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LOW-COST COUNTRY SOURCING

*- An introduction for companies on the verge
of starting their LCC sourcing initiatives -*

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ABSTRACT

This thesis was originally written on behalf of ASSA ABLOY AB, a company on the verge of increasing its low-cost country sourcing. The main purpose of this thesis was to investigate which type of products are most suitable to source in low-cost countries and which type of contractual business form that is most suitable for sourcing in low-cost countries. The thesis also examines how the structure of the organization is affected by the company's low-cost sourcing strategy. Three propositions were made based on previous research findings within this subject.

In order to test the three propositions, four international companies; IKEA, Ericsson, Electrolux and Powerwave, have been studied. The results of this thesis are therefore based on several cases and different types of companies with a lot of experience from low-cost country sourcing. In order to obtain more general results I have let the interview objects go outside their specific companies and give their expert view on the area of low-cost country sourcing and comment more general about what and how companies should source in low-cost countries.

The results show that products with high labor content are best suited to source in low-cost countries. Heavy and bulky products are not as suitable to source from low-cost countries due to high transportation costs, especially if the geographical distance is far from the sales market. However, the results do not confirm the assumption that companies tend to source more non-critical products in low-cost countries than highly strategic products. The findings in this thesis show that it is possible to source both high- and low-tech products, regardless of their strategic importance, depending on if you can find labor with the right know-how and skills in the low-cost countries. The results also partly support the second proposition that long-term relationships are the most common type of contractual business form in LCCs. However, the findings do not confirm joint ventures/partnership with local companies as other common business forms. Instead the results show that wholly owned entities are a more frequent set up in LCCs. This partly derives from the long learning curve suppliers in low-cost countries have, before they can deliver products according to the needs of the buying companies. Finally, the results confirm the third propositions. We see that the biggest changes on the organization structure takes place within the purchasing organization, when companies start to source from low-cost countries. The low-cost country sourcing activities are often set up with a central decision making organ in the home country, while the operational activities are put locally in the low-cost country. As the company's low-cost country sourcing increases, the local organizations get more authority.

TABLE OF CONTENTS

1	Introduction.....	1
1.1	<i>Background and Purpose.....</i>	1
1.2	<i>Delimitation</i>	2
1.3	<i>Definitions.....</i>	2
1.3.1	Global purchasing/sourcing	2
1.3.2	Intrafirm sourcing	3
1.3.3	Outsourcing	3
1.3.4	Low-cost countries	3
1.3.5	Types of Products	3
1.3.6	Product complexity	4
2	Previous Research	6
2.1	<i>The routs to global purchasing.....</i>	6
2.1.1	International business.....	6
2.1.2	Marketing management.....	6
2.1.3	Purchasing	6
2.2	<i>Antecedents of global purchasing.....</i>	7
2.2.1	Drivers	8
2.2.2	Facilitators	9
2.2.3	Barriers.....	9
2.3	<i>Consequence of global purchasing.....</i>	11
2.4	<i>Process models of global purchasing.....</i>	11
2.5	<i>Tool/s to create World wide sourcing strategy.....</i>	12
2.6	<i>Business set up and relationships</i>	13
2.7	<i>Organizational Approach to International Sourcing.....</i>	13
2.8	<i>Propositions</i>	15
3	Method	17
3.1	<i>Research Approach.....</i>	17
3.2	<i>Research Method.....</i>	17
3.2.1	Quantitative and Qualitative research	17
3.3	<i>Data Collection.....</i>	18
3.3.1	Empirical Study	18
3.3.2	Data Collection.....	20
3.4	<i>Problematic in research approach</i>	20
3.4.1	Generalization.....	20
3.4.2	Validity	21
3.4.3	Reliability	22

4	Framework for Analysis.....	23
4.1	<i>Evolution of Global Sourcing.....</i>	23
4.2	<i>Porter's strategies to gain competitive advantage.....</i>	26
4.2.1	Cost advantage/cost leadership.....	26
4.2.2	Differentiation	27
4.2.3	Focus	27
4.3	<i>The Iceberg Model.....</i>	28
4.3.1	Transportation cost.....	29
4.3.2	Labor content	29
4.4	<i>Purchasing portfolio analysis.....</i>	30
4.5	<i>Types of Contractual Business Form.....</i>	32
4.5.1	Advantages and disadvantages with intrafirm sourcing and outsourcing	32
4.5.2	Contractual business form – a choice between flexibility and control need	33
4.6	<i>Type of Organizational structure</i>	35
4.6.1	Decentralized purchasing structure	35
4.6.2	Centralized purchasing structure	36
4.6.3	Organization structure and international sourcing.....	37
4.6.4	Structural changes and labor	39
4.7	<i>Summary.....</i>	39
5	Empirical Study.....	41
5.1	<i>Powerwave</i>	41
5.1.1	General about the company	41
5.1.2	Purchasing at Powerwave	41
5.1.3	Reason behind sourcing in low-cost countries	42
5.1.4	Business activities in low-cost countries	43
5.1.5	Type of products sourced from low-cost countries	44
5.1.6	Type of contractual business form in low-cost countries.....	45
5.1.7	The choice of LCC and ways to find and evaluate suppliers	45
5.1.8	Changes in organizational structure.....	46
5.1.9	Challenges and risk of sourcing in LCCs.....	46
5.1.10	Benefits of sourcing in LCCs	47
5.1.11	Future plans	47
5.2	<i>Ericsson.....</i>	47
5.2.1	General about Ericsson	47
5.2.2	Purchasing at Ericsson	48
5.2.3	Business activities in low-cost countries	49
5.2.4	Reason behind sourcing in low-cost countries	50
5.2.5	Type of products sourced from low-cost countries	52
5.2.6	Type of contractual business form in low-cost countries.....	52
5.2.7	Changes in organizational structure.....	53
5.2.8	Challenges of sourcing in low-cost countries.....	53
5.2.9	Future plans	54
5.3	<i>Electrolux.....</i>	54
5.3.1	General about Electrolux	54
5.3.2	Purchasing at Electrolux	55
5.3.3	Business activities in low-cost countries	56

5.3.4	Reason behind sourcing in low-cost countries	57
5.3.5	Type of products sourced from low-cost countries	57
5.3.6	How to find and evaluate suppliers in LCC?	58
5.3.7	A different way of sourcing and slightly less direct sourcing.....	58
5.3.8	Changes in organizational structure.....	60
5.3.9	Challenges of sourcing in LCCs	61
5.3.10	Future plans	62
5.4	<i>IKEA</i>	62
5.4.1	General about the company	62
5.4.2	Purchasing at IKEA	62
5.4.3	Reasons behind sourcing in low-cost countries.....	63
5.4.4	Purchasing strategy	64
5.4.5	Type of products sourced from low-cost countries	64
5.4.6	Type of contractual business form in low-cost countries.....	65
5.4.7	Ways to find the right low-cost country and the right suppliers	66
5.4.8	Changes in the organizational structure.....	66
5.4.9	Challenges of sourcing in low-cost countries.....	68
5.4.10	Benefits from low-cost countries	69
5.5	<i>Summary Matrix</i>	70
6	Analysis	72
6.1	<i>Level of World Wide Sourcing</i>	72
6.2	<i>Type of products most suitable for sourcing in low-cost countries</i>	74
6.2.1	Labor intense and high-volume products.....	74
6.2.2	High-volume products	75
6.2.3	Transportation cost.....	75
6.2.4	Technical complexity	77
6.3	<i>Type of contractual business form most suitable in low-cost countries</i>	80
6.4	<i>Discussion of the two first propositions</i>	83
6.4.1	Analysis from Kraljic's matrix perspective	83
6.4.2	Analysis from the Level of Worldwide Sourcing Perspective.....	85
6.5	<i>How is the structure of the organization affected from the company's low-cost sourcing strategy?</i>	85
6.5.1	Powerwave	86
6.5.2	Electrolux	87
6.5.3	Ericsson	87
6.5.4	IKEA.....	87
6.5.5	Purchasing development model	89
7	Conclusions	91
7.1	<i>Types of products best suitable for sourcing in low-cost countries</i>	91
7.2	<i>What kind of contractual business form is most suitable when sourcing in low-cost countries?</i>	91
7.3	<i>How is the structure of the organization affected from the company's low-cost sourcing strategy? And as a consequence; is there an organizational structure that is more suitable for sourcing in low-cost countries?</i>	92
8	Implications for Theory and Practice	93
8.1	<i>Many Factors Affecting Global Sourcing Decisions</i>	93
8.2	<i>Different low-cost countries</i>	95

9	References	99
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<i>Books:</i>	99
<i>Articles:</i>	100
<i>Interviews:</i>	102
<i>Internet Sources :</i>	102
<i>Other:</i>	103

Appendix I.....	I
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General	I
Products.....	I
Contractual form.....	I
Organizational structure	I

1 INTRODUCTION

1.1 Background and Purpose

Many firms all around the world feel pressure from global competition regardless of their size or degree of internationalization. Today there are less price differences on the market due to globalization and international trade. More companies from all over the world are participating in global trade, not least companies in low cost countries (LCCs). These companies offer products to much lower price, putting many companies in industrial countries out of business.

In order to remain competitive in this new global arena, companies are obliged to become strategic players on the global market. Earlier the development of new innovative technologies or differentiation was enough to remain competitive. However, today it has become easier to copy technological innovations, forcing firms to look for other ways to maintain their competitiveness. Increased competition among firms and the threat of manufacturers in LCCs has among other forced companies to pursue global sourcing, more specifically sourcing in low-cost countries,

Purchased goods and services represent a very large part of a firm's cost. According to an American study presented in Gadde & Håkansson (2001), these costs amount to 50% or more depending on the industry. If firms are able to reduce costs of goods purchased, they will have much bigger profit margins. Buying or manufacturing goods in LCCs can cut such costs substantially. Therefore there are great cost advantages to be gained by sourcing from low-cost countries. More firms are considering low-cost sourcing as an alternative to remain competitive and create more value for their customers. Many companies consider themselves to be forced to choose this strategy, others take this much further and consider it to be an opportunity to source high-tech products or move their R&D activities to low-cost countries. In the early days, international sourcing was more a *reactive* approach designed to reduce production costs in an effort to neutralize the threat of foreign competition. According to Birou & Fawcett (1993), today firms are shifting focus and using global sourcing as a *proactive* strategy to pursue sustainable competitive advantages.

Many low-cost countries are still developing countries with relatively mal infrastructure, financial system and language skills. Sourcing in low-cost countries is a difficult task which often requires a lot of knowledge about the country. Foreign companies will be operating on a playground with entirely different rules of conduct and they must be fully aware of the trade-offs and risks of such

an investments. Firms most likely need to do a thorough pre-study before entering a market; something that takes both time and money. They probably need to be prepared to make mistakes and learn from them. Despite this, low-cost country sourcing is often referred to as a winning strategy that firms cannot afford not to pursue.

If a company decides to start sourcing from LCCs, it needs to figure out which LCCs to source from. It also needs to choose which products to outsource to LCCs and formulate a plan for its LCC sourcing strategy in regards to business set up, investments etc. This thesis aims to find out the answers to some of the critical questions companies need to resolve before starting their low-cost country sourcing.

Therefore the purpose of this thesis is to investigate if there are any *specific types of products that are more suitable to source from low-cost countries* and to see *which criterion affects companies' choice of products*. This thesis will also investigate if there are *specific types of contractual business forms more suitable when establishing production and sourcing activities in low-cost countries*. The purpose of this thesis is also to find out *how companies' organization structure is affected by their low-cost sourcing strategy* and to find out *how companies can and should manage decision making when doing low-cost sourcing*.

1.2 Delimitation

In this thesis the focus has mostly been on LCCs in Asia e.g. China and India, and also LCCs in Eastern Europe. Therefore much of the results are based on the characteristics of these LCCs.

1.3 Definitions

1.3.1 Global purchasing/sourcing

In L. Quintens et al. (2006), global purchasing is defined as: *“the activity of searching and obtaining goods, services and other resources on a possible worldwide scale, to comply with the needs of the company and with a view to continuing and enhancing the current competitive position of the company.”* According to the authors, this definition builds upon the idea that global purchasing is more than the physical sourcing, but also includes strategic responsibilities such as supplier development and the generation of global purchasing synergies. This definition also acknowledges that not all global search activities should lead to cross border purchases. If a firm determines that a product is best bought from a local supplier after evaluating possible foreign suppliers, this decision is also counted as part of a global purchasing strategy.

1.3.2 Intrafirm sourcing

The latest development has gone from in-house manufacturing (intrafirm sourcing) to outsourcing. Intrafirm sourcing means sourcing from parents, foreign subsidiaries or sourcing in-between foreign subsidiaries. A firm can do either domestic in-house sourcing or offshore subsidiary sourcing. The latter means that the firm sources from a foreign subsidiary.

1.3.3 Outsourcing

According to Axelsson (2004), outsourcing means that a number of activities, that all together make a function, are performed by an outside supplier instead of being done internally. When firms outsource production to foreign suppliers it is called offshore sourcing.

1.3.4 Low-cost countries

There are different definitions of low-cost countries. It is up to each company to decide what is “low-cost” for them, based on their industry and the competition they face. In this thesis the definition of low-cost country is borrowed from the original assigner ASSA ABLOY AB. According to their definition, low-cost countries are countries where the full labor costs are below 5 EUR per hour.

1.3.5 Types of Products

There are many different types of products that can be sourced either domestically or offshore and they may affect purchasing in different ways. Below, different types of products are presented:

Raw materials – include iron ore, coal, grains, coffee etc. These materials are used as a base from which more refined products are manufactured. Problems associated with procurement of raw materials are; major price fluctuations for economic-political reasons or because of natural conditions. Therefore time dimension is crucial when contracts are formulated. Other problems are related to logistics – transportation and handling are important cost drivers because of their large volumes (Gadde & Håkansson, 2001).

Supplementary materials – are used or consumed during the production process, and include lubricating oil, welding electrodes, industrial gases, etc. these products are closely related to the

production process, and their utilization is very much determined by the technology and the design of the products and processes in the operation in which they are used. (Ibid.)

Semi-manufactured products – have been processed at least once and will be further processed. This group includes for example: steel plates, rolled wire and plastic foils. One crucial issue related to these purchases is finding the right balance between the activities conducted by the suppliers and customers in terms of processing, and how planning and logistic systems can be linked. (Ibid.)

Components – are two types; **specific** and **standard**. These items are incorporated into the end product without any further change and include electronic parts, batteries, rolling bearings, etc. critical issues regarding the function and design of the components in relation to the final product. Standard components are often manufactured by large companies- working globally. Specific or adapted components are products which are not very sophisticated from a technical point of view, but which require some kind of adaptation to the buyer's situation. (Ibid.)

Finished products – encompass all the products purchased to be sold. (Ibid.)

Investment goods and capital equipment – are all those machines and equipment to be used as facilities over a long period of time, for which life-cycle cost is important. (Ibid.)

MRO-Items – are used for Maintenance, repair and Operation supply. (Ibid.)

Services – are highly heterogeneous. (Ibid.) In Axelsson and Wynstra (2002) services are described as products that are immaterial, difficult to demonstrate, cannot be stored, production and consumption take place at the same time and customer participates directly in the production.

1.3.6 Product complexity

One product dimension that affects purchasing is the degree of complexity. Depending on the degree of the product's complexity a firm may choose different source of supply. Products with low complexity do not require special knowledge or know-how and might be easier to outsource or there might be several suppliers that manufacture that product. While products with high complexity are for example customized products and therefore there might only be one supplier

who can deliver the product. The product often has complex technology which entails special knowledge and might be hard to find.

