are of importance when choosing single or multiple sourcing. Furthermore this study will be used as basis for the Swedish company Wein by M.BOSTROM and M.WEINHOLZ AB, which is a new firm in the apparel industry who are investigating the possibilities to start up production of clothes in China.

By doing this we hope to determine the factors behind the choice of single or multiple sourcing. We are going to investigate if the price is the main variable, the relationship with the supplier, the quality, the lead time or perhaps a combination of different variables? Our

\textsuperscript{7} Economy-point
\textsuperscript{8} Samad Arbid, Sameer Kumar 2007
dependent variable is sourcing strategy (single versus multiple sourcing) and the independent variables are labour, capital resources, quantity, relationship and flexibility. These factors affect the dependent variable.

4. Delimitation
To begin with we chose to delimit the market to China since we could not include all the countries that clothing firms outsource to. As mentioned in the introduction, we chose China since it represents as much as 20 percent of the textile import among Swedish clothing firms. This will therefore give us a representative overview of the market. Also it will give Wein by M.BOSTROM and M.WEINHOLZ AB a relevant base for their investigation of producing in China. Another delimitation in this thesis is that we are not going to look at any aspects regarding cultural and psychical distance. Furthermore we are not going to make a difference between the many products that the apparel industry produces.
5. Theory

5.1 Apparel Industry Characteristics

There are some specific characteristics of the apparel industry. According to Byoungho the industry can be distinguished from for example the car and electronic industry by six unique features. We are only going to mention those that we find important when investigating our problem. Market instability is the first, which means that the apparel market is season based and follow seasonal and fashion trend factors. Demand of change in production between seasons and even during seasons, are very strong. This means that the products has a short life cycle if you compare with electronic items for example. Therefore to forecast demand and to be flexible is important in the industry. Apparel industry is a low technology industry compared to many other industries. Production is complex due to the fact that textile fabrics that are used in the products are flexible to its nature and therefore it is difficult to introduce labour-saving technology, such as high technology machines. This is only regarding the production. Regarding communications and integrated systems between the clothing firm and the supplier there is a need of high developed technology. Another characteristic is that the automation and computerization is limited. Because of that the apparel industry still requires traditional labor, more labor than many other industries. Hence production in LCL countries can save significant production costs for apparel firms.

5.2 Supply chain management

To give the reader the required knowledge and to highlight the importance of outsourcing strategies regarding the use of single or multiple suppliers we will explain the chain of value, supply chain management (SCM), procurement and from there on movie on to single and multiple outsourcing. The first one to highlight the chain of value was Michael Porter with his theory about value chain. Value chain theory is the ground for supply chain management. Porter argues that you cannot look at the firm as a whole to understand competitive

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9 Byoungho, J, 2004
advantages. Instead you have to look into other activities such as designing, producing, marketing, delivering or supporting product\(^\text{10}\).

A systematic way of examining all the activities a firm performs and how they interact is necessary for analyzing the sources of competitive advantage. To do so Porter introduces the value chain as a basic tool to examining activities. The value chain disaggregates a firm into its strategically relevant activities in order to understand the behavior of costs and the existing and potential sources of differentiation. A firm gains competitive advantage by performing these strategically important activities more efficient and/or better than its competitors.

Treacy and Wiersma expand this to three different flows; product development, customer relations and supply chain. Normally these three aspects are treated separately, however it is together as a whole that they serve the customer. Supply chain is all the activities involving the organization and flow of material and other resources to produce and deliver the product to the final customer. Supply chain management is now days an important thing to consider becoming a competitive firm\(^\text{11}\).

The Supply Chain encompasses all organizations and activities associated with the flow and transformation of good form raw materials stage, through to the end user, as well as the associated information flows. Material and information flows both up and down the supply chain. Supply chain management is the integration and management of supply chain organization and activities through cooperative organizational relationships, effective business processes and high levels of information sharing, to create high-performing value systems that provide member organizations a sustainable competitive advantage\(^\text{12}\).

Value is the amount the potential buyers are willing to pay for the product provided by the firm. A firm reaches profitability for a product when the value it commands exceeds the costs that are involved in producing it. Value activities and margin together, displays the value chain. Margin is the difference between the collective cost and the total value\(^\text{13}\). Porter divides value activities into two main types, primary and supporting activities. Primary activities are

\(^{10}\) Porter, M, Competitive Advantage, 1985, P. 33
\(^{11}\) Treacy, M., & Wiersma, F., 1993
\(^{12}\) Houlihan 1986
\(^{13}\) Porter, M, Competitive Advantage, 1985, P. 34
concerning physical creation of the product, its sale and transfer to the buyer and after-sell assistance. Primary activities consist of five subcategories: (See Figure 2)

- **Inbound Logistics:** Activities regarding the product in house, receiving, storing, material handling, inventory control etc.
- **Operations:** Creating the final product from input, machining, packaging, assembly, testing etc.
- **Outbound logistics:** physical distribution of the product to buyers, finished goods warehouse, delivery vehicle operations etc.
- **Marketing and Sales:** Activities regarding providing promotion, sales force, quoting and pricing. Creating means by which buyers can purchase the product.
- **Service:** Involve activities regarding installations, service, reparations and parts supply too enhance or maintain the value of the product.\(^\text{14}\)

![Figure 2. The Generic Value Chain](image)

However, as mentioned earlier in this thesis we will focus on one of the supporting activities. Supporting activities concern the product indirectly, this through Human Resource Management (HRM), Technology Development (TD), Procurement and Firm Infrastructure.