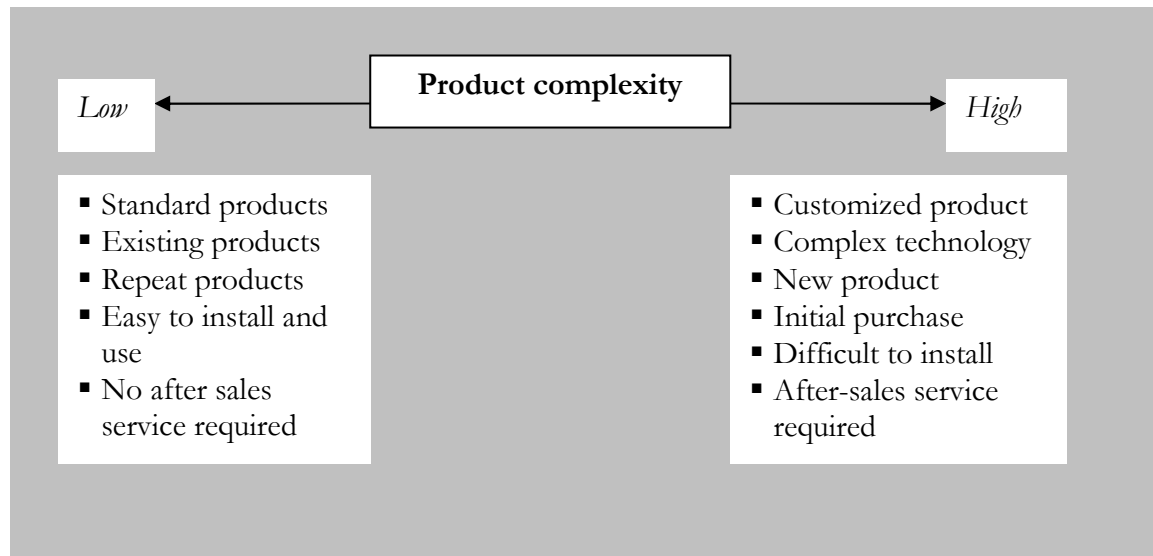


Figure 1 – According to this figure products can have different degree of product complexity which can effect purchasing (van Weele, 2002). Products with low complexity are described as standard products which are easy to install, with no after sale. Complex products are usually customized, have complex technology, which are difficult to install. Products with low complexity might be easier to source while it can be difficult to find suitable suppliers for complex products.

So, in chapter 1.3 you find the definition for Global purchasing or global sourcing used in this thesis. This chapter also explains the definition of: intra- and outsourcing, different types of products which might be sourced from low-cost countries and the degree of product complexity, which affects purchasing and might also affect purchasing from LCCs.

2 PREVIOUS RESEARCH

Chapter 2 describes previous research made on the subject of Global Sourcing and International sourcing. Let us start with the roots of Global Sourcing research, which according to Matthyssens et al. (2006), has grown out of three main fields; *international business*, *marketing management*, and *purchasing and supply management*. These research streams have influenced and shaped the global purchasing literature.

2.1 The roots to global purchasing

2.1.1 *International business*

Global purchasing came forward in the early seventies when companies discovered the potential advantages of sourcing from abroad. In articles such as Leontiades (in Matthyssens et al., 2006), the use of “satellite plants” were discussed, which are foreign subsidiaries of multinational firms founded in foreign countries because of low-cost production. This was seen as a form of global purchasing. Another author, Leff (in Matthyssens et al., 2006), pointed out that the shift towards production in less developed countries, was due to the ability of these countries to export goods at competitive prices. Furthermore, during the early eighties Hefler (1981) put forward three types of global purchasing based on the ownership of the supplying plant; from arm’s length relationship, over to joint venture, to fully owned plants.

2.1.2 *Marketing management*

According to Matthyssens et al. (2006), the purchasing function has also been approached from a marketing point of view. This outlook assumes that companies could benefit in terms of sales increase if they have a comprehensive understanding of the purchasing practices of their industrial customers. Some articles focus on buyer-supplier relationships in an international context Haugland (1999). Others focus more on the inward-outward connection of international knowledge transfers within a company. The idea is that global purchasing and global marketing within a company is linked Karlsen et al. (2003).

2.1.3 *Purchasing*

In the Purchasing view, global purchasing is considered a special case of purchasing management. Although global purchasing is not by definition different from local purchasing, (Carter &

Narasimhan, in Matthyssens et al. 2006), a thorough search for goods and services is believed to enhance the competitive position of the company and to improve its performance.

In one of the first articles on worldwide purchasing Davis et al. (1974) identified factors that determine the scope of international sourcing within domestic-minded, venture-minded and international-minded companies. The authors compare the choice of having a centralized purchasing organization versus a decentralized purchasing. Some of the factors identified to affect the choice of an international versus a domestic supplier were; **product categories, distance between buyer and supplier, governmental policies and regulations, nationalism, market versus product pressure and characteristic of the buyer**. Many of the findings and reasoning in this article are not valid for low-cost country sourcing. Their research was conducted during the 70s, when low-cost sourcing was not common and this article was conducted during the time when firms in one high cost country (HCC) were doing business with firms in another HCC.

Overall, this third stream of literature brings two major messages; the first being the role global purchasing plays in creating competitive advantage. The second message is that actions of global purchasing should be considered in a broad perspective of total cost of ownership, since global purchasing is part of a large international supply chain, (Matthyssens et al. 2006). In this aspect issues such as logistical problems and costs, (Min & Galle; Zeng & Rosetti, in Matthyssens et al. 2006) and the relationship between global purchasing and just-in-time have been discussed (Das & Handfield 1997).

In summary, these three above mentioned fields have contributed to the knowledge creation of global purchasing literature. These studies give answers to questions regarding why and how firms purchase abroad, even though it is seen as a more complex and risky venture.

2.2 Antecedents of global purchasing

Previous research has also focused on antecedents of global purchasing. In L. Quintens et al. (2006), these are classified in three categories:

- **Drivers:** *“elements that favor or speed up the global purchasing decision”* (Rajagopal & Bernard; Rexha & Miyamoto; Leonidou, in L. Quintens et al. 2006).

- **Facilitators:** *“Conditions that do not necessarily lead to global purchasing but ease its implementation”* (Birou & Fawcett; Fawcett & Scully; Cavusgil et al., in L. Quintens et al. 2006) and
- **Barriers:** *“Factors that make it more difficult or even impossible to pursue or intensify global purchasing”* (Ellram; Alguire et al.; Ghymn et al., in L. Quintens et al. 2006).

2.2.1 Drivers

In their study, Monczka & Giunipero (1984), found that **price**, **quality** and **availability** were the primary factors influencing the international sourcing decision.

As mentioned above, in the quantitative research done by Birou & Fawcett (1993), the authors examine what firms believed they would acquire through global sourcing and what they actually did gain after sourcing offshore. According to the firms some of the most frequently mentioned benefits firms want to gain from global sourcing are:

- Access to **lower priced goods**
- Access to **higher quality goods**
- Access to **worldwide technology**
- **Improved competitive position**
- **Increased number of suppliers**

In their results Birou & Fawcett (1993) find that the benefits actually gained by international sourcing are in fact quite consistent with what motivates firms to engage in global sourcing. The benefits gained were **lower priced goods**, **enhanced competitive position**, **access to higher quality goods** and **worldwide technology**, **better delivery performance** and **better customer service**.

Similar to Birou & Fawcett, in the study of A. Salmi (2006), low-cost products were also found as drivers of global purchasing. This study also found that a majority of the products sourced in China were non-critical and leverage products as many respondents had stated that they would not source critical components or strategic items, from their core business process, from China.

2.2.2 Facilitators

As an example of facilitators, Birou & Fawcett (1993) look at some of the requirements for successful global sourcing in their study. They find that **top management support**, **development of communication skills**, **establishment of long-term relationships**, and **knowledge of exchange rates** are some important factors for successful global sourcing.

2.2.3 Barriers

Birou & Fawcett (1993) also examined the challenges firms encounter in the development and implementation of their international sourcing strategies. The challenges can be categorized as strategic, tactical and environmental. The results showed that major challenges with international sourcing were strategic issues like use of **JIT** (just-in-time) **sourcing requirements** and **logistics support for longer supply lines** which reflect the **need for a coordinated inbound logistics network**. Tactical issues like **developing knowledge of foreign business practices** were also reported as significant but manageable challenges. Among environmental challenges, **cultural and language differences** was thought to provide a substantial challenge to international sourcing success.

	Drivers	Facilitators	Barriers
Product	Cost advantages Better delivery performance Higher-quality products Unique or different products Obtain better technology	Product type Supplier certification Top management support Nationality of parent company	Limited production volume Different product standards Regular design changes Insufficient product modifications Delivery delays
Firm/management	Assure organizational flexibility Global attitude, orientation and experience Centralization of decision making Integration of worldwide activities	Knowledge on foreign businesses, exchange rates and global opportunities Planning for global purchasing Operational philosophy Development of communication skills	Parallel trade Lack of resources needed for global purchasing Cost of travel and communication
Network	Take advantage of existing logistics systems Diversification of the supplier base	Long-term relationship prospects Buying alliance	JIT sourcing requirements Finding qualified suppliers Foreign supplier image
Industry/competition	Competitive positioning Protect proprietary technology Gain a foothold in new markets Market size	Type of industry Technology orientation of industry	Diverse business practices Limited industry information Intensity of foreign competition
Environment	Cost advantages (labor) Satisfy countertrade requirements Guard against currency fluctuations	Development of trade zones Better foreign transport and communication Capture intermediaries	Import quotas Country of origin image Adverse political environment

Figure 2. is a table of the proposed antecedents of global sourcing, found in previous research articles and summarized by L. Quintens et al. (2006).

Although the table above offers a large number of antecedents, four of these have been investigated further in L. Quintens et al. (2006). These are *quality requirements*, *cost pressure*, *the need for on-time delivery* and *the lack of locally available products*.

Product quality has in some researches been identified as a major driver for global purchasing (Scully & Fawcett, 1994). In many of the above mentioned researches quality is ranked as one of the five most important factors affecting the global purchasing decision. The lack of quality assurance and quality control have been discussed as obstacles for global purchasing. However, according to L. Quintens et al. (2006), it is not clear how quality affects global purchasing and therefore further research in this area is required.

The cost of global purchasing and the search for cheaper products have also been discussed as major drivers for global purchasing. As mentioned earlier, Birou & Fawcett (1993) talk about lower price seeking as the main motivator to purchase abroad. Park (2000) separates between direct procurement costs and transaction costs. Zeng and Rosetti (in L. Quintens et al. 2006) distinguish between six types of transaction costs: transportation, inventory holding, administration, customs, risk and damage, and handling and packaging costs. As L. Quintens et al. (2006) suggest that it would be interesting to investigate *“whether the assessment of the transaction costs is related to the relative height of the procurement costs.”* Therefore also here it seems that further research is needed.

Also, on-time delivery has been mentioned in several researches as an important factor affecting global purchasing. However, according to L. Quintens et al. (2006) it is not clear whether on-time delivery is to be considered a driver, facilitator or a barrier. Frear et al. (1992) mention on-time delivery as a driver of global purchasing, while Gyymn & Jacobs and Ghymn et al. (1993) mention it as a major barrier.

Finally, the lack of locally available products and technologies have been mentioned as other factors that affect global purchasing. According to L. Quintens et al. (2006). The lack of locally available products and technology might be more important factor for foreign purchasing in smaller and less developed countries, while this factor is more of an external qualifier for global purchasing and the globalization of purchasing.

2.3 Consequence of global purchasing

From L. Quintens et al. (2006) it appears that only a limited amount of empirical studies have investigated the outcome of global purchasing, and that some of the studies remain vague on the outcomes of global purchasing. The findings made, however suggest that the outcomes can be divided into three levels; the product, the firm and the network/supply chain. The table below, from L. Quintens et al. (2006), summarizes the outcome of the investigations.

Consequences of global purchasing	
	Consequences
Product	High-quality products Better delivery performance Access to world-wide technology Reduce total cost of ownership Cycle time management Functional performance
Firm	Improved financial performance (return on sales, return on investment) Improved strategic performance (market share, sales growth rate etc.)
Network/Supply chain	More satisfying buyer-supplier relationship Worldwide supply chain integration

Sources: Birou and Fawcett, 1993; Bozarth et al., 1998; Hult, 1997; Hult and Nicholas, 1999; Kotabe et al., 1998; Liu and McGoldrick, 1996; Murray et al., 1995a, b; Nellore et al., 2001; Scully and Fawcett, 1994.

Figure 3. illustrates the consequences of global purchasing according to the product, firm and network/supply chain level, source L. Quintens et al. (2006).

According to these articles, successful global purchasing should lead to higher-quality products, cheaper products, access to world wide technology etc. However, according to L. Quintens et al. (2006), despite the fact that these factors have been discussed as drivers of global purchasing, it is still unclear whether their realization eventually leads to better firm performance. As the authors put it: *“The literature does not equivocally conclude that global purchasing enhances firm performance directly.”*

2.4 Process models of global purchasing

Several articles also describe different stages models of global purchasing. These articles examine questions like *“How does cross-border purchasing emerge?”*, and *“How does it grow?”* Trent & Monczka

(2002). You will find more about Monczka and Trent (1992) and their Worldwide Sourcing Strategy Sequence Model in chapter 3.5 and in chapter 4.

2.5 Tool/s to create World wide sourcing strategy

Monczka & Trent (1992) dig deeper into the subject of global purchasing and provide a framework for appropriate worldwide sourcing assessment. The framework is supposed to give firms a tool for evaluating their need for and the extension of worldwide sourcing. It is also supposed to guide managers to pursue an appropriate sourcing strategy. The figure below demonstrates the process:

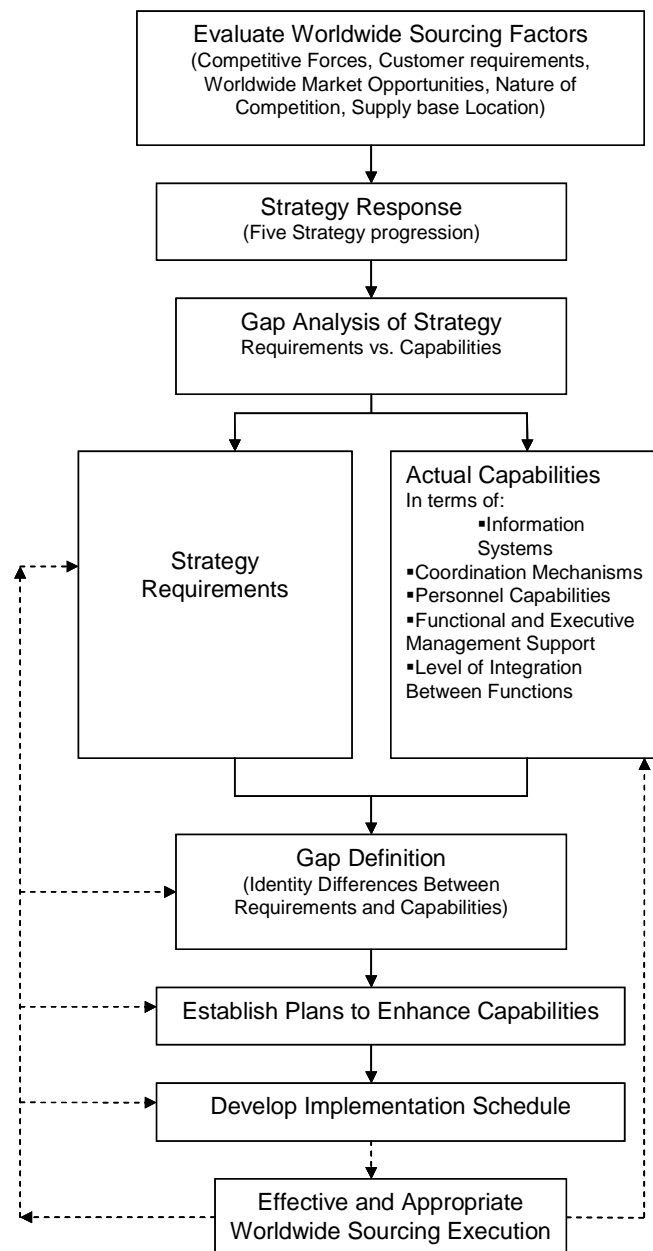


Figure 4. Monczka & Trent (1992) framework for appropriate worldwide sourcing assessment.

The first step of the assessment process is to evaluate the impact of five factors, which strongly influence the worldwide sourcing strategy. These are; (1) the competitive forces present in an industry, (2) customer requirements forcing improvement, (3) the presence/absence of worldwide market opportunities, (4) the nature of competition within an industry, and (5) the location of the supply base for purchased materials, components, and subassemblies. According to the article, evaluating the five factors helps determine whether to use pursue a low, medium or high level of worldwide sourcing.

The second step for the firm is to; (1) determine the requirements to implement a particular sourcing strategy, and (2) evaluate its current capabilities against those requirements. After a gap analysis is performed by comparing the required capabilities for strategy implementation versus the firm's current capabilities to identify which required capabilities need improvement. Next step is to establish a plan to enhance those capabilities. The last step is for the firm to monitor the progress of its plans and implementation schedule. This means that a firm reviews strategy requirements as well as its capability to meet those requirements (Monczka & Trent, 1992).

2.6 Business set up and relationships

When it comes to business set up and relationships a study of A.Salmi (2006) show that the psychic distance, *“defined as the sum of factors preventing the flow of information from and to the market”* is one of the biggest challenges when sourcing in China. Salmi's research shows that the type of relationships companies have with their suppliers in LCCs vary depending on the type of products they source. For example, the companies with lower end user products had a more flexible relations with trading houses and no contact directly with local producers, while in one case where the company bought high-quality consumer goods, the relationship with the supplier was closely managed (A. Salmi, 2006).

2.7 Organizational Approach to International Sourcing

As global sourcing has become a more important way for firms to gain competitive advantage, the affairs of this subject have been lifted to executive level and become part of the corporate strategy in many firms. Parallel with this, a few authors have started to look at questions concerning global sourcing on managerial level. Giunipero & Monczka (1997) make one such attempt and investigate; *what organizational approaches that can be utilized in conducting international purchasing, where authority should be located in making international purchasing commitments in the*

organization, and what roles various purchasing groups play in the process. In their research they see that as firms become more deeply involved in offshore sourcing, several alternative forms of organizational support groups appear. These include: **centralized international purchasing groups; foreign buying offices; international purchasing specialists; foreign subsidiaries; and trading companies.** General for all companies was a strong trend towards decentralization of the global purchasing task. However, no one form, structure or support staff dominated in their research sample. Giunipero & Monczka (1997) also found that firms with decentralized purchasing environment, still had some support and backing from corporate-level staff. According to the authors, this points toward the fact that regardless of the firm's purchasing organizational philosophy (centralized or decentralized), firms can still develop various forms of support groups which can contribute to the company's offshore sourcing.

Overall, there has been some research done on global sourcing, low-cost sourcing being part of that. Below some of the more significant researches around global sourcing is presented and it is clear in which areas the research has focused. At the same time there are certain areas that have not been investigated. These areas are highlighted and the aim of this thesis is to shed light into those areas.

	Previous Research						
	Davis, Eppen & Mattsson (1974)	Monczka & Trent (1991)	Monczka & Trent (1992)	Birou & Fawcett (1993)	Giunipero & Monczka (1997)	Kotabe (1998)	Kotabe & Murray (2004)
TYPE OF RESEARCH:							
Qualitative research							
Quantitative research	X	X	X	X	X		
SCOPE OF SOURCING:							
Global Sourcing			X	X	X	X	
Low-Cost Countries							
MOTIVE FOR SOURCING:							
Reasons behind Global sourcing		X	X	X			
Benefits gained from sourcing				X			
COURSE OF ACTION:							
How to source			X				
Factors affecting sourcing	X		X				
Required capabilities for sourcing			X				
Challenges with sourcing				X			X
Successful sourcing				X			
ORGANIZATION:							
Organisational structure					X		
Contractual form of sourcing		X					X

Figure 5. is a mapping of some significant prior research, based on different directions and research subjects. The table shows that: less qualitative research has been done on global purchasing, and few researches with total focus on

low-cost countries. Also little research has been done on the structural changes within an organization due to global sourcing.

2.8 Propositions

Based on previous research on the subject of global sourcing, three propositions are formulated. The goal of this thesis is to test these propositions using four case studies. The propositions are presented below:

1. First of all, this thesis aims to find out if there are any *specific types of products that are more suitable to source from low-cost countries*. Previous research suggests that low-cost products are often drivers of global purchasing (Birou & Fawcett, 1993; A. Salmi, 2006). As raw material prices are global, factors such as labor costs are of interest for reduction and can differ in different countries. It can therefore be assumed that products of high labor content are probably more suitable to source in LCCs. In the study of A. Salmi (2006), it was also found that a majority of the products sourced in China were non-critical and leverage products. From this study it is therefore also proposed that companies tend to source more non-critical products in low-cost countries than highly strategic products.
2. Secondly, this investigation aims to test if there are *specific types of contractual business forms more suitable when establishing production and sourcing activities in low-cost countries*. Within this subject, previous research states that the psychic distance between buyer and supplier presents a challenge which is difficult to overcome. Salmi's research shows that the type of relationships companies have with their suppliers in LCCs vary depending on the type of products they source. For example, the companies with lower end user products had a more flexible relations with trading houses and no contact directly with local producers, while in companies that bought high-quality consumer goods, the relationship with the suppliers was closely managed (A. Salmi, 2006). Based on A. Salmi's findings, it is proposed that long-term relationships and joint ventures/local partner are more suitable types of contractual business forms to have in low-cost countries.
3. Thirdly, the purpose of this thesis is to find out *how companies' organization structure is affected by their low-cost sourcing strategy* and to find out *how companies can and should manage decision making when doing low-cost sourcing*. When it comes to changes in the organizational structure, previous research show that as firms become more deeply involved in offshore sourcing, several alternative forms of organizational support groups appear. Some examples are centralized

international purchasing groups; foreign buying offices; international purchasing specialists; foreign subsidiaries; and trading companies Giunipero & Monczka (1997). Although no one form, structure or support staff dominated in their research sample, the companies in the investigation showed a trend towards decentralization of the global purchasing task as a result of the companies' LCC sourcing strategy. Giunipero & Monczka (1997) also found that firms with decentralized purchasing environment, still had some support and backing from corporate-level staff. According to the authors, this shows that regardless of the firms' purchasing organizational philosophy (centralized or decentralized), firms can still develop various forms of support groups which can contribute to the company's offshore sourcing. Based on these findings, it is proposed that companies will go towards more decentralized organization structure when purchasing from low-cost countries, but with the support of an central decision making organ.

3 METHOD

3.1 Research Approach

The research approach chosen influences not only the shape of the empirical study, but also the data collection and how the study is analyzed. It also affects the role that the theoretical framework will have in the study. Deduction and induction are two common alternative ways of relating theory to reality. The inductive approach can be described as an explorative way where the goal is to generate theory. This research approach seeks to understand, interpret and totalize and goes from empiric study to theory (Patel & Davidsson, 1994). The deductive approach, on the other hand, focuses on testing existing theories by developing propositions from current theories and making them testable in the real world (Dubois & Gadde, 2002). In this thesis research has been done according to the deductive approach and aims to investigate, test, and confirm propositions and assumptions based on results from previous research.

3.2 Research Method

3.2.1 *Quantitative and Qualitative research*

According to Holme & Solvang (1997), there are two ways to do research; quantitative or qualitative, or a combination of both. Quantitative researchers gather in facts and study relations between different sets of facts. They measure and use scientific methods that can give quantified and possibly even generalized conclusions. Qualitative researchers, on the other hand, are more interested in finding out how people experience their world. Their goal is to get insight rather than statistics analysis (Bell, 2000). Common ways to do qualitative research is through interviews and observations. The researcher concentrates on a few research objects and conducts an in-depth study of them (Holme & Solvang, 1997).

This study is carried out by a qualitative method and by conducting deeper investigations into four case studies, this thesis aims to test previous research and theories. Naturally a quantitative research could also have been used to test some of the propositions in this thesis. However, this investigation tries to not only verify the propositions, but also to be able to give an explanation to why the propositions are true or false. In order to discover the factors and dynamics behind the finding it is necessary to make a more in-depth study.

3.3 Data Collection

There are two categories of information which researcher can collect during their study, *primary*- and *secondary* data. Primary data is gathered and represented directly from its source. The gathering of primary data can be done through interviews and observations. Secondary data, however, is already existing data within areas where research is being done. The secondary information can be gathered through, Internet, literature or scientific articles (Holme & Solvang, 1997). This thesis is both based on primary data and secondary data. Below you find a description of how and which sources that have been used to gather information.

3.3.1 Empirical Study

The empirical study in this thesis is based on four case studies on companies with experience from sourcing in low-cost countries. According to Yin (1994) *“case studies are the preferred strategy when ‘how’ or ‘why’ questions are being posed, when the investigator has little control over the events, and when the focus is on a contemporary phenomenon within some real-life context.”*

The companies chosen for the case studies are Ericsson, IKEA, Powerwave and Electrolux. The companies have partly been chosen because of their similarity to the assigner ASSA ABLOY. This is true for Ericsson, Powerwave and Electrolux, which are producers of mechanical and electronic products with basic similarities to ASSA ABLOY's group product portfolio. IKEA is different. It is not in the same type of industry as the rest of the companies, but has many years of experience from global sourcing. IKEA has come far in its low-cost country sourcing initiatives and is also very successful in it. The success of IKEA low-cost sourcing does not only derive from its long experience but also because IKEA has a very unique way of working with its global suppliers all over the world. The company will therefore contribute with valuable experience within this field. As the investigated companies' experience from low-cost country sourcing varies, the different cases also reflect different stages in low-cost country sourcing and the benefits that can be gained over time.

Before making the final selection of the companies, a pre-study was made of each company, investigating their position in different areas. Apart from general questions regarding the companies' activities in low-cost countries, the pre-study also covered questions regarding type of products the companies are sourcing in low-cost countries, type of contractual business form chosen and if

they have made any re-organization of the company structure as a consequence of their global sourcing strategy.

The aim of this pre-study was to choose a group of companies who were similar to ASSA ABLOY regarding products and operation. At the same time it was interesting to choose companies who had been sourcing in LCCs for different periods of time. For example, Powerwave is a company that is relatively new in its LCC sourcing activities, while IKEA has been sourcing in LCCs for a longer time. This strategy has been chosen to hopefully capture a multidimensional picture of this subject and with the belief that companies in different stages in their global sourcing initiatives will perhaps mediate different aspects of low-cost country sourcing. After a pre-study of these companies it was clear that all four would be interesting as case studies and therefore no other companies were chosen for investigation.

In order to find the most appropriate candidates for the interviews, I have relied on the recommendations of people who have worked with purchasing and sourcing for many years and have a broad network of people within many organizations. The people interviewed have not been chosen randomly, but are either purchasing managers at the companies or have been recommended by the purchasing managers at the different companies. However, the people interviewed have both experience with and responsibility for the companies' low-cost country sourcing activities.

The questions posed in the interviews have been of different characters. Some were more direct as to what types of products are sourced in low-cost countries. Others had more of an open character, like how and why questions, to get an in-depth understanding of why the companies have made certain choices.

The empirical information presented in chapter 5 is broad and covers other topics of low-cost sourcing than merely the propositions we aim to test. However, this is a deliberate choice that tries to give the reader a more extensive understanding of the different issues which affect companies' choices in the subject of low-cost country sourcing. Also, many of the factors behind the companies' decisions in regards to the three propositions are also derived from this "extra" information.

The case study of Ericsson, in chapter 5.2, is mostly about the company's sourcing activities in China., while the other case studies cover experiences from a broader range of low-cost

countries. It is difficult to say how the case of Ericsson affects the results, but surely as low-cost countries are different from each other, the findings based on sourcing in China may not be representative for all other low-cost countries. Therefore the reader needs to have this in mind when looking at the results. Still, China is a big sourcing country and numerous companies in the Western World source from China. My belief is therefore that it is still possible to learn a lot about how and what to source from low-cost countries based on companies' experiences from China, and these can then be applied to other low-cost countries. The subject of differences between low-cost countries is treated more in-depth in chapter 8.

3.3.2 Data Collection

The research methodology has its starting point in an in-depth theory study of both seminal and up-to-date literature on global sourcing, outsourcing and related subjects.

Data collection has been both used as pre-study to map what areas within the subject of global sourcing that has not been given much attention. The theory study has also been done continuously as a way to collect information about companies and low-cost countries. Sources used are books, scientific research papers, newspaper articles and course material.

3.4 Problematic in research approach

3.4.1 Generalization

Many often criticize generalization of case study research. For example, Bell (2000) describes generalization as a problem in case studies. Denscombe (in Bell, 2000), claims that the extent to which the results of a case study can be generalized to other situations, is dependant on the extent to which the actual case study is similar to other situations. Wenick (in Dubois & Gadde, 2002) states that case studies are too situation specific and, therefore, not appropriate for generalization. However, there are also authors who mean that case studies can be a good method for testing theories (George and Bennett, 2005). According to Walker and Cohen (1985), the goal of case studies in theory testing is not the same as setting up critical experiment that confirms or refuses a theory in a decisive way. Instead, the purpose is to determine the scope conditions of a theory and whether that scope needs narrowing or broadening. The method of generalization where a previously developed theory is used as a model, with which the empirical results of case study are compared, is called analytic generalization (Yin, 1984). According to Yin (1984), there are two categories of generalizing result from case study to theory; analytic

generalization and statistical generalization. In statistical generalization, a conclusion is made about a population on the basis of empirical data collected from a sample. In analytic generalization, if out of a sample of two or more cases, one shows to support the same theory, replication maybe claimed.

In this research the results will be generalized partly through analytic generalization. Previous research and theories will be tested by examining the results from the four cases studies. The thesis also aims to investigate other angles of the propositions and to determine if the scope conditions of some of the theories need narrowing or broadening.

Since the majority of the case studies are industrial companies with focus on B-2-B (business-to-business), the results found might only be more generalized for similar companies. There might be factors that are not caught, that are more decisive for companies in other industries with focus on for example B-2-C (business-to consumer) markets. Still, my believe is that the case studies in this thesis do allow generalization, since the four companies are multinational companies which often stand as an example for and have major influence on other companies. In fact, Patton (1990) invented the term *purposeful sampling* to describe the process of selecting rich cases from the perspective of a particular study's research aims. Selecting cases according to this criteria means, choosing cases from which in-depth understandings and insights can be collected.