The scope of supply chain involves procurement, production and distribution, where procurement is the essential part in deciding whether or whether not to outsource. The manager has to decide if to outsource the whole production or only parts of the production, the degree of interaction with the supplier/suppliers etc.\(^\text{15}\)

\(^\text{14}\) Porter, M, Competitive Advantage, 1985, P. 34 - 43  
\(^\text{15}\) Schary, P.B and Skjott-Larsen, T, 2001, P.177-203
5.3 Procurement

According to Gadde and Haakansson there are three decision areas in the new strategic procurement context. The most common thing has been internal production. Recently more emphasis has been put on outsourcing, which has changed the top management attitudes towards outsourcing supply and production when it can be justified by cost or capacity. The three decision areas that they recognize are the following: Make or Buy (Outsource), Organization of the supply-base structure and Customer-supplier relationships.\textsuperscript{16}

To buy or to rely on in-house production has gone from short-term decision to a more strategic decision for managers. Managers have embraced to use outsourcing as it has gained more prominence and when it is justified by cost and/or capacity. Multiple sourcing is more traditional and means dealing with suppliers at an arm’s length through market transactions. Price, quality and delivery become more important once comparable products are available. Single sourcing is on the other hand more about permanent relationships and development of closer supplier-buyer relationships. A company should also take in act how they organize suppliers, the use of open market relationships or as networks with tiers. Furthermore to this new procurement strategic the relationship to the supplier has become more important. Two reasons why it is like that are cost rationalization and the competencies of suppliers to develop new skills and innovations. These tree decisions (make-or-buy decisions, organization of the supply-base structure and customer-supplier relationships) distinguish the new procurement from the past when procurement was short-term oriented. There are several factors that have influenced this change from the past to the new long-term oriented procurement. The most important are: increased outsourcing, global sourcing, JIT purchasing, green supply management and information technology\textsuperscript{17}. Outsourcing has the last decade increased rapidly; firms have gone more and more towards buying from outside supplies and instead focus on their core-competence. Hence the increased in outsourcing the procurement has become more important. Search for suppliers, evaluation of potential suppliers and developing long-term relationship. The global sourcing requires new skills from the manager in form of cross-culture, language, international finance, international logistics, etc. These new skills all become easier to use if long-term relationship is established. JIT focus on ensuring that production interface with the flow of raw material or components to the shipment of finished

\textsuperscript{16} Gadde, L.-E and Haakansson, H. 1994
\textsuperscript{17} Gadde, L.-E and Haakansson, H. 1994
goods, deliverance in time and in small quantities.\textsuperscript{18} JIT is dependent on close relationship with mutual trust and openness, which puts furthermore pressure on close relationship with the suppliers. Consumers today are more aware and they do concern more about the environment and how what they purchase affects the world. This put requirements on the managers not only to control quality and price but also the environmental aspect concerning the production, which falls under green supply management.\textsuperscript{19} Information technology has made the procurement process easier in many ways. It has become easier to track down packages; transaction with the supplier has become safer. Internet has made order systems and payment faster and simpler. All these factors have moved the procurement from short-term oriented into long-term oriented procurement.\textsuperscript{20}

5.4 Single or multiple sourcing

Single or multiple sourcing is a part of the procurement and is built upon procurement and outsourcing. Single or multiple sourcing has been used as procurement strategies for suppliers. The sourcing strategy in firms is built upon three different decisions. First decision is about establishing a supplier base, second is about how to select suppliers and the last one is about the quantity of goods to order from each supplier. To see how efficient suppliers are, firms use different models to evaluate and rank suppliers regarding e.g. quality, delivery, technology and supplier support. Another important issue is if they are similar in cost\textsuperscript{21}

5.4.1 Single sourcing

Single sourcing is when the buyer is supplied from on a single source in production. This type of supplier relationship refers to supply of medium to high levels of assets specificity, with goods and services linked directly to the core competencies of the buying firm. During a long time, there has been a debate about the pros and cons of single and multiple sourcing, and how the firms should use these two strategies. The supporters of single sourcing have claimed that it is a need for single sourcing as JIT in deliveries is becoming more widespread in many industries.\textsuperscript{22}

\textsuperscript{18} Gunasekaran, A, 1999b
\textsuperscript{19} Lamming, R and Hampson, J, 1996
\textsuperscript{20} Schary, P.B and Skjott-Larsen, T, 2001, P. 182
\textsuperscript{21} Burk, G.J., & Vakharia, A.J., 2004
\textsuperscript{22} Managing the Global Supply Chain p.186
Some outlined following advantages of single sourcing. By using single sourcing the firm can achieve price advantage because of economies of scale. When firms increase their quantities with a supplier they will get a better price, normally be rewarded with a discount on the price. Through using only one supplier it will be easier to establish personal relationships and make the communication more effective. This will directly help the buying firm to be more cost efficient in their administration. Both by using fewer suppliers but also by achieving a good relationship with them, it will help the firm to work more efficient. With a close relationship when use of only one supplier, it will become easier to by mutual efforts reducing costs. Transportation costs can be lower when you only need to ship products from one place to another. When the production is outsourced all around the world it becomes more difficult to have high quality control but if the firm only has one supplier, they only have to visit one location. This is important when producing in China were they have a long tradition of using child labor and having bad working environment conditions. Another very critical issue that becomes an advantage when using single sourcing is scheduling, when using multiple sourcing, that is much more difficult to deal with. More and more focus has been on single sourcing strategies and the relationship with supplier/manufacturer, to share costs and benefits and to build up thrust and understanding to make JIT to work smoothly. There are studies that show that dealing with single sourcing will make the quality of the production higher than when dealing with multiple sourcing. However there is also a study that shows that JIT is an expression used to widely by managers. Sixty-eight percent of respondents say they practice just-in time (JIT) delivery of materials. But 79 percent of the respondents said that they used multiple sourcing, which make JIT a very difficult expression evaluate

As well as several advantages single sourcing also comes with disadvantages and risks. To use only a few suppliers, or even just a single one, can be devastating if something unexpected happens to that company. The worst-case scenario is that the firm will not receive any products at all. Unfortunately a variety of unpredictable delivery problems can arise, for example the risk of not getting any products delivered. Therefore multiple sourcing is an option well worth considering. Another risk with single sourcing is when buying firms has a peak in the demand and the supplier production capacity is not enough to meet the demand.

23 Ibid
25 S. Kekre 1995
This problem can be avoided by having additional suppliers. Furthermore firms do not have the same status in negotiations when using only single sourcing. In the single sourcing procurement the buying firm is more dependent on just one company and it is more exposed to the risk of interruption in the chain.  

**Model 1 single sourcing**

Apparel Firm

Product A  (From one supplier)

### 5.4.2 Multiple sourcing

Multiple sourcing means that an order is split among multiple suppliers/manufactures that will all deliver the same product. It is most common used when the buying firm wants to enhance competition. In contrast to single sourcing multiple sourcing is when you have more than one supply/manufacturing firm. Multiple sourcing is more of arm´s length/ a more distanced and impersonal relation with many suppliers, in opposite to the relations in single sourcing. It also has a high delivery certainty.

One main advantage by using multiple sourcing is that the buying firm does not have to engage in any deep relations with suppliers/manufactures. So in contrast to single sourcing it is said that the cost regarding time and capital for not needing to build up relationships with the supplier outweigh the benefits for single sourcing. The rational thinking behind this argument is that the buyer-seller relationship is built on trust. Regarding this and pointed out that as long as the buyer and seller cannot build a strong goodwill trust, multiple sourcing is better.  

To discuss the capacity of the supplier/manufacturer it is always a chance that the supplier cannot produce the quantity needed this because of limited resources or other reasons. If there is a chance that suppliers are incapacitated, multiple sourcing is the strategy that is optimal.  

For example, in certain cases, it may be optimal to source from a higher cost, lower reliability supplier as compared to a lower cost, higher reliability supplier. This is

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27 Ibid
28 Seshadri, S., Chatterjee, K., Lilien, G.L., 1991
29 Ibid
30 Burke, G.J., Carrillo, J.E., Vakharia, A.J., 2007
generally the case when a lower effective minimum order quantity is economically preferable.

In the bidding model by S. Seshadri three arguments in favor of multiple sourcing are presented. The first argument that favors multiple sourcing is the number of bidders who compete.\textsuperscript{32} This also refers to what Porter discussed in his book Competitive advantages where he mentions that the firm will get lower costs through competition.\textsuperscript{33} Second argument is about the concern regarding the stock-out. If you have multiple suppliers there is not the same risk that you might not get your products.\textsuperscript{34} Lastly we have two related but distinct arguments; first, that multiple sourcing offers the buyer the opportunity to manage supplier behavior after awarding the contact. The possibility of introducing some form of competition between the selected suppliers in order to provide incentives for post-award cost control exist only when multiple suppliers are chosen in the initial selection process. Second, collusion between personnel across firms in long-run buyer-seller relationship could lead to inefficient procurement and that might make a breach with existing suppliers desirable for a buyer.\textsuperscript{35}

By having multiple sourcing the buying firms does not restrict itself to just one technology. Buying firm that is using multiple sourcing get a more wide spread access to different markets and technologies.\textsuperscript{36} They also point out that multiple sourcing helps the buying firm to ensure independency from supplier and ensure continuity of supply. Through multiple sourcing firms can easily ensure continuity of supplies and also be sure to have their independency from supplier and are able to change easily if needed.

There are also a lot of disadvantages and risks with using multiple sourcing. Multiple sourcing is the most common tool in outsourcing history. It is after concepts like JIT that single sourcing has been more discussed as a way of doing business. First we have the high cost for administrative all suppliers.\textsuperscript{37} With a big supplier base the buying firm has to take care of a lot of administrative job that takes a lot of time and is very expensive. With the use of single base the administrative cost is reduced to only one. Transactions costs is also a problem with a big

\textsuperscript{31} Ibid
\textsuperscript{32} Seshadri, S., Chatterjee, K., Lilien, G.L.,
\textsuperscript{33} Porter, M., Competitive Advantage, 1985, P. 91
\textsuperscript{34} Ibid
\textsuperscript{35} Ibid
\textsuperscript{36} Treleven, M., Schweikhart, S.,B., 1988
\textsuperscript{37} Brierly, S 2002
supplier base and it can only be reduced by lower the supplier base. When the buying firm spread its volume of products to many suppliers, it loses its possibility to lower cost by economies of scale. This since the procurements become lower and opportunities to lower prices by economies of scales becomes very hard. Economies of scales are just something you can achieve with the use of single sourcing. When the firm is using multiple sourcing with many suppliers the supplier gets less loyal to the buying firm. The reason to that is that they do not feel a close relationship with the buying firm. This can make them be less effective and not give the same effort on the products.

Model 1 Multiple sourcing

Apparel Firm

Product A  Product A
(From two or more suppliers)

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38 Ibid
39 Ibid
5.5 Summing up

For firms to be competitive and to understand their core-competence and through that one increase their chain of value they have to look beyond the whole firm and instead focus on designing, producing, marketing, delivering or supporting products. Value chain can be divided into to primary and supporting activities, where primary is concerning the physical creation and handling of the product and supporting is concerning the product indirectly, this through HRM, TD, firms’ infrastructure and procurement. Procurement becomes important when deciding how to tackle outsourcing strategic and even more so as the pressure on long term-relation increase in faze with that JIT increase, green supply management and when dealing with high culture difference as China. Outsourcing has become one of the most prevalent trends in the business environment today.

When deciding whether to use single or multiple sourcing, the management has to evaluate suppliers out of quality, delivery, technology and suppliers support. Single sourcing is common when the product and/or service are directly linked to the core- competence and the demand for JIT is important for the buying firm. Firms using single source will get a better price (economic of scale) and also a better contact with the supplier and more. However single sourcing can be devastating for a firm, worst scenario the firm would not receive any products. The supplier could also lack the capacity to meet the demand from the buying firm regarding such matters as quantity and quality. Multiple sourcing is more common when the firm seeks to enhance competition and flexibility. The cost will be reduced because of competition and the risk with not getting any products will be reduced. Also the buying firm will get more technology from different markets using multiple sourcing. However multiple sourcing comes with high cost of administration, it also loses some of the economic of scale position.
6. Method
Our thesis is going to descriptive answer the questions why Swedish clothing firm choose between single or multiple sourcing strategies. Data collection for the empirical study is gathered by a quantitative questionnaire made on the survey site SurveyMonkey. A quantitative study instead of qualitative study was chosen because we wanted to see the behavior in the whole industry instead for just a few companies that would give us more of a case study and let us know more about those few companies rather than the industry. Another factor that influenced the choice of quantitative or qualitative survey was that we realized that Swedish clothing firms where occupied with lots of work at spring due to deliveries, so a case study would have been hard to go through with. It would therefore be easier to get more firms to answer a short survey instead of getting a few firms participate in several interviews. The questionnaire is simply made with multiple-choice questions and it is built upon the theory in supply chain management and other relevant aspects.