3.4.2 Validity

To assure a high quality of the research it is important to pay attention to validity and reliability. The terms have a slightly different meaning depending on if the research is qualitative or quantitative. In a qualitative study validity means that there has to be conformity between the researcher's observations and the conclusions drawn. In quantitative research, validity means congruity/congruence between the statistic result and reality. For example, it is important to make sure the questionnaire the researcher has created, really measures what it is intended to do. When conducting a qualitative research there is always a risk of subjectivity and the empirical results in this study has been affected by my interpretation of the respondents' description of the reality. To avoid subjectivity, the respondents in this research have been subject to the same interview questions. The interview questions have also been formulated simply and clearly to eliminate any misunderstanding of the questions. There have also been follow up questions to make sure the interview subjects have not misinterpreted the questions. In all four case studies the respondents have read my interpretation of the interviews and they have made comments on

parts where I have misinterpreted the data. These remarks have been taken under consideration before drawing any conclusions from the empirical study.

3.4.3 Reliability

According to Stensmo (2002), reliability means that a repetition of the research would give (almost) the same results. The reliability of a study is affected by the way the research is carried out and by the researcher's precision and attention during the processing of the gathered information.

In this thesis, reliability in the results has been strived by having several case studies and examining several companies. Naturally the reliability of this thesis might have been even higher if it could have been supported by a bigger quantitative research. This could have been done by conducting a survey and letting a bigger sample of companies answer to the questions sought. The survey would perhaps not give information about the reasons/factors behind sourcing of certain products or certain business set up, however it could tell us what a bigger group of companies actually source in low-cost countries.

Furthermore, reliability was sought by interviewing people with a lot of experience from low-cost sourcing. It has not been possible to measure to what extent the answers to the interview questions would be the same, if asked in a different situation. However, all the main interviews in this research have also been recorded and re-listened. In the case of obscurities the interview subjects have been contacted to verify and explain their answers.

4 FRAMEWORK FOR ANALYSIS

4.1 Evolution of Global Sourcing

In their article, Giunipero and Monczka (1997), describe the typical development process of international sourcing in two phases. Prior to these phases, the authors describe the earliest experience companies in industrial countries have with international sourcing. According to them the first contact with international purchasing come indirectly through purchases from domestic sources which contain items or components that have been purchased offshore. The purchaser usually does not discover the original manufacturing country until a problem arises concerning the component.

In a later stage, the buyer realizes the advantages that can be gained through lower prices or increased quality by sourcing offshore. Initially the company explores the international market through intermediaries who guarantee quality, price, and delivery. If that approach is successful then the company cuts the middle man and starts dealing directly with the foreign supplier to increase their savings and gain greater control over the business. This is, according to the authors, called Phase I. The key concerns in this phase are how best to buy offshore and minimize costs of each individual purchase. As the firm becomes more involved in international sourcing, it begins to purchase more complex items and use more resources which require the company to acquire new approaches to offshore sourcing (Giunipero and Monczka, 1997).

In Phase II the firm starts dealing with issues like how to best manage international purchasing efforts that require improved supplier relations and long-term contracts and firm commitment plans. During Phase II firms often establish foreign buying offices as a signal of increasing commitment to international sourcing, Ibid.

The Worldwide Sourcing Strategy Sequence-model, presented in Monczka & Trent (1992), also describes different phases that companies go through when doing global sourcing. This model will be used to analyze the four companies in the case study. The model gives a framework to identify in which level of worldwide sourcing the four companies are and why they are organized the way they are.

Monczka & Trent (1992), identify a progression of five specific sourcing strategies that relate to worldwide sourcing. The figure depicts a sequence of strategies that firms follow as they evolve

from basic international sourcing to the complex coordination and integration of worldwide purchase necessities. The figure below describes the five strategies:

Worldwide Sourcing Strategy Sequence

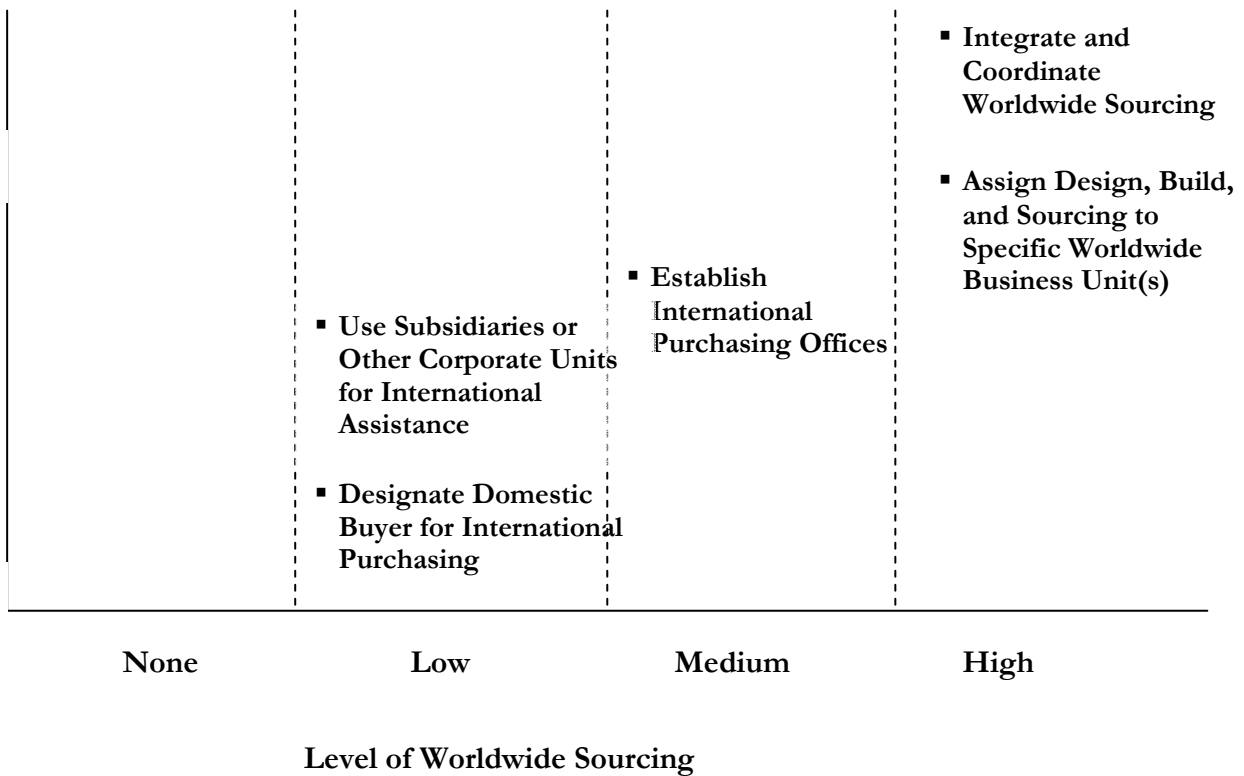


Figure 6. Modified from Monczka & Trent (1992) Worldwide Sourcing Strategic Sequence Model. This figure describes different levels of world wide sourcing that firms may reach. The lowest level is characterized by use of subsidiaries and designated domestic buyers for international. The higher firms come, the more they invest and establish their business internationally, through purchasing offices and specifically dedicated worldwide business units.

In the first level, the company is only purchasing goods domestically. It has low need for international sourcing information and it lacks sophisticated international data network. When the firm faces competition from either domestic or foreign companies it is forced to search for other sources for competitive advantage. This is therefore often a reactively driven phase and due to the external pressure; the firm starts to look outside the domestic market. The company's need for information on international suppliers increases. However in this phase the firm has limited international procurement capabilities. The company uses domestic buyers for international purchases assigned by the business unit to be responsible for international purchasing. (Ibid.)

The second strategy is to use subsidiaries or other corporate units for international assistance. Foreign-based units can perform a number of international functions for the domestic firm owing to their presence and knowledge of foreign markets. However, this strategy becomes less effective when the foreign subsidiary or external agent can no longer support a firm's increasing worldwide sourcing requirements. As the firm's activities in foreign countries increase and as the company realizes the performance gains of global sourcing, it starts discussing international purchasing as a proactive strategy rather than a reactive. The firm develops a global awareness and attitude to foreign sourcing as a way to achieve other desired business goals. A logical response to the increased presence and awareness of the possible benefits of international sourcing is to establish international purchasing offices (IPOs). International sourcing also requires some coordination between operating units. (Ibid.)

The final phase in Monczka & Trent's (1992) model describes the integration of global procurement strategy. Integrated worldwide sourcing refers to the highest strategy within the sequence and requires the coordination of purchase requirements between business units on a worldwide basis. It occurs when the firm realizes the greater advantages there are to be gained through integration and coordination of global sourcing requirements. In this stage the firm must possess worldwide information systems, sophisticated personnel capabilities, an effective organizational structure, and the highest level of executive management support. This level also requires the procurement, manufacturing and technology groups to work together to develop the best worldwide network.

The second phase is said to be reactive while the last two are more of a proactive nature.

- | | | |
|--|---|------------------|
| 1. Domestic sourcing | } | <i>Reactive</i> |
| 2. Foreign sourcing based on competitive need | | |
| 3. Foreign sourcing as part of a sourcing strategy | } | <i>Proactive</i> |
| 4. Coordinated global sourcing for competitive advantage | | |

Although this model gives us a good framework to identify in which phases the companies in this case study are in their global sourcing activities, the reality is more complex. It is not evident that the companies will respond to all the factors stated in the model. Also, the case studies might show elements from several phases which might make it difficult to identify exactly where they

belong in the model. We might also find other factors that are not presented in this model, which explain how far the companies have come in their global sourcing strategy activities.

4.2 Porter's strategies to gain competitive advantage

Previous articles show how global sourcing starts as a reactive strategy against competition. However it is also interesting to see how low-cost sourcing can act as a proactive activity and if it can help firms gain a competitive advantage.

According to van Weele (2002), every company's goal is to develop a distinctive, sustainable competitive advantage. That is the only way for the company to guaranty its long-term survival. Grant's (2002, s.247) definition of the results of competitive advantage is *"when two or more firms compete within the same market, one firm possesses a competitive advantage over its rivals when it earns (or has the potential to earn) a persistently higher rate of profit"*.

According to Porter (in Grant, 2002), there are three basic strategies for a company to gain competitive advantage; through **cost advantage**, **differentiation** and **focus strategy**.

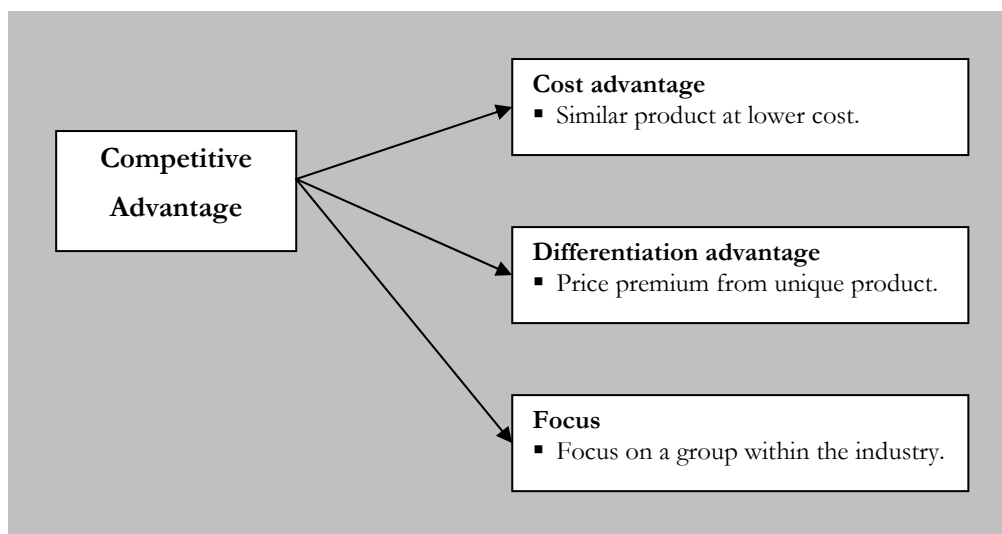


Figure 7. Illustrates the different types of competitive advantage; cost advantage, differentiation and focus. From Grant (2002).

4.2.1 Cost advantage/cost leadership

The main focus of cost advantage strategy is to continually work at reducing the cost price of the end product. This type of strategy is usually successful if a large market share can be obtained. There are different drivers of cost advantage; economies of scale, economies of learning, process

technology and process design, product design, input costs, capacity utilization and managerial/organizational efficiency (Porter in Grant, 2002).

Low-cost sourcing descends from the cost advantage strategy and the driver for low-cost sourcing is the input costs and refers to location differences in input prices. The price of inputs may vary between locations, the most important being differences in wage rates from one country to another. (Ibid.)

4.2.2 Differentiation

This strategy aims to market products which are perceived by the customers as being unique. Products uniqueness can be created in the logo, the technology, the service etc. The differentiation strategy aims at creating customer loyalty and brand preferences, thereby reducing the importance of price (Porter, 1985). For the companies' global sourcing strategy, the differentiation strategy means, not only access low-cost labor, but to find differentiation possibilities in LCCs. This can be done, for example, through finding new interesting material/products, concepts and/or working process.

4.2.3 Focus

The third generic strategy is focus, This strategy is quite different from the others because it rests on the choice of a narrow competitive scope within an industry. The focuser selects a segment of group of segments in the industry and tailors its strategy to serving them to the exclusion of others. By optimizing its strategy for the target segments, the focuser seeks to achieve a competitive advantage in its target segments even though it does not possess a competitive advantage overall (Porter, 1985). This strategy can also impact purchasing, as the companies' low-cost country sourcing may become more specialized to benefit and support the firm's focus strategy.

Chapter 8. will focus more on the subject of competitive advantage and further discuss this topic from the outlook of the firm's capabilities, the national and industry environment and their connection to the purchasing aspect.

4.3 The Iceberg Model

Whether low-cost sourcing is a reactive approach to competition or a proactive strategy to gain competitive advantage, it is important to make sure the companies efforts to source in low-cost countries really result in lower costs. A good way to look at it is by using Gadde & Håkansson's (1993) Iceberg model. According to the authors, there are different ways of cutting costs. The easiest and most apparent way is to target the visible costs, the price of the goods bought. This is done by pressuring suppliers for lower prices. The other approach is to reduce costs by targeting other so called "hidden" costs related to the product, for example production costs, goods handling or capital costs.

When it comes to low-cost sourcing, the most obvious way to cut costs are through the lower prices that are offered in low-cost countries. However, firms need to include both cost advantages and cost increases, which might arise from this new strategy/activity. Perhaps the purchase price on goods will decrease, yet other "hidden" costs might arise or increase, like for instance extra administrative costs or transportation costs due to bigger distance between buyer and supplier. Because of these hidden costs, sourcing in low-cost countries might not be a profitable alternative.

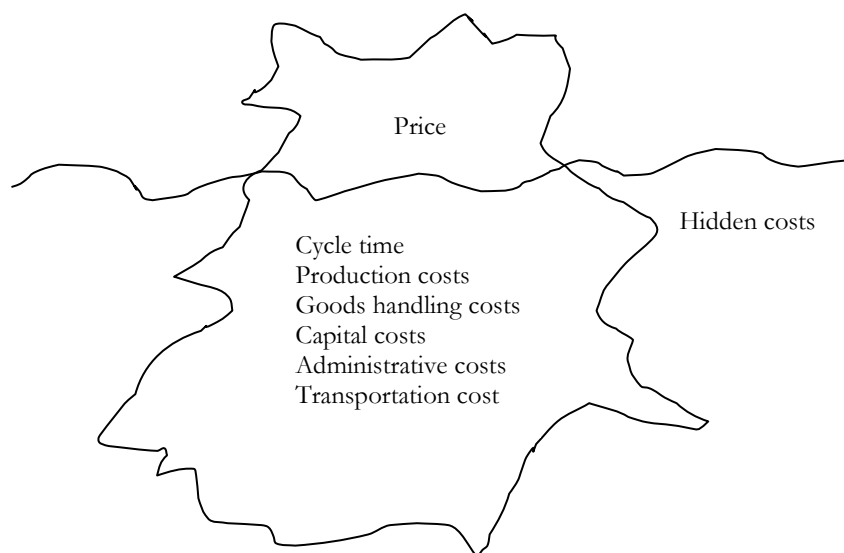


Figure 8. The Iceberg model modified from Gadde & Håkansson's (1993). This model describes that price is the only visible part of a product, and the factor which firms first think of when they want to reduce costs. However, there are many "hidden" factors such as production costs, capital costs and goods handling etc., which firms can work on to reduce.