The survey was conducted in the way that it would not take up too much time or be too difficult for participation, this by carefully choose a few clearly formulated multiple-choice questions highly relevant for the study. By conduct the survey this way we hoped to gather quantitative data with a high answer frequency. To get the right outline of the survey and to make sure that it did not take too much effort participating in it, we tested it on Joakim Häryd (former buy-in assistance at H&M) and Olivia Varraso (production manager at Burfitt). The survey was sent out to 71 different Swedish clothing firms. To get a random test we decided to use two different lists of Swedish clothing firms, one published by a Swedish business paper Affärsvärlden and the other list was found at the site largest companies, a site which names the 70’000 largest companies in the northern countries. The list published in Affärsvärlden focused on smaller firms and the list of the largest companies naturally focused more on the larger companies. The list thereby complemented each other well and also it gave us the opportunity to see differences between big and small firms. However we felt that it was not enough to get a quantitative respond. To increase the survey we asked both Joakim Häryd and Olivia Varraso who both have long knowledge and experience from the branch to add firms of which they are familiar to. The list content both firm producing and not producing in China. This because it is difficult to just chose the firms producing in China not knowing beforehand who does and not. However this will also hopefully show how important China is as an exporter of textile and clothes to Sweden. From the 71 firms that the survey was sent out
to, we heard from 48 firms, which gives us a response frequency of 67 percent. However, out of these 48 firms, 36 actually answered the survey, the other 12 sent personal emails where they said they did not produce in China, hence they did not want to participate in the survey. Many firms, both from these 12 and firms participating on the survey sent their best regards, thought it was an interesting thesis and were looking forward to see the results. Out of the 36 firms answering the survey 24 respondents where producing in China, a response frequency of 34 percent. Survey monkey, both provided us with the data and a summery from the survey.

Out of this we could analyze the Swedish outsourcing in China with focus on single and multiple sourcing in both detail and as an overview. The survey provided us with the possibility to in detail see which factors that affect the choice between single and multiple sourcing. From the survey we got answers that were contradictitious to each other, answers that we wanted to investigate further. This was done through an open interview by phone with Olof Göranzon (retail operations at MNO International) one of the firms that answered contradictitious. The interview was only focusing on the question where he had answered in a way that we thought was contradictitious to the other answers that he had replied upon. We explained why we thought that his answer was contradictitious and asked him to explain his answer and give us a statement. Olof Göranzon was cooperative and gave us a long and detailed answer. The interview provided us with information to understand and to analyze the contradictitious answers.
7. Findings

7.1. Survey Results

The survey was sent out to 71 Swedish firms, small as big without knowing if they produced in China at all. Our survey had a total number of 36 responses. From these 36 firms 24 were producing in China, which was a response percent of 67 percent on the second question if they produce in China.

In question one we asked how many employees the firm has. The average number of employees was 13. The question was answer by 36 respondents and together they had 458 employees. If you just count the firms who produce in China the total number of employees were 424. That will give us an average number of employees of 18. The largest company in our survey that produces in China has 80 employees and the smallest is a one-man enterprise. After the biggest firm, there are some firms around 50 employees that have answered. There are a couple of firms with around 20 employees and 14 firms have only one to ten employees. In table 1 in appendix we show all the employees of the respondents who where producing in China.

<table>
<thead>
<tr>
<th>Producing in china</th>
<th>Average Employees</th>
<th>Biggest / Smallest firm</th>
<th>Total numbers</th>
</tr>
</thead>
<tbody>
<tr>
<td>18</td>
<td>80 / 1</td>
<td>424</td>
<td></td>
</tr>
</tbody>
</table>

Table 1

Third question was for how many years have you been producing in China?
This was an open question and just answered by those who were producing in China. 24 respondents answered the question and the average answer was six years. The firm who had produced for the longest time in China had producing there for 25 years and the most recent firm in the market had only been there for two years. After the firm that had produced for the longest time there were only two more firms that had produced there for over ten years, otherwise the others had been there between one and nine years. The most common answer was between two and six years, as many as 20 firms answered between two and six years. All firms together had an experience from producing in China for over 148 years. (See table 2)

<table>
<thead>
<tr>
<th>Average</th>
<th>Total Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>6,1</td>
<td>148 years</td>
</tr>
</tbody>
</table>
Table 2
In the question about their supplier in China we just asked how many they had. The total number of suppliers for the 24 firms was 97 and the average response was four suppliers each. The firm with highest number of supplier had 20 suppliers in China and four firms only had one supplier in China. Because of one firm that has 20 suppliers which represent more than 20 percent of all suppliers, the average is a little bit high. If we do not count that answer the average is around three suppliers each. (See table 3)

<table>
<thead>
<tr>
<th>Average</th>
<th>Total responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.04</td>
<td>97</td>
</tr>
</tbody>
</table>

Table 3
Next was an attendant question, the question were asked; about how many of the total number of supplier that was making up to 80 percent of the supply volumes? This question was an open question so they just answered how many of their suppliers that produced up to 80 percent of their total volume. The average number of suppliers that made up to 80 percent of the supply volume was 1.25 suppliers. Total number of suppliers was 30. Most common answer was between 1-3 years and then there was only one firm that said that all their suppliers of 7 suppliers stood for 80 percent of the volumes. (See table 4)

<table>
<thead>
<tr>
<th>Response average</th>
<th>Response Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1,25 suppliers stood for 80 percent of the volume</td>
<td>30 suppliers was the total for all 24 firms.</td>
</tr>
</tbody>
</table>

Table 4
The question about competitor was asked if suppliers also sold to competitors. It could be answered by Yes or No. The total responses was 24 respondents, 15 of them answered yes, that stood for 62.5 percent of the total. Nine had answered no and that will be 37.5 percent. (See graph 1)

![Graph 1](image)

For the products outsourced to China do you use single or multiple sourcing? Single is when you use one supplier for a product and multiple is when you are using more than one. Because of what we have heard from our contacts in the business, some firms use both single and multiple sourcing depending on products. What we did was that we asked about for how many products they use single and for how many they use multiple sourcing.

Total respondents in single sourcing was 24 firms and in multiple sourcing their where just 13 firms. That shows that 100 percent used single sourcing in their production. But 54 percent of them also used multiple sourcing too some products, which shows that 46 percent of the firms used only single sourcing but not one single firm used multiple sourcing for all products. Together all the 24 respondents produced 1’710 products by single sourcing, that is an average of 71.25 per firm. Those 13 firms that used multiple sourcing were producing 1’809 products all together. But of those 1’809 products produced by multiple sourcing one firm was producing 1’700 products. The other 12 firms stand for 109 products that are produced by multiple sourcing. That gives us an average of 9.1 products that are produced by multiple sourcing per firm. (See table 5)

<table>
<thead>
<tr>
<th>Products single</th>
<th>Respondents</th>
<th>Average</th>
<th>Response Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>24 using single 100 %</td>
<td>71.25</td>
<td>1710</td>
</tr>
<tr>
<td>Products multiple</td>
<td>13 using multiple</td>
<td>95.21 (9)</td>
<td>1’809 (109)</td>
</tr>
</tbody>
</table>
Table 5

Number in (x) is responds to the number you get if you take away the biggest company that had 1’700 products that was produced by multiple sourcing. See also our complete table I in appendix, there is a summary of all firm’s number of employees and how they produce single and multiple products.

In question eight there were three statements that the firm had to take a stand in. On this question we had 13 respondents because there were only 13 firms that used multiple sourcing. All the questions could be answered between one and seven. Were one is very much so and seven is not at all. If you use multiple sourcing it is because; the supplier cannot produce the demand quantity. The question will be named A in the table 6. The most common answer from the respondents was 54 percent not at all. So 54 percent answered that this was not the case and 15 percent answered that this was very much so. The last 23 percent answered between five and six which is close to not at all.

If you use multiple sourcing it is because; you do not trust the suppliers. The question will be named B in table 6. Here the answer was spread out on different answers. Most common answer was three and seven where three firms had chosen these two answers. Second most common answer was two and four where two firms had chosen those answers.

The last statement was: If you use multiple sourcing it is because; it is less risky using multiple sourcing. The question will be named C in table 6. Here 54 percent had answer much so, pretty close to very much so. Only eight percent had answered that this not was the case at all. The other firms answer one and three. The highest response frequency was in the interval one to three where 92 percent had put their statement.

<table>
<thead>
<tr>
<th></th>
<th>1 Very much</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7 not at all</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>15,4%</td>
<td>0,0%</td>
<td>0,0%</td>
<td>7,7%</td>
<td>15,4%</td>
<td>7,7%</td>
<td>53,8%</td>
</tr>
<tr>
<td>B</td>
<td>7,7%</td>
<td>15,4%</td>
<td>23%</td>
<td>15,4%</td>
<td>7,7%</td>
<td>7,7%</td>
<td>23%</td>
</tr>
<tr>
<td>C</td>
<td>23%</td>
<td>53,9%</td>
<td>15,4%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>7,7%</td>
</tr>
</tbody>
</table>

Table 6
Question nine is about, how long the contract time between buying firm and supplier usually is and can be answered between one and seven. Zero until two years is the dominated time and represent almost 70 percent of the answers. Between three and five years was the only time period with zero answer. Five to ten years and ten to 20 years had the same response frequents, 8.7 percent but after that the response frequency got lower, more then 20 years contract had only 4.3 percent. (see table 7)

<table>
<thead>
<tr>
<th></th>
<th>&gt;1 year</th>
<th>1-2 year</th>
<th>2-3 year</th>
<th>3-5 year</th>
<th>5-10 year</th>
<th>10-20 year</th>
<th>20&lt;</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>31.8 %</td>
<td>36.4 %</td>
<td>9.1 %</td>
<td>0.0 %</td>
<td>9.1 %</td>
<td>9.1 %</td>
<td>4.5 %</td>
</tr>
</tbody>
</table>

Table 7

The question about quality production control could be answered between one and seven, one was frequently control at the producer and seven, was never or very seldom been at the producer. The question had high response frequency on both frequent control and never or very seldom been at the producer. In between high and never or very seldom, the frequency was much lower. (See table 8)

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control</td>
<td>33.3%</td>
<td>4.2%</td>
<td>25%</td>
<td>4.2%</td>
<td>4.2%</td>
<td>8.3%</td>
<td>20.8%</td>
</tr>
</tbody>
</table>

Table 8

We asked the participating firms in the survey, to rank following different statements on a scale from one to seven (1 agree and 7 disagree). (See table 9) JIT is an important issue for your firm. This statement had a spread response, 23.8 percent answered number four, 19 percent answered number two, and number six and seven had the same response, 14.3 percent. Quality is an important issue for your firm had almost only response on the three lowest numbers on the scale, 58.3 percent agreed, 20.8 percent on number two and 16.7 percent on number three both next to agree.. Price is an important issue for your firm had similar response as quality, 45.8 percent answered that they agree, 25 percent on number two and 20.8 percent on number three. Flexibility in production is an important issue for your firm had lower percentage but still on the same numbers as quality and price, 33.3 percent of the firms agreed, 33.3 percent on number two and 16.7 percent on number three. Delivery is an important issue for your firm had really high response frequency on the low numbers. 87
percent said that they agreed, number two, 8.7 percent and number five, 4.3 percent. You have a good relationship with your key suppliers in China had 50 percent on agreed, 21.7 percent on both number two and number three.