Below, some of the important hidden costs and their role in companies' low-cost sourcing activities and decision are presented.

4.3.1 Transportation cost

Transportation is one type of cost that can increase if companies choose to source in low-cost countries far away, like China or India. Many factors related to a product's characteristics influence the cost of transportation. According to Lambert et al. (1998), the following categories affect cost of transportation:

- **Density** – a product's weight-to-volume ratio. Normally low-density products, like electronics and clothing, are more costly to transport on a per kilo (pound) basis than high density products like steel, building products etc.
- **Stowability** – is the degree to which a product can fill the available space in a transport vehicle. The higher stowability the less costly to transport.
- **Ease or difficulty of handling** – Difficult-to-handle products are more costly to transport.
- **Liability** – Products that have high value-to-weight ratio are easily damaged and are often subject to theft, making them more costly to transport.

There are also market-related factors that affect cost of transportation:

- **Location of markets** – as mentioned earlier the distance between buyer and supplier and the distance goods must be transported determines the pricing of transportation.
- **Infrastructure within the low-cost country** – the possibilities to transport goods within the LCC, access to harbor etc. (Ibid.)

4.3.2 Labor content

As we saw in the Iceberg model by Gadde & Håkansson (1993), extra costs might appear or increase due to a firm's low-cost sourcing activities. However, the immensely low labor prices attract many companies to source in low-cost countries. Consequently, products with high labor content might be more suitable for sourcing in low-cost countries. According to Axelsson (2004), the potentials of low-cost countries lies in products that have a significant share of the labor-based activities in their production. According to the author, it takes products with high labor-value per volume, like for instance electronics, small machinery or hard white goods to

compensate for the increasing transportation costs that arise from sourcing in low-cost countries. Companies do not only gain directly from low labor costs, but also indirectly through lower prices on semi-manufactured products, components and services that might be purchased and used. These products also cost less since the labor used in their production is also low.

4.4 Purchasing portfolio analysis

Although products with high labor-value per volume might be more suitable for sourcing in low-cost countries, there may also be other factors that affect companies' sourcing decision and the type of product they choose to source from low-cost countries.

According to Kraljic's (in van Weele, 2002) purchasing product portfolio, companies' should maintain different relationships to suppliers and handle them differently depending on what type of products they are buying. Kraljic's matrix, see Figure 9 below, is based on **the impact purchasing has on the bottom line**, which measures the impact purchasing has on financial results, the profit impact of a given supply item measured against cost of materials, and **the supply risk** – which measures criteria such as short-term and long-term availability of supply, number of potential suppliers, make-or-buy alternatives etc.

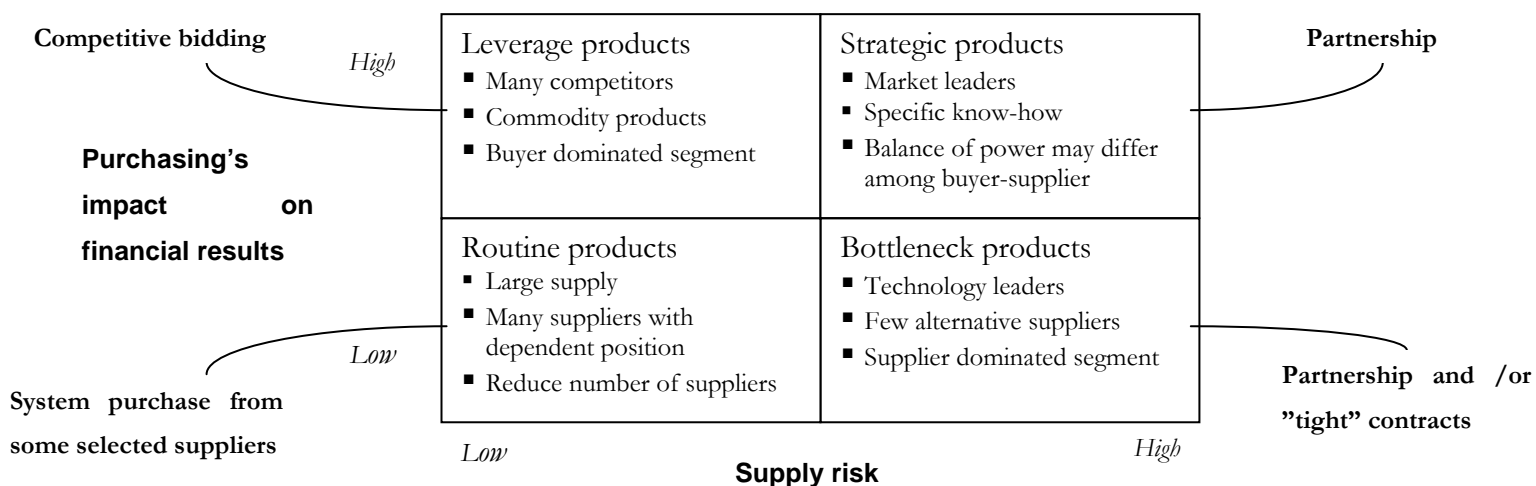


Figure 9. illustrates Kraljic's Matrix from van Weele (2002). According to this model, firms should have different suppliers' strategy/relationship depending on the type of products they source.

Leverage products

According to van Weele (2002), leverage products can be obtained from various suppliers at standard quality and they usually represent a large share of the end product's cost price.

Therefore, a small change in price has a relatively strong effect on the cost price of the end product. This is also the reason why the buyer exerts aggressive sourcing and tendering among a small sample of pre-qualified suppliers. Examples of leverage products are bulk chemicals, steel, aluminum profiles, raw materials, standard semi-manufactured commodities. Leverage products might be suited for sourcing in LCC if the firm is able to find suitable suppliers.

Routine products

These products are not complex from a purchasing point of view. They usually have small value per item and there are several suppliers to choose from. Some examples are cleaning materials, office supplies, etc. (van Weele, 2002). As routine products are not so costly and the supplier-base is big, it is perhaps not too profitable to source them from LCCs. However, if a company would buy larger volumes of routine products, it would be profitable to source these as well (Ibid.).

Bottleneck products

Bottleneck products are not very expensive, however, they are critical since there are few sources of supply and therefore it is important to maintain close relations with already established suppliers. This type of products may not be suitable for sourcing in LCCs since they don't affect the financial results considerably. Examples are catalytic products for the chemical industry, pigments for the paint industry and natural flavorings and vitamins for the food industry (van Weele, 2002).

Strategic products

Strategic products are often high-volume products, which are specified to the customer's specification. The product represents a high share of the cost price of the end product and there is usually only one source of supply available. Some examples are: engines, gearboxes or turbines (van Weele, 2002). Since strategic products require specific know-how and since there are few suppliers that have that unique competence, you might not find them in LCCs. Also, for strategic suppliers the firm needs to maintain a close relationship where it can get service when ever it needs. Having a supplier on a far geographic distance can therefore be problematic. However, if a company is able to find a good supplier in a low-cost country, there is potential for huge cost savings. (Ibid.)

In summary, by analyzing the empirical data through the frames of Kraljic's matrix, we might be able to categorize the type of products bought on LCCs. It will also be interesting to see if the

type of products sourced are somehow related to the type of relationships or contractual business forms that companies choose to establish in low-cost countries.

4.5 Types of Contractual Business Form

It is not only important to decide what type of products to source from low-cost countries but also how to source them. Sourcing decisions are multifaceted and involves many different types of decisions. According to Kotabe (2004), from a contractual point of view there are two ways for multinational firms to do sourcing; intrafirm sourcing (sourcing from parents, foreign subsidiaries or sourcing in-between foreign subsidiaries) and outsourcing (purchase goods from outside supplier instead of manufacturing internally). These questions descend from the classic theory of Transaction Cost Economics TCE. In brief, TCE focus on how an organization should organize its boundary-spanning activities so as to minimize the sum of its production and transaction costs. The purest application of TCE is the **make or buy-decision**. The decision of make or buy has been a fundamental issue for a long time, however it is over the past decades that it has become a strategic issue (Gadde & Håkansson 1993).

In the case of low-cost sourcing, the choice does not always stand between make or buy. Many firms might be already buying from outside suppliers but decide to change supplier base to find low-cost suppliers instead. However, as sourcing in low-cost countries in some cases involves risks as companies start operating in an unfamiliar market, companies might face questions as: should they source from external low-cost suppliers or if they should set up their own factory in the low-cost country. A third alternative can be to demand their present suppliers to follow them to the LCC. Either way there are advantages and disadvantages with both intra-firm sourcing and outsourcing which firms need to take under consideration. Companies also need to consider what type of contractual business form is most suitable for their low-cost sourcing strategy.

4.5.1 Advantages and disadvantages with intrafirm sourcing and outsourcing

Historically, ownership of resources and vertical integration has been considered the only opportunity to secure access to strategic resources. However, a company with a large amount of resources will primarily have to devote its resources to try to run the operations they control, consequently focusing on existing operations rather than having time and financial means to focus on development and innovation (Axelsson, 2004). Therefore, authors like for example Culliton (in Gadde & Håkansson, 1993) advocated increased reliance on buy rather than make.

According to Culliton the disadvantage related to in-house manufacturing are mainly diminished opportunities to adapt to rapid changes in the environment. The advantages of external sourcing were, according to him, improvements of the capabilities of independent suppliers. Webster in Gadde & Håkansson (1993) points out that other factors, like the desire to protect technical solutions may lead the company to in-house manufacturing, while outsourcing makes it possible to assess the resources of capable suppliers. Other advantages with outsourcing is that it helps reduce fixed investment in in-house manufacturing facilities and lowers the breakeven point, which in turn helps improve the company's return on equity. Outsourcing also enables specialization, since the firm can concentrate on certain activities and put non-core activities on external suppliers. Furthermore, outsourcing means distribution of risk between several actors, access to suppliers' ideas and knowledge and increased flexibility and capacity (Axelsson, 2004).

According to Axelsson and Wynstra (2002), there are also disadvantages with outsourcing like; increased dependence of suppliers, continual follow-up of suppliers which increases the transaction costs, risk of loss of knowledge or spillover effects on third parties, risk of leakage of confidential information due to loss of control over certain activities, social and legal problems. The need for co-ordination of activities is instead suggested as an argument for in-house making. Another problem with outsourcing has to do with determining what the core competence of the company really is. According to Gadde & Håkansson (1993), it is never possible to know what will be "core competence" in the long term, rather this changes over time.

4.5.2 Contractual business form – a choice between flexibility and control need

Companies also need to decide what type of contractual business form that is most suitable for sourcing in low-cost countries. Apart from the two extremes, intrafirm sourcing or outsourcing, Hefler (1981) includes an additional alternative to the sourcing decision: joint venture. According to him, there are three primary strategies for global sourcing: (1) finding qualified suppliers for the required materials and services; (2) entering into a joint-venture relationship; and (3) making a 100 percent equity investment in a foreign country.

According to Quinn & Hilmer's (1994), see Figure 10, a firm's flexibility to choose suppliers increases as its control over production decreases. Depending on the type of activity, a firm might either prefer more control or higher flexibility. When it comes to sourcing in low cost countries, a firm might have the need for more control if it is going to source strategic, high-tech products or move R&D to a low-cost country. The company might want to protect sensitive

information from getting lost and may therefore choose to establish a fully owned factory in the LCC.

Another alternative is to enter a joint venture with a local manufacturer. Joint ventures help firms avoid the cost of opportunism and monitoring that are inherent in market transactions through ownership incentives, and increasing the likelihood that the partner will avoid opportunistic behavior in the interest of maintaining the partnership (Quinn & Hilmer, 1994).

In the case of non strategic products, a firm might choose to have short-term contracts with local suppliers and consequently be flexible to change suppliers when necessary. (Ibid.)

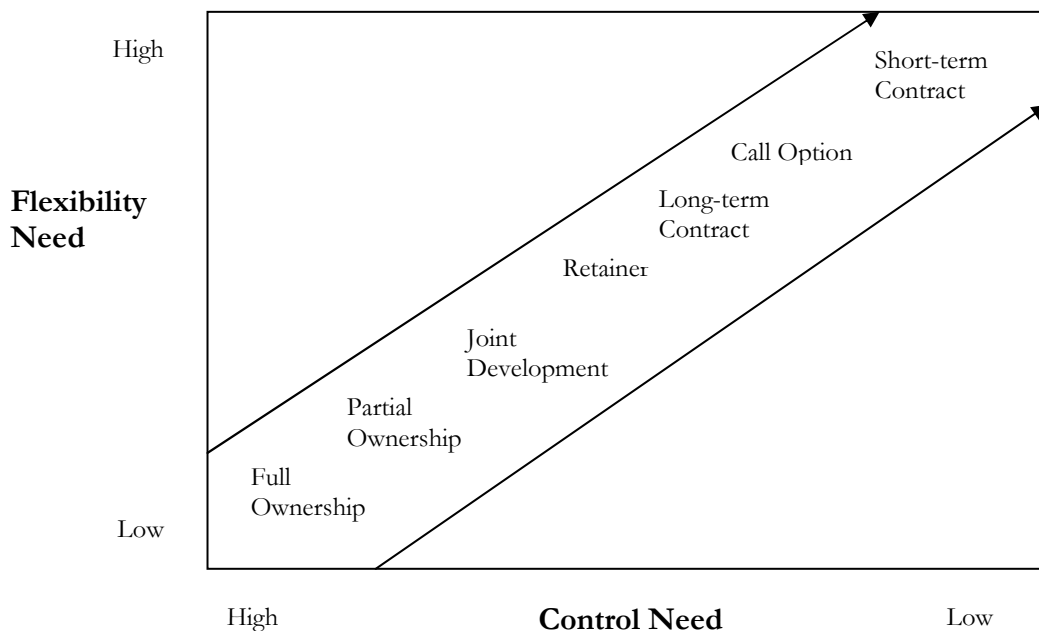


Figure 10, Shows the relationship between flexibility and control, Quinn and Hilmer (1994). The higher the control need, the less flexibility has the firm.

Although this model has been chosen to analyze the type of contractual business form the companies in this case study establish in LCCs, the reasoning of the model can be questioned. For example, it is not evident that a company who has full ownership of its business activities also has full control. In fact, some companies outsource some of their business activities because they do not have full control over their total business. By focusing on their core business instead, they gain better control over their company. Also full ownership does not mean that management has full control internally either. Although management might have the legal

control, they might not have power over the activities of the (sister) company. This picture (figure 10.) is therefore a bit mechanical and there are more aspects to it than presented. It is therefore important to look at the type of business activities companies chose to have full ownership of and examine the reason behind those decisions.

4.6 Type of Organizational structure

Whether an organization chooses do intrafirm sourcing in low-cost countries or outsourcing, it is not evident how the sourcing initiatives will be organized within the firm. If a firm has centralized purchasing, will they also centralize their sourcing activities or will they decentralize this function to skilled purchasers locally? How will the company's low-cost sourcing strategy affect its organization structure?