<table>
<thead>
<tr>
<th>Statement</th>
<th>1 Agree</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7 Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>JIT</td>
<td>9.5 %</td>
<td>19.5 %</td>
<td>9.5 %</td>
<td>23.8 %</td>
<td>9.5 %</td>
<td>14.3 %</td>
<td>14.3%</td>
</tr>
<tr>
<td>Quality</td>
<td>58.3 %</td>
<td>20.8 %</td>
<td>16.7 %</td>
<td>4.2 %</td>
<td>0.0 %</td>
<td>0.0 %</td>
<td>0.0%</td>
</tr>
<tr>
<td>Price</td>
<td>45.8%</td>
<td>25.0%</td>
<td>20.8%</td>
<td>4.2%</td>
<td>4.2%</td>
<td>0.0%</td>
<td>0.0%</td>
</tr>
<tr>
<td>Flexibility</td>
<td>33.3%</td>
<td>33.3%</td>
<td>16.7%</td>
<td>12.5%</td>
<td>0.0%</td>
<td>4.2%</td>
<td>0.0%</td>
</tr>
<tr>
<td>Delivery</td>
<td>87.0%</td>
<td>8.7%</td>
<td>0.0%</td>
<td>0.0%</td>
<td>4.3%</td>
<td>0.0%</td>
<td>0.0%</td>
</tr>
<tr>
<td>You have a good relationship</td>
<td>47.8%</td>
<td>21.7%</td>
<td>21.7%</td>
<td>4.3%</td>
<td>4.3%</td>
<td>0.0%</td>
<td>0.0%</td>
</tr>
</tbody>
</table>

Table 9

The survey also asked the participators to answer on a scale between one and seven (1 agree 7 disagree) whether or whether not they agree on different statements regarding their suppliers. Statement A, do you believe that your suppliers are very committed to you; 62 % agreed in to some degree by answer between one and three. 21 percent was in the middle and the last 17 percent was more to Disagree. Statement B, Do you believe that your suppliers have on average invested substantially in the relationship with your company? The respond for this statement was focusing on either agree or disagree where , 29.2 percent had answered on number four, 20.8 percent on both number five and two. Statement C, do you believe that your suppliers put thrust in your company as long term business partner had following response. 83 percent answered that they agree to some kind. 12.5 of them total agree, 25 percent on both number two and three, 20.8 percent on number four. (See table 10)

<table>
<thead>
<tr>
<th>Statement</th>
<th>1 Agree</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7 Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>8.3%</td>
<td>20.8%</td>
<td>33.3%</td>
<td>20.8%</td>
<td>8.3%</td>
<td>8.3%</td>
<td>0.0%</td>
</tr>
<tr>
<td>B</td>
<td>8.3%</td>
<td>20.8%</td>
<td>16.7%</td>
<td>29.2%</td>
<td>20.8%</td>
<td>0.0%</td>
<td>4.2%</td>
</tr>
<tr>
<td>C</td>
<td>12.5%</td>
<td>25.0%</td>
<td>25.0%</td>
<td>20.8%</td>
<td>8.3%</td>
<td>0.0%</td>
<td>8.3%</td>
</tr>
</tbody>
</table>

Table 10
7.2. Summary of interview with Olof Göranzon (MNO)

Price is a question about quantities, the larger the quantities are the lower the price becomes. MNO are working with short-term contracts; this because of the fact Chinese businessmen is hard to work with. If MNO would sign a long-term contract the firm would be bound to that contract and if any small changes are made, we will lose lots of our benefits in the contract. But if MNO sign up for short-term contracts with the suppliers it is not that big a deal. However we feel that our suppliers put efforts and trust in our relationship, this is just how things are done in China. Our firm has the advantage of having a production office in China that provides us with frequent control of the suppliers. However maintaining and building good relationship is costly and that is the reason why we only use single sourcing. Using too much time and money on building and maintaining relationship with the suppliers is not to recommend. These resources could be focused on marketing and to increase sales which in turn would provide a better barging position with the suppliers.
8. Analysis
The analysis of Swedish clothing firms has been conducted through comparison of the theories presented in the paper and the answers in the survey, this has been made through two steps. The first step is where we are visualizing an overview picture of the Swedish market and question if there are any clear patterns between sizes, multiple/single sourcing, years of producing, different demand (price, quality, JIT, flexibility), relationship with the suppliers, etc. In the second step we ask if there are any deviations from normality according to the theories. If so what are the reasons and factors behind the deviations?

Table 1 and table 2 shows that, except for one firm, the largest firms (looking on employees) have been producing the longest period of time in China. The two largest firms (80 respectively 60 employees) have, by far, been producing the longest time in China (20 respectively 25 years) for the other firms it is more even, with most of the firms answering around three years. This could possibly be explained by the fact that companies grow larger in time, hence need more employees. However the eight firms that have been producing in China during the longest period of time all have more employees than average. These eight firms represent 97 percent of all products that are produced by multiple sourcing but only 65 percent of the total production and if you do not take in count the outstanding largest producer they still represent more than 50 percent of the products produced by multiple sourcing but only 19 percent of the total amount of products. This phenomenon, that larger firms are overrepresented in using multiple sourcing could be explained by the resources required when establishing and remaining a good relationship with the suppliers, resources that smaller firms do not possess but larger firms do. The smaller firms do not have enough employees or money to establish contact with more than one supplier, which the larger firms do have, instead are they focusing on establishing a strong and trustful relationship with one single supplier. Those firms that had the opportunity to use multiple sourcing seem to have chosen multiple sourcing because of the risk by just using one supplier. This can be linked to the fact that almost 70 percent of the firms using multiple sourcing believe that this is much less risky using multiple sourcing compared to single sourcing.

When looking at the contract time compared to number of employees, time in China and to single or multiple sourcing we could see following. Most companies in the survey where small and did not posses the larger companies’ long experience of producing in China. Theory
says that with single sourcing you get the advantage of good relations and it is common with long term contracts with your supplier, contrary to this multiple sourcing with several suppliers is costly and makes it more difficult to build good and long relations with suppliers since it requires more resources regarding time as well as money. In our empirical study it becomes clear that most of the firms are using short-term contracts, this concerns both firms that are use single sourcing and firms that are using both single and multiple sourcing. The most common contract time between suppliers and buying firms in the survey are one to two years. When it comes to firm size in relation to contract time we can see that 75 percent of the firms that have answered five to ten years or more than 20 years of contract time are the larger firms in the survey. When comparing production strategy, i.e. single or multiple sourcing, to contract time we cannot see any differences. There are no visible patterns when comparing production, using only single or both single and multiple sourcing, and having long-term or short-term contracts. However what we assume in this study and what the empirical data says is that it is most common with short-term contracts when working with Chinese clothing suppliers. A remarkable notice is that the second largest firm in the survey, counting employees and the largest one by far measuring production, both in single and multiple sourcing is applying long-term contracts. Regarding the theory about the high costs that comes with many suppliers, dealing with administrational issues and production quality control this would be a very expensive way to work, especially with so many suppliers and under long-term contracts.