According to Gadde & Håkansson (1993), one has to make a distinction between large and small companies when discussing organizational structure and the organization of purchasing. The question of centralized or decentralized purchasing is mostly related to large companies. Since this thesis focuses on large international companies, I will examine the question of centralization vs. decentralization more up close.

4.6.1 Decentralized purchasing structure

According to van Weele (2002), a decentralized purchasing function can be found in companies with a business-unit structure. This type of organization is characterized by each business unit being responsible for their own purchasing activities. One disadvantage of decentralized purchasing is that different business units may negotiate with the same supplier for the same products and get different purchase conditions as a result. This type of structure is more appropriate when the business units purchase very unique products, different from those of other units.

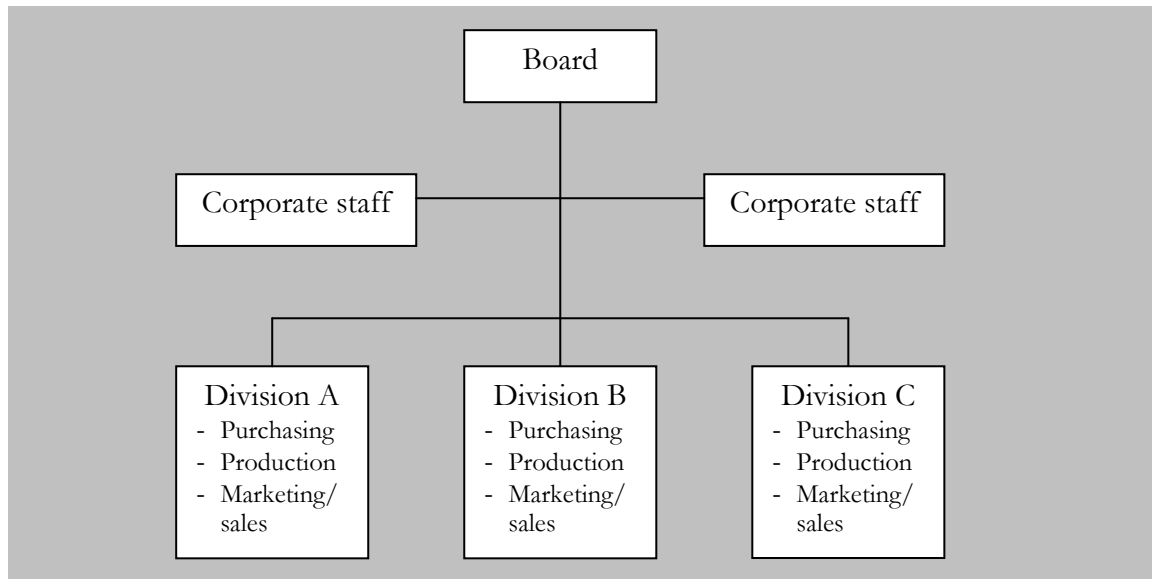


Figure 11. illustrates decentralized purchasing organization structure from van Weele (2002).

4.6.2 Centralized purchasing structure

Centralized purchasing means that all purchasing for the whole organization is made by one central purchasing department. Decisions on product specifications are made centrally and the same goes for supplier selection decisions; contracts with suppliers are prepared and negotiated centrally (van Weele 2002).

According to Gadde & Håkansson (1993), a company will have a bigger purchasing department with more resources and competence gathered in one place with centralized purchasing. This makes it easier to specialize in purchasing and relations to different supplier markets. One of the main advantages of this structure is that the company can obtain better conditions from suppliers, by co-ordination of purchasing. Another advantage is that it will facilitate efforts towards product and supplier standardization. The disadvantage of centralized purchasing is that it requires a lot of coordination which takes both time and effort. A centralized purchasing unit makes it more difficult to keep in touch with the production plants that are using the products. In a decentralized organization it is easier to keep up internal contacts in each of the local units and also to stay in close contact with suppliers. Centralized purchasing is usually more appropriate for companies where several business units buy the same products (van Weele, 2002).

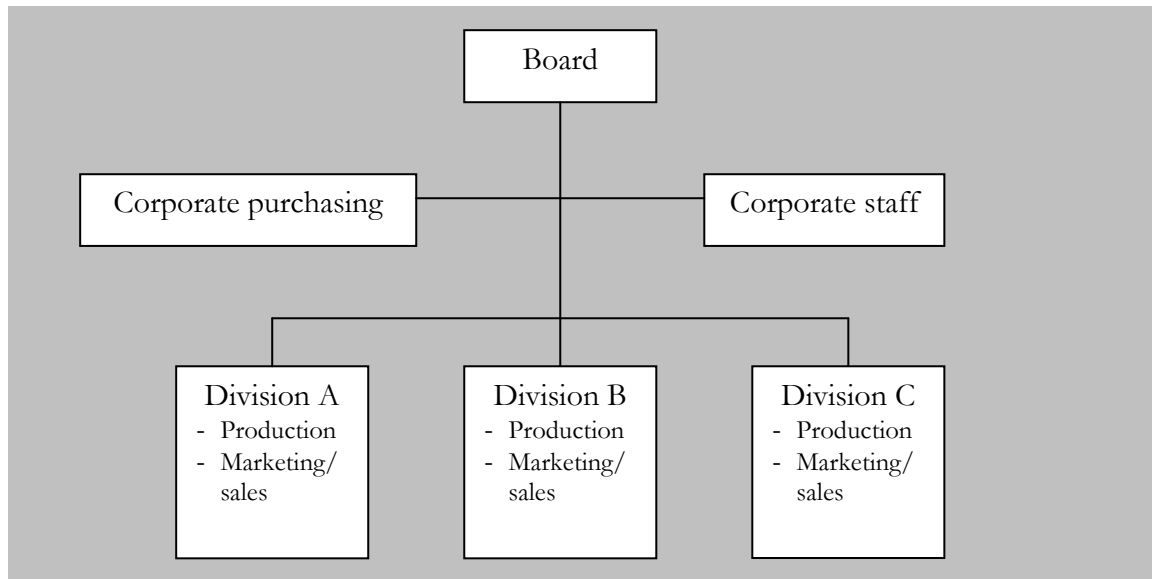
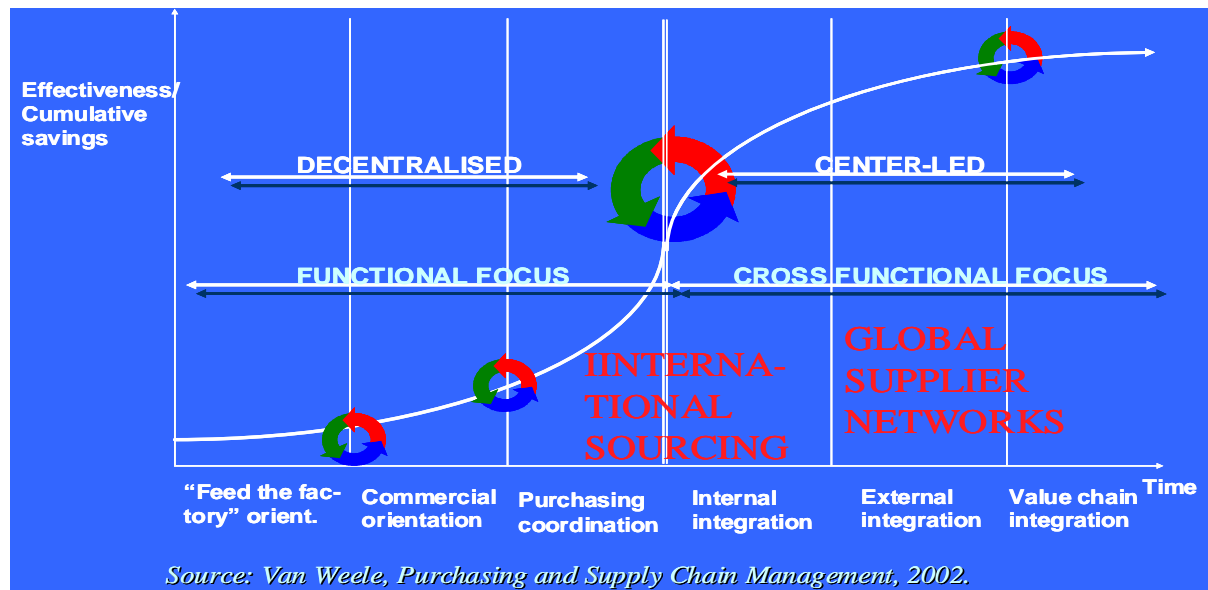


Figure 12. demonstrates how a centralized purchasing function can look like (van Weele, 2002).

Although centralized and decentralized purchasing organizations are basic models to classify type of organizational structure, the reality is more complex than theory. Here, we do not bring up other alternatives, such a hybrid of these two. In fact, according to Gadde & Håkansson (1993), most companies rely on a combination of centralization and decentralization. Since low-cost country sourcing is a special part of the purchasing organization's activities, other rules of structure might apply, that cannot be fully explained by above presented theory.

4.6.3 Organization structure and international sourcing

Van Weele (2002), has studied how the purchasing function develops in different stages. Figure 13 resents this six-stage purchasing development model. The first stage is transaction orientation or "serve the factory". It is the simplest way of purchasing. The purchasing is often decentralized, carried out by the separate units within the company. As purchasing becomes more important and the company discovers the benefits that can be gained through efficient purchasing and supply chain management, the purchasing becomes more centralized. When the company starts with international sourcing, it discovers the need for coordination and internal purchasing integration. Now the focus is not only on purchasing, it also includes integration with material planning, line planning etc (van Weele, 2002). According to van Weele (2002), as the development goes towards value chain orientation, companies realize that the most important thing for success is delivering value to the end customer. This is however not feasible without the support of the firm's suppliers.



More demanding stage by stage					
Serve the factory -clerical -order processing - ad hoc	Reduce cost -commercial -tendering -negotiating -approved suppliers list	Savings through synergies -commercial -contracting total volume -international sourcing	Total cost of ownership -cross functional buying teams -systems integration -vendor rating -performance based contracts	Supply chain optimisation (also internationally) -outsourcing -EDI/ internet -e-commerce -cost models	Total customer satisfaction -customer driven activities -contract manuf. -supplier developm. - genuine global supplier network

Figure 13. the purchasing Management Process, van Weele in Axelsson (2004).

The model above is interesting since it shows how the purchasing function goes towards being center-led, as the organization starts sourcing internationally and as the need for coordination increases. This model will be used to analyze if the companies in this study show similar tendencies when they expand their low-cost sourcing activities, and if the organizational (structure) changes described in this model, is also seen in the case studies. At the same time it is important to note that this is only a model, a generalization of reality. Can this model really capture the complexity of the reality firms

4.6.4 Structural changes and labor

Other structural features of organizations that are of primary interest are those defining the division of labor. According to Scott (2003), when it comes to labor one can speak of structural differentiation or the coordination and control of work. This first has to do with occupational role and specialization, and answers questions like; *“Who is to do what and where?”* See example below:

A. Structural differentiation

- Occupational & role specialization
- Departmentalization
- Multidivisional forms

While the other concerns formalization, hierarchy centralization etc. and answers questions like; *“Who should be responsible of making the final decision?”*.

B. Coordination & control of work

- Formalization
- Hierarchy centralization
- Structures for facilitating lateral information flows

This model can help us analyze how the structure of the organization is affected by the company’s low-cost sourcing strategy, not only from organization structure perspective, but also from a labor/employee role perspective. *“What happens to the purchasing department when it comes to the staff and their competence?”* and *“Does the decision making process change in anyway?”*.

4.7 Summary

In chapter 4, several different models and theories have been presented that will be used to analyze the empirical study and to test the three propositions.

- a) The Worldwide Sourcing Strategy Sequence-model, (Monczka & Trent, 1992), describes different phases that companies go through when doing global sourcing. This model will be used to analyze the four companies in the case study. With the help of this model, we hope to

identify in which level of worldwide sourcing the four companies, in the case study, are and why they are organized the way they are.

- b) Porter's theories about competitive advantage, will be used to get insight into firm's motives and reasons for sourcing in LCCs. *"What benefits do they seek?"* and *"How is that reflected in their choice of products sourced in LCC?"*
- c) Whether low-cost sourcing is a reactive approach to competition or a proactive strategy to gain competitive advantage, it is important to make sure the companies efforts to source in low-cost countries really result in lower costs. A good way to look at it is by using Gadde & Håkansson's (1993) Iceberg model. These authors present different ways of cutting costs, the easiest and most apparent way being to target the visible costs. The other approach is to reduce costs by targeting other so called "hidden" costs. Gadde & Håkansson's costs definitions will be used to analyze what happens with these costs when you move sourcing or production to LCCs.
- d) Quinn and Hilmer's (1994) model of relationship between flexibility and control will help us to categorize the type of contractual business form companies use for/in their low-cost sourcing activities. The model will hopefully also help us understand and analyze the reasons behind these choices.
- e) Finally, the concepts of centralized- and decentralized purchasing organizations are presented to later help us understand if and how the companies' sourcing strategy affect their organization structure and their purchasing organization. The purchasing Management Process by van Weele (2002), is another useful model for this purpose.

5 EMPIRICAL STUDY

5.1 Powerwave

5.1.1 *General about the company*

Powerwave Technologies was created through the merger of three companies; LGP, Allgon and Powerwave. The company is one of the biggest on the market when it comes to offering end-to-end wireless solutions (About Powerwave). Powerwave has a broad product portfolio ranging from Antenna Systems, Base Station Systems to Coverage Systems. The company has an annual turnover of 4,5 billion SEK and of this approximately 2 billion SEK is spent on purchasing. This means that purchasing stands for almost 45 percent of the company's turnover which is a considerably large amount.

5.1.2 *Purchasing at Powerwave*

Powerwave is divided in to two business units; EMEA which includes Europe, Middle East Africa; and Amerika, which includes the company's operations in America and Asia. Each business unit has a purchasing section. In this research paper I have chosen to focus more on the activities of EMEA and interviewed Stefan Mähl who is responsible for strategic purchasing for EMEA.

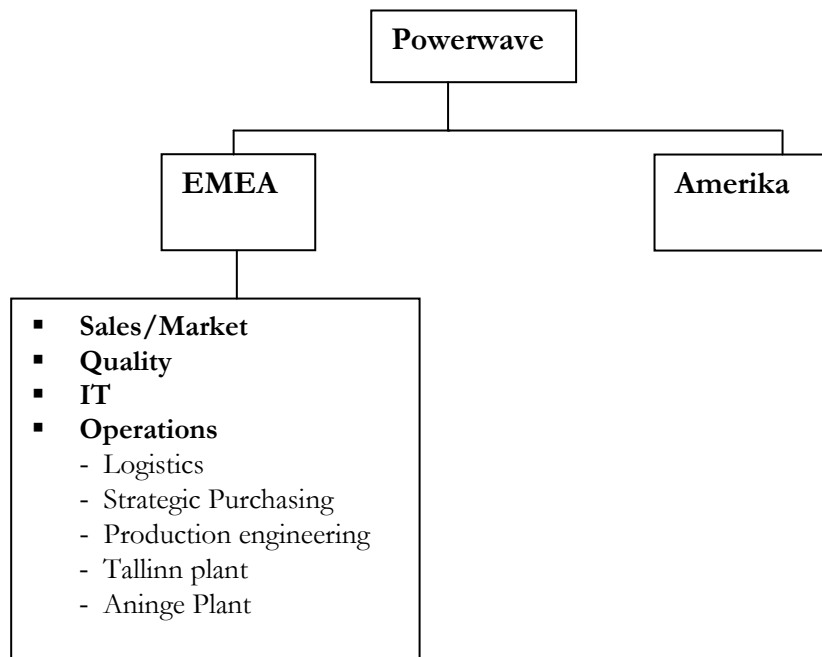


Figure 14. illustrates the organization structure of Powerwave.