Regarding the control of quality in production where the empirical data showed (Table 8) that most of the firms answered that they frequently made controls at the producer. If we compare these answers with the size of the firm we can see that most of those who answered that they made frequent controls also were the firms with most employees. Firms with fewer employees answered with a number closer to never or very seldom been at the producer with some few exceptions. This is a question about costs. Consequently, with more controls you will have a higher cost. Theory about single and multiple sourcing says that it is easier to control a single producer than it is to have control over multiple sourced products. What we did was to compare the frequency of control and how the firms produced their products. Hence we could not see the advantages/disadvantages between single and multiple sourcing as theory has stated, because 80 percent who answered that they “did not or very seldom make control at their producers” were firms who only used single sourcing. We could also see that the firms, which produced the most by multiple sourcing, answered that they frequently performed
controls at their producers. Instead it seems that, when it comes to controlling your producers in the apparel industry, it depends more upon the size and resources of the firm than on production strategies. In this matter we can assume that it is a cost issue and that the larger the firm (counting employees), the more time and money they can spend on control of production, regardless of single or multiple sourcing.

To find out what is important for the firms we asked them to answer six statements regarding JIT, Quality, Price, Flexibility, Delivery and Relationship (Table 9). We cannot see any clear connections between JIT and single or multiple sourcing, but one thing that is notable is that some of those who answered that JIT is important were also using multiple sourcing. As we mention in the theory part it is quite difficult to perform JIT with multiple sourcing. In other words this was the opposite from what we expected to find in our survey. JIT was the only statement out of six that had high frequency on that it was not of importance for the firm. This might be due to the specific character of the industry. Clothing industry is not a high technology industry and what is delivered here is a finished product and it does not need to be refined when it reaches its buyer.

We expected to see a difference between single and multiple sourcing regarding quality, however this is a question that could be sensitive for the firm to answer, this because that firm are sensitive when it comes to quality, now one like to say that quality is not important. 14 firms answer that they agree that quality is an important issue, 9 firms answered number 2 and number 3 and 1 firm answered number 4. This will mean that almost 96 percent agreed with the statement that quality is an important question for firms. There does not seem to be any differences between single and multiple sourcing companies regarding quality. From this we can conclude that quality is not a factor when the firm chooses to use single or multiple sourcing. Another factor that would explain this is the fact that the apparel industry is a low technology industry; this means that the difference between high and low quality in the industry is little. We also want to point out that this could be a sensitive question and that some firms say that they care about high quality more than they really do. For that reason they may have answered untruthfully. This is something we choose not to regard further on in this study.

To our question about price almost 93 percent answered between one and three, this will be stated as that 93 percent sees price as an important issue for the firm. This may be a difficult
question to answer as well as analyse. As we mentioned earlier price is an important issue when a company choose to produce in China or other low cost labour (LCL) countries. Due to the answers in the survey their where no clear relation between single and multiple sourcing choice regarding price. The outcome of our interview has confirmed that quantity helps the firm to lower the price in the industry. We also got argument pro single sourcing regarding the total cost of production, according to the interview a firm produce much more cheaply when dealing with just one supplier. This is also in line with why more of the larger companies use multiple sourcing. Retrospectively, perhaps we should have asked the questions in this survey in different way, more specifically focused on the possible differences between single and multiple sourcing.

Theory about flexibility in sourcing strategy is that if you use multiple sourcing you become more flexible. If the firm thinks that flexibility is an important question then it should use multiple sourcing according to the theory. The answers on this question partly follow the theory. Most of the respondents that have answered numbers 1 to 3 are also using multiple sourcing in parts of the production. The 7 out of 8 firms that take a statement between 3 and 7 are only using single sourcing and therefore lose some of the flexibility in production. There is just one firm that produce only by single sourcing who says that flexibility is very important (1) for the firm. From this we can we see that flexibility is a clear factor why firms choose multiple sourcing.

Because of industry factors delivery seems very important. Since the clothing firms have to follow trends and reach the market in time to lunch this season’s collection. Otherwise they can miss the sales for a whole season. The answers were very clear when 20 out of 23 firms choose to take a statement that delivery is an important issue for the firm. Two of the rest choose number 2 and it was only one small firm with seven employees that did not see delivery as an important factor. Since we do not know which companies that have responded to our survey, we cannot say anything about this, but we can assume that this firm produce some kind of clothes that are not season based. Delivery seems to be important to the whole apparel industry. This also seems to be in line with what we already have stated, that 70 percent of the firms that uses multiple sourcing believe that multiple sourcing helps to avoid risks.
The last statement in our question of important factors is the relationship to the supplier. According to the theory a good relationship is built over time and it is easier to build a good relationship when using single sourcing. Here, most of them stated that they have good relations with their key suppliers in China. This is contradictory to how many of them who use multiple sourcing and how long their contract time with their suppliers is. If it is as important as they have stated here they should according to the theory have worked more with single sourcing and more long-term contracts. 64 percent of the firms took a standpoint that they are having good relations with their key suppliers are using both single and multiple sourcing and most of them also used short-term contracts with their suppliers. In the interview Göranzon mentioned that MNO often rewrite their contracts with their suppliers. Because of small changes in production they often have to rewrite the contracts which is why they work with short-term contracts rather than long-term.

Next we asked our respondents three questions regarding what their suppliers thought about the relationship with them. (See table 10). First we asked if they thought the suppliers to be very committed to the buying firm. The fact that 63 percent of the firms answered that they saw their suppliers to be committed to them. In the procurement and outsourcing theories it is mentioned quite a lot about the relationship with the supplier, also very much of what is written about relation to suppliers is regarding the differences between single and multiple sourcing. Single sourcing gives more of a close relationship lasting over time, and multiple sourcing is more of a short time contract with a less close relation to the supplier.