When it comes to purchasing activities, Powerwave has made an assessment of which products that can be bought globally and which ones that must be bought locally. The company has a global supplier base for some of its products, for example *printed circle boards* which are easy to transport. However for some products which might need technical competence only available in certain parts of the world, the company has decided to stick to local suppliers.

The business units have together created a uniform way of working with suppliers. This global agenda is created so that everybody within purchasing shall act in the same way and evaluate suppliers on the same criteria all over the world.

5.1.3 Reason behind sourcing in low-cost countries

Among Powerwaves customers you find companies like Nokia, Ericsson, Nortel, Orange and Vodafone. These are all powerful companies doing business on a global scale. These companies are also active in highly competitive markets. According to Stefan Mähl, since the market of telecommunication has become more global, Powerwave's customers find themselves in a situation where they have to offer the same prices almost all over the world, meaning that the prices are set at the lowest point on the market. In order to handle the low prices and still be profitable, the companies seek ways to cut purchasing costs. This means that they put pressure on their suppliers, companies like Powerwave, to lower their prices. This extreme focus on price reduction from customers is according to Stefan Mähl, one of the reasons why Powerwave has felt the pressure and the necessity to find cheaper suppliers in low-cost countries.

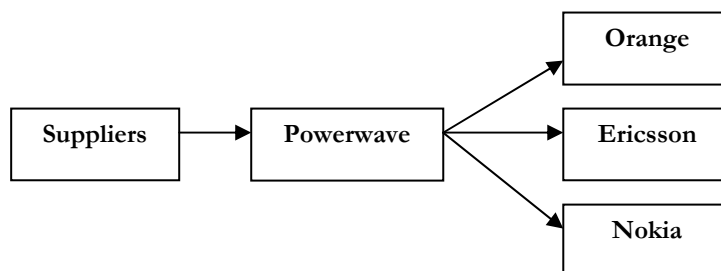


Figure 15. The picture illustrates the supply chain of Powerwave, which is a supplier to companies such as Orange, Ericsson and Nokia. Powerwave's customers have been one decisive factor for its move towards LCCs.

Another reason why Powerwave has decided to source offshore is to be present on a market where everything happens in order to catch new trends and new business opportunities.

5.1.4 Business activities in low-cost countries

Today Powerwave has several different types of business activities in low-cost countries. First of all the company has two fully owned manufacturing sites, one in Estonia and the other in China. EMEA is responsible for the factory in Estonia while America takes care of the factory in China. In addition to this, the company also has contract manufacturers in Singapore, Thailand, Malaysia and China which manufacture products according to specifications given by Powerwave.

Powerwave also procures consulting services from an American company which offers consultation services from consultants in the low-cost countries Russia and India. These are consultants with special knowledge within radio frequency (RF) and the wages paid to these consultants are considerably lower than those of consultants in Sweden or the US.

Today EMEA sources approximately 60% of its total purchasing from LCC, while the same for Americas is approximately 80%.

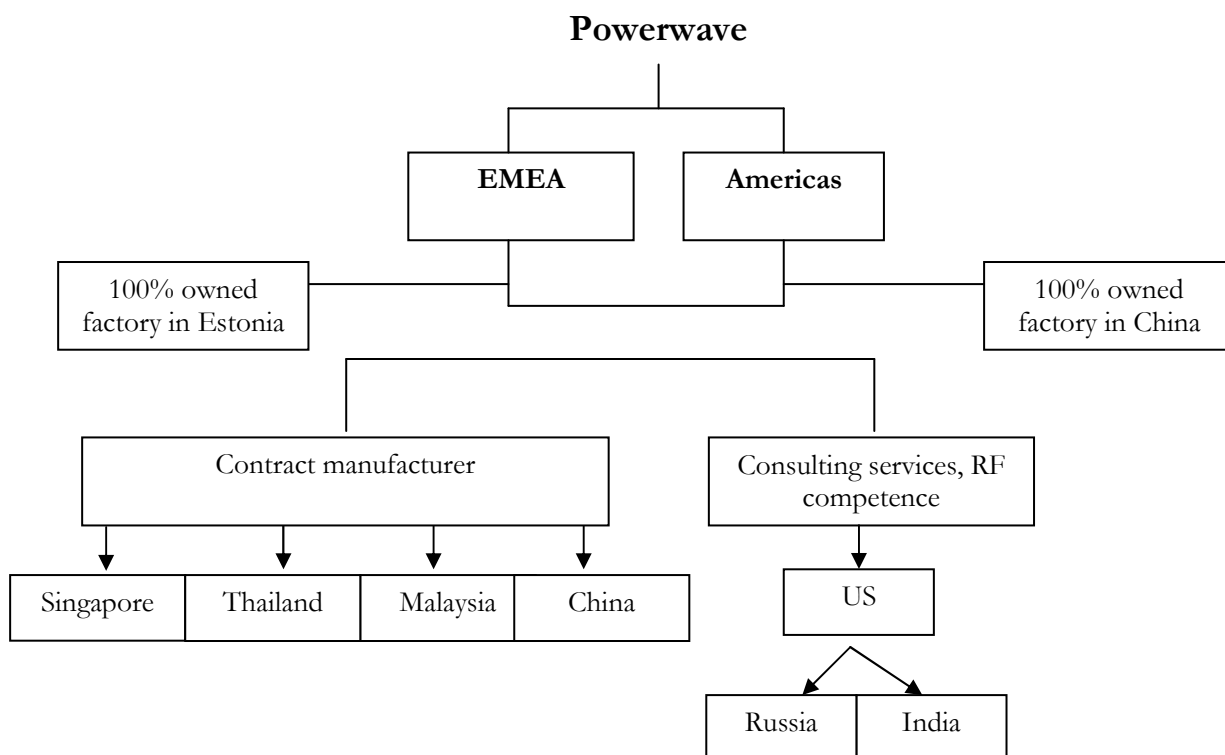


Figure 16. is an illustration of Powerwave's activities in low-cost countries. The company has a wide variety of business forms in LCCs; wholly owned factories and contract manufacturers of both products and services.

5.1.5 Type of products sourced from low-cost countries

Below you find a list of all products made by Powerwave. In Americas only one type of product is manufactured; multi-carrier power amplifier (MCPA). All other products belong to EMEA.

Antennas	}	<i>Core products</i>
TMA (tower mounted amplifier)		
MCPA (multi-carrier power amplifier)		
TMB (amplifier)		
Filter (ex. Duamco och CIN which are filters that are used in bas stations)		
Repeaters		
ACE (advanced coverage engineering)		

The company has made a make-or-buy appraisal for all of its products and come to the conclusion that it will gain more from moving the production of products with high volumes and low degree of technical complexity to low-cost countries.

Antennas - The company has chosen to place the production of high volume antennas with low technical complexity in China and low/mid volume antennas with high technical complexity in their factory in Tallinn. The company reasons that since Tallinn is geographically closer to Sweden, it is easier to send a technician to Tallinn if a problem would occur with the production. Also since the direct labor-factor is lower in China than in Estonia it is more profitable to place manufacturing of high volume products there.

Repeaters - Repeaters are highly complex products which require special RF (radio frequency) competence. Since the product is both complex and manufactured in small volumes the company has chosen to keep the manufacturing in Sweden. Stefan Mähl believes that it is difficult to put the production anywhere else because it is more difficult to explain the details of the product and the production to suppliers in foreign countries.

Filters - Filter is the only product that is sourced as a finished product from external suppliers. Today Powerwave has put the manufacturing of filters to contract manufacturers in China and Thailand.

Interesting to mention is that Powerwave makes product calculation or cost/price estimation before they start sourcing for a product. This process is called TTM-process (Time-to-Market) where the company has an internal assigner which sponsors this and sets a goal price on the product the company is to do business on. The company estimates what the customer is prepared to pay and the product materials that they need. The purchasing team will therefore have a goal price in the TTM process which they have to follow when they search for appropriate suppliers. If the purchasing team deviates from this price they get a warning and in some cases they are even forced to drop a project since they are not able to meet the goal price.

5.1.6 Type of contractual business form in low-cost countries

Powerwave has two wholly owned factories in China and Estonia. Furthermore, the company uses both contract manufacturer and black box manufacturers¹. Apart from that, the company also has regular suppliers. According to Stefan Måhl, the company decided to build a factory in China because it wanted to be closer to the market and draw benefits from low-cost synergies. The reason why they have not put this activity on external suppliers is because it is part of the company's core competence. However, it is possible that the company may move this activity to contract manufacturers in the future.

5.1.7 The choice of LCC and ways to find and evaluate suppliers

According to Stefan Måhl, the choice of low-cost country varies depending on the type of material the company is looking for and where they can find the right competence. For mechanical products, Brazil is a good alternative. The situation in the country is important as well. There needs to be harmony and stability in the country, and *“that's why we have not gone further east than to Estonia, since the further you go, the higher risk of encountering corruption”*.

Currently Powerwave has two people in South-East Asia working closely with the suppliers there and making sure that everything goes as planned. At the same time they also look for new potential suppliers and business opportunities. Powerwave has decided that this is a more efficient way of working than setting up a sourcing office in low-cost countries. According to Stefan Måhl, if you are going to sit behind a desk you might as well do that in Sweden. If you are

¹ Black box manufacturers are suppliers you purchase goods from without being involved in how they manufacture those products. You are only interested of the output/their products.

going to work in low-cost countries it is important that you are out on the field, meeting suppliers and visiting plants.

Apart from the employees in Asia, Powerwave also gets hold of information about suppliers through tips from colleagues or other people with experience from a certain supplier. Other ways to find suppliers is to visit fairs and exhibitions.

5.1.8 Changes in organizational structure

According to Stefan Måhl, except for some minor changes in the way of working, there have not been any major changes in the organizational structure since the company started to source from low-cost countries. However one change is that a few people with special technical skills have been employed as strategic purchasers to contribute with their expertise in different projects. This group of people will, together with Stefan Måhl, be responsible for evaluating and initiating possibilities to move production to low-cost countries. When an evaluation is approved, Stefan Måhl arranges a group of people with different skills to carry out the project. Consequently, strategic planning of procurement is done centrally by Operations.

5.1.9 Challenges and risk of sourcing in LCCs

According to Stefan Måhl, one of their biggest challenges is to help the supplier in a low-cost country to build know-how about the production process and the product they have been assigned to make. There is always a learning curve to overcome before the supplier is in agreement with the demands of the buying company. The reason for this is not lack of competence but rather language and cultural differences that complicate communication between the two parties.

Another challenge is the geographic distance which makes it more difficult to solve problems. Stefan Måhl means that if something would go wrong with production in China, it would be both time consuming and costly to send an engineer all the way from Sweden to China to solve the problem.

Stefan Måhl also mentions that one of the risks that they sometimes face is not being sure if they will get a delivery from the supplier as promised. Often the customer that “screams/shouts” the loudest is the one that gets the delivery. The logistics risk is therefore high. There is also a challenge of balancing what products to send with air respectively with sea freight. *“At the moment*

we just fly to many of our products. This is often required when we are under time pressure and have customers waiting. Some times this due to bad planning...” says Stefan Mähl. In order to solve some of this logistical problem Powerwave has put up hubs of small warehouses closer to their markets.

5.1.10 Benefits of sourcing in LCCs

It is above all the low labor cost that attracts Powerwave to source from low-cost countries. The company does not only gain lower costs through lower direct labor cost, but also indirectly through lower material costs. Most material bought have been processed using inexpensive manpower which makes the final price of material cheaper than if it would be purchased in a high-cost country. Therefore the company draws benefit from the low labor costs in several ways. Powerwave has also gotten access to other benefits like competence and creative solutions from their low-cost suppliers.

5.1.11 Future plans

Today Powerwave has 470 strategic suppliers; however the goal is to reduce the number of suppliers to 75. The company has done an assessment of all of its suppliers and decided which ones they will continue working with. Of these 75 suppliers, the company wants to have as many of them as possible in low-cost countries. The company is already planning to increase its sourcing from low-cost countries to 90% the coming years. To begin with the company will try to source all labor intensive products from LCCs.

Powerwave will maintain a local supplier base of 25 suppliers. These local suppliers shall be flexible suppliers who can deliver products fast in case something would go wrong i.e. a late delivery or a defective shipment. The suppliers will also be assigned to develop small series of special products. These suppliers are not included in those 75, but they count as local suppliers.

5.2 Ericsson

5.2.1 General about Ericsson

Ericsson is one of the biggest suppliers of mobile systems and supports standards for wireless communication. The company supplies operators and service providers around the world with end-to-end solutions, for all existing systems, in mobile and broadband Internet. The company also sells handsets to operators and retailers through Sony Ericsson (About Ericsson).

5.2.2 Purchasing at Ericsson

The organization scheme is illustrated below to give the reader a better understanding of Ericsson organization. The purchasing and sourcing activities of Ericsson go under a group function called Operational Excellence, OE. All group functions answer to the CEO. Within OE there are several different business areas; Sourcing, Business Unit Common Sourcing, Indirect Material and Sourcing, Global Sourcing and Operational Development.

Sourcing - Sourcing is responsible for strategy, relationship management and contract management. Sourcing is also responsible for activities regarding third party products like risk management etc.

Business Unit Common Sourcing (BUCS) - BUCS is responsible for sourcing direct material (mostly components) for the business units and it also coordinates purchasing activities so that there is unanimity between the different business units.

Market Units - Market units work with installations and set ups of senders in different geographic areas. The units have their own purchasing and they buy products from the rest of the organization as well.

Global Sourcing - The Global Sourcing unit's function is to coordinate some of the purchases of the market units.

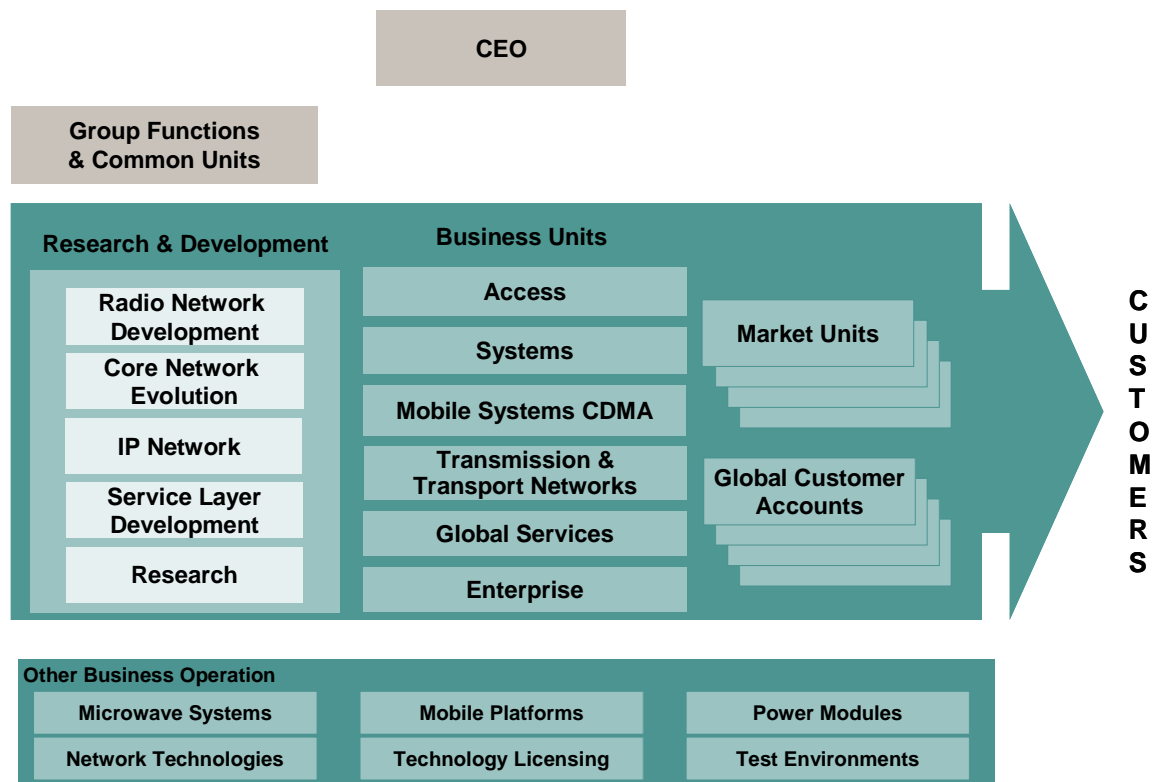


Figure 17. illustrates the organization of Ericsson.