To this question we needed to add the interview with Göranzon in order to understand how it could work with using short-term contracts but still experience the supplier to be committed to the firm. The answer were that they had no choice but to work with short term contract, since every time they changed something in production they had to rewrite the contract, this because of that they did not trust the Chinese companies. However as long as they had their contract with the supplier they believed their suppliers to be committed to them. He also mentioned that this was an important issue to why they choose to work only with single sourcing. If they had worked with multiple sourcing the administrative work with the suppliers would be too expensive. Also in the statement if they thought that the suppliers on average had invested substantially in the relationship with the company, we find that a lot of the answers were between 1 and 4. This is also contradictory to theory if they feel that the suppliers do invest in their relation but do work with long-term contracts.
Here we could not get any information from our interview with Göranzon because they was one of the companies that answered that they saw little invest from the supplier. Also we cannot see any difference between single and multiple sourcing firms. And it seems that there is not because of relations with the suppliers itself. But more about the Chinese culture and how they do business with other countries, that makes it more risky to just use single sourcing, and therefore we see a lot of firms who use multiple sourcing of products as a compliment to single sourcing. The last statement about supplier was if the buying firm believed that the suppliers put trust in the firm as a long-term business partner. Neither here nor in the previous statement could we see any relevant differences in how they answered. This is very strange according to the theory about relations. 83 percent of the firms answered between 1 and 4 which means that they in some way believed their suppliers to regard them as long-term partners, regardless of this they use single as well as multiple sourcing and they draw short-term contracts with their suppliers.
9. Conclusions
The purpose of this thesis was to investigate and evaluate why Swedish clothing firms producing in China choose single or multiple sourcing. The results from the survey, the answers and the statement from our interview where in most cases contradictious comparing to theory. The main reasons and decisions behind single or multiple sourcing was not price, quality or relationship with the suppliers, which are some of the factors that theories claim. This became clear when analyzing data from the survey. We had expected to find other factors than what the theory says. However we did not expect to find that big relevance between the size of the firm and the use of single or multiple sourcing.

There are many factors that affect the choice of whether to use single or multiple sourcing. However there are some factors that are more important than others. JIT is one factor that the apparel industry does not care about so much, this because it is not high technology industry that requires an interlaced flow of raw material from the suppliers to the end product, hence most of the deliverance from the suppliers are finished products. Quality and price on the other hand are factors that are of most importance for the firm but cannot be traced back to the use of single or multiple sourcing. Price can be traced back to China as an LCL country and quality to the apparel industry hence it is a low technology industry which requires high labor force. Quality control at the suppliers is according to the theory less expensive and more common when using single sourcing. Furthermore we can see relation between not performing production quality control and firms using single sourcing. Instead we could see a connection between numbers of employees and frequent control at the producer, this applies to firms using single sourcing as well as firms using multiple sourcing. The demand for flexibility is a factor that is connected to the choice whether to use single or multiple sourcing. If flexibility is of importance, the firm has to be able to quickly change their products or the whole production line after the changes from their consumer’s behavior. In this case we see that multiple sourcing is preferable.

The factors that have most impact on whether to use single or multiple sourcing are regarding size of the firm, total costs and risk. There are clear patterns between the size of the firm regarding both employees, numbers of products, time producing in China and the use of single or multiple sourcing. This was also conformed in the interview where Göranzon stated that single sourcing is much easier when you are a small firm and do not have resources and
employees to handle too many suppliers. The frequency of using multiple sourcing becomes much more common when the size of the firm increase. The more products and the larger quantities a firm produce gives the firm the possibility to take advantage by economic of scales with more than one supplier.

When attempting to decrease the production cost by outsourcing the production to China, Swedish clothing firms should consider how big their quantities could be and how much money they can afford on building and maintaining relationships with the suppliers. The larger the firm is the more it could probably spend on administration with the suppliers. By doing that it would be possible to use more suppliers and through that spread the risk and become more flexible. So according to the situation for the firm WEIN by M.BOSTROM and M.WEINHOLZ AB with only two employees, we suggest with this study as a base for our arguments that they should use single sourcing in production.
References


Economy-point
http://www.economy-point.org/z/zara-clothes.html


Statistiska centralbyrån (SCB) (Imports by important Standard International Trade Classification (SITC) commodity groups)


Tekoindustriernas årsmöte 2005


### Appendix

Table I

<table>
<thead>
<tr>
<th>Company</th>
<th>Employees</th>
<th>Number of single</th>
<th>Number of multiple</th>
</tr>
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<td>1</td>
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Survey

1. How many employees does your firm have?
   Answer in numbers

2. Do you outsource to China?
   Yes
   No

3. For how many years have you been producing in China?
   Answer in years

4. How many suppliers do you have in China currently?
   Answer in numbers

5. Of the above number how many are making up to 80 percent of the supply volumes?
   Answer in numbers

6. Are some of your suppliers also selling to your competitors?
   Yes
   No

7. For the products outsourced to China do you use single or mutiple outsourcing? Single is when you use one supplier for a product and multiple is when you are using more than one.
   Numbers of products for which you are using single sourcing
   Numbers of products for which you are using multiple sourcing

8. If you are using multiple sourcing, it is because:
   The supplier can not produced the demand quantity (1-very much….7-not at all)
   You do not thrust the suppliers (1-very much…..7-not at all)
   It is less risky using multiple (1-very much…..7-not at all)

9. Do you usually have long term contract with your suppliers? If yes specific the time dimension
   1(less than a year) 2(between 1-2 years) 3(between 2 and 3 years) 4(between 3 and 5 years) 5(between 5-10 years) 6(between 10 and 20) 7(more then 20)

10. You perform quality production control:
    Answer between 1(frequently control at the producer) and 7 (never or very seldom been at the producer)

11. Answer if you agree/disagree on these statements on a scale between 1-7. 1(agree) 7 (disagree)
    JIT is an important issue for your firm
    Quality is an important issue for your firm
    Price is an important issue for your firm
    Flexibility in production is an important issue for your firm
    Delivery is an important issue for your firm
    You have a good relationship with your key supplier in China
12. Answer if you agree/disagree on these statements on a scale between 1-7. 1(agree) 7
   Do you believe that your suppliers are very committed to you?
   Do you believe that your suppliers have on average invested substantially in the relationship with your company?
   Do you believe that your suppliers put thrust in your company as a long term business partner?