5.2.3 Business activities in low-cost countries

Ericsson has been purchasing material from low-cost countries during a longer period through its market units. However, the global sourcing activities did not begin seriously until 6-7 years ago and during these past years Ericsson has increased its sourcing activities in low-cost countries. Today Ericsson has purchasing activities in many part of the world like India, China, Eastern-Europe and the Baltic countries. In this study I have chosen to concentrate and investigate the company's sourcing activities in China.

Currently Ericsson has several different activities in China. The company has placed some of its research and development activities as well as some production in China. Apart from external suppliers, Ericsson also has a lot of joint-ventures together with Chinese companies because there was a legislation in China earlier that demanded that foreign companies created joint-ventures to be able to do business and produce in the country.

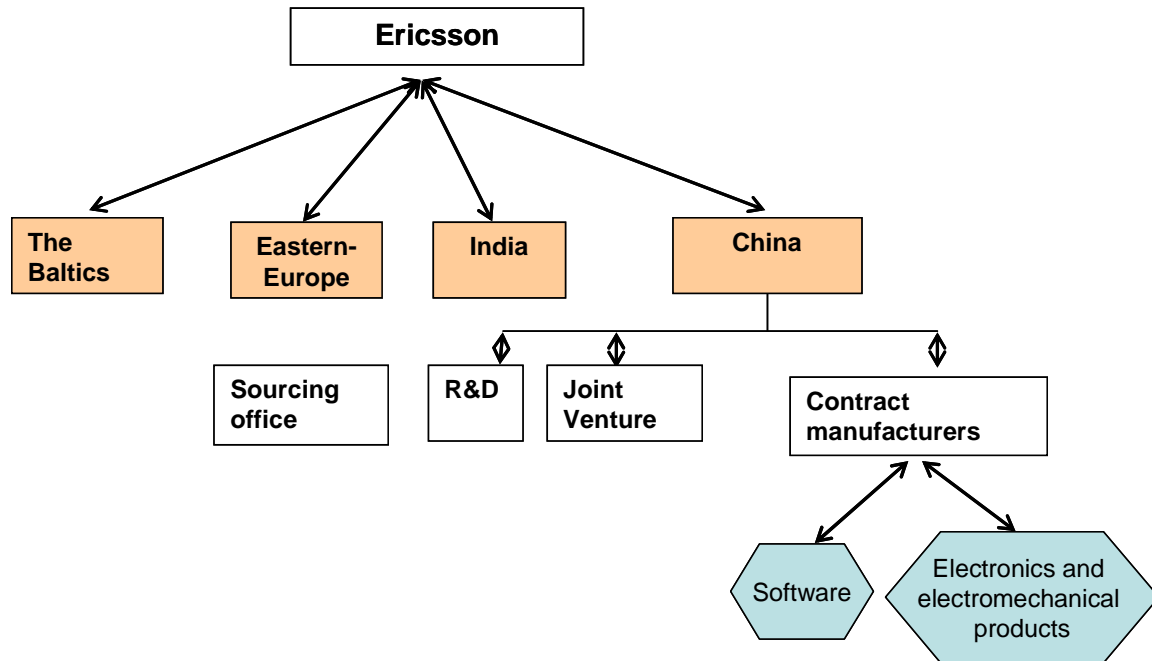


Figure 18. illustrates Ericsson's activities in LCCs. Also Ericsson has a wide variety of business set-up in LCCs; sourcing offices, joint-ventures and contract manufacturers.

5.2.4 Reason behind sourcing in low-cost countries

According to Lennart Nilsson, VP sourcing Strategies Group Function Operational Excellence Ericsson AB, Ericsson's customers have become global, which means that Ericsson's market prices have become almost the same all over the world. This price transparency over the borders has set the prices of their products on the lowest level, which in turn has led to bigger pressure on Ericsson from the market to deliver products to lower prices. This is one of the main factors that have triggered the company to source in low-cost countries.

The company's motive for sourcing in low cost countries has been to take advantage of the global supplier base, to become more competitive on the global market through cost-efficiency and also to draw benefits from the knowledge available on the market. In China, Ericsson was looking for both cost advantages and also for technical competence because they needed to develop new products. The company has been successful in both of these.

According to Lennart Nilsson, it is a bit difficult to state exactly how much is bought in low-cost countries since some materials are bought indirectly from low-cost countries through the company's contract manufacturers and first tier suppliers. However, there is no doubt that low-cost sourcing has had significant consequences for the organization.

Lennart Nilsson points out that the company's low-cost sourcing activities have not only been a reactive strategy towards increasing competition, but Ericsson also considers it to be a competitive advantage and tries to cooperate and develop its supplier relationships. Furthermore it is costly to invest in foreign markets and therefore a reactive approach to sourcing in low-cost countries is too short-term and that is not profitable. According to him, companies have to think in a long term perspective and consider low-cost sourcing as a more proactive strategy.

Lennart Nilsson explains that a company can work with its suppliers on two different levels:

- a. One is to work on an operational level where you simply give suppliers the product specifications and ask them to produce the product. However, at this stage the savings are not more than 5-10% savings since the suppliers must adjust their production and equipment to your demands.
- b. The second alternative is to collaborate with suppliers on a more strategic level and include the suppliers in the product development process already from the beginning. A collaboration this early in a product's life-cycle means that the company is more flexible and it can give the suppliers the chance to benefit from their cost advantages and their existing resources. Together, both companies can develop a product where the supplier can produce part of the product at a much lower cost. Therefore the savings from products where there is cooperation on a strategic level are often much higher. This strategy can, according to Lennart Ericsson, give the company up to 30-50% savings.

This also explains why Ericsson has committed to its sourcing initiatives in LCCs and works close to its suppliers. According to Lennart Nilsson *"it is important to cooperate with suppliers, and let them suggest what they can offer so we together can develop a product that is the most cost effective alternative."*

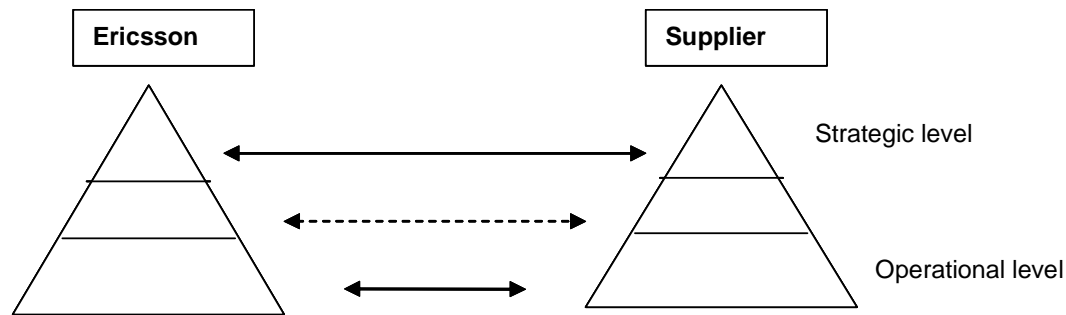


Figure 19. Supplier relations can be on different levels and depending on which level it is there are different demands on that relationship. On a strategic level, activities are more complex and therefore, there is a need for closer cooperation between the company and the suppliers. On an operational level where you have a product specification and the production of the products/components are labor intensive, you can more easily put those activities and the production of those components on the supplier.

Except for cost savings, Lennart Nilsson also mentions some other important impacts of sourcing in low-cost countries. By sourcing from low-cost countries you are able to get good margins, be able to handle the competition from companies in low-cost countries much better, since you will be competing with their own competitive advantage i.e. low-labor costs, and get access to not only a supplier market but also a market for sales.

5.2.5 Type of products sourced from low-cost countries

Ericsson mostly buys components that are a part of a complete product from low-cost countries. According to Lennart Nilsson it is easiest to source mechanical and electromechanical products, however the company buys advanced components as well, like microelectronic products. This type of sourcing is usually done in cooperation with suppliers in Europe, who also have business in China. The following products are sourced in low-cost countries:

Components - Electromechanical components (cabinets and cables); electronics and microelectronic components.

Manufacturing services - EMS (electronic manufacturing services) done by contract manufacturers like Flextronics.

R&D - Ericsson also sources parts of its research and development activities in low-cost countries.

5.2.6 Type of contractual business form in low-cost countries

Ericsson has different types of contractual business form for its activities in China.

Wholly-owned companies – The entity also has wholly-owned companies. These companies have activities like R&D, Business Consulting and Technology Services (Hansson, 2004).

Joint Ventures – Ericsson has approximately 10 joint ventures in China within different fields. The company was initially obliged to collaborate with a Chinese company in order to be able to do business in China. Nowadays this regulation is removed.

Contract manufacturers – Ericsson sources components from suppliers and has contract manufacturers.

5.2.7 Changes in organizational structure

Generally it could be said that purchasing at Ericsson has gone from once being centralized to becoming more decentralized. The company has established three sourcing offices in low-cost countries. These offices are given authority to take advantage of the local supplier market but they also report to Sweden. The sourcing offices also work to overcome cultural and language barriers in low-cost countries. The sourcing office in China has three main functions:

1. To support the R&D activities in China.
2. Develop the local sourcing and purchasing activities in China for Ericsson activities in the country.
3. Develop the local sourcing and purchasing activities in China for Ericsson activities outside China.

5.2.8 Challenges of sourcing in low-cost countries

According to Lennart Nilsson it is the language and cultural differences that are the greatest challenges when doing business in low-cost countries. It is difficult to know how to handle different questions in different countries. It is also important to be present in that specific country in order to get a better understanding of the business climate and how things work there.

Another challenge is to come in contact with a supplier base and understand what capabilities they have. Information regarding the owners of companies and financial figures are usually very difficult to get hold of since many companies are not listed on the stock market. If the company would miscalculate the capabilities of a supplier and it becomes apparent that they are not able to produce or deliver a product, then it will be very costly for the buying company. One way to

overcome these risks is to open sourcing office in low-cost countries. Though it is quite costly to open a sourcing office abroad, the benefits are greater in some cases. As Lennart Nilsson expressed:

“Like when sitting in Sweden you may think that there are no qualified and competent people to employ in China. But if you are there you will find that there are a lot of competent people you can employ.”

There is also a learning process before the supplier understands what to do. Lennart Nilsson gives an example of incidents when the supplier manufactures a product for the first time with a lot of errors. After going through all of the mistakes the suppliers were given another chance and the second time they had done everything right. In this case Ericsson had not miscalculated the suppliers' skills rather it is very important to specify and give clear instructions to suppliers. As Lennart Nilsson expresses, *“The learning curve is like an exponential curve”*, the time and cost for the learning process must be taken under consideration when planning to source from low-cost countries.

5.2.9 Future plans

Ericsson's future plans will be to keep focusing on their global supplier markets and see how each supplier market develops, both when it comes to the type of products they can offer as well as the price and quality available. According to Lennart Nilsson, it is important to have a global view of the supplier market and find the best possible suppliers and offerings on the market.

5.3 Electrolux

5.3.1 General about Electrolux

Electrolux is one of the world's largest producers of appliances and equipment for kitchens, cleaning and outdoor use. The company is present in over 100 countries, and the biggest markets for the company are America and Europe. The Electrolux group has an annual turnover of 124 Billion SEK (About Electrolux). Total spending on purchasing for the Electrolux group amounts to 70 Billion SEK, meaning that purchasing constitutes more than fifty percent of the company's turnover. The group's total amount of purchases in low-cost countries is about 25% and according to Peter Silfwerbrand, Senior VP Operations Electrolux Home Products International, the company strives to increase its sourcing activities.

Electrolux has divided its business activities to America, including North and South America, and Europe (including Europe and Asia and Australia). Europe is in turn divided in Europe and International. Electrolux is a big organization; therefore, in order to give a more detailed description of the company's global sourcing activities, this study will focus on the operations of Electrolux International for white goods.

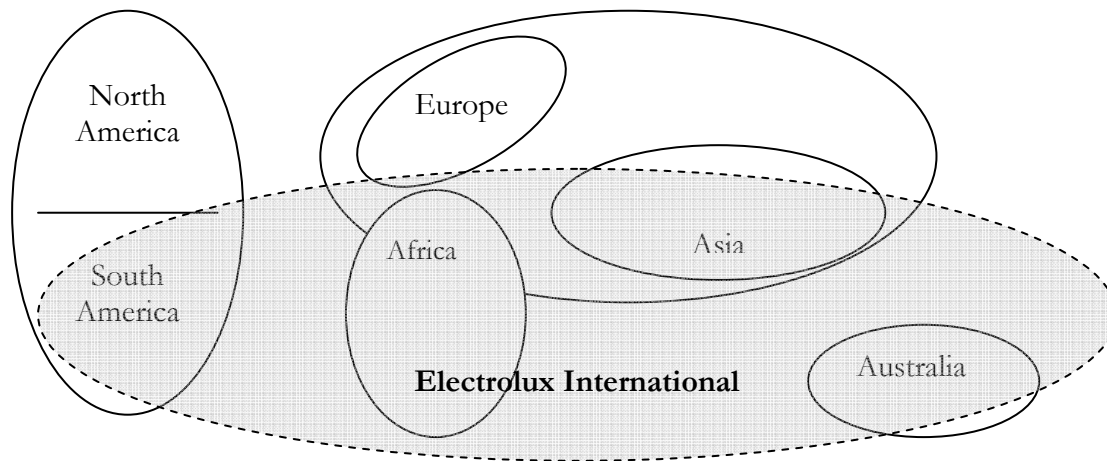


Figure 20. illustrates the markets that are covered by Electrolux International. This division spans over several continents; South America, Africa, Asia and Australia.

The biggest markets for Electrolux International are Australia, Brazil, China, India and countries in South-East Asia. The division also has sister companies in Argentina and in South Africa. Electrolux International has everything from purchasing, production and sales in these countries.

5.3.2 Purchasing at Electrolux

The purchasing organization of the Electrolux group consist of a Purchasing Manager and under him there are Global Commodity Managers (GCM) who are responsible for global coordination of one commodity, for example GCM for steel is responsible for supplying steel to the whole group, another buys plastics and chemicals for the whole group etc. The purpose is to use the group's size and power to get better deals.

Under these GCMs, there are Regional Commodity Managers (RCM) who work on the local markets. Each RCM has a purchasing manager who is responsible for finding new suppliers,

within the different commodities, for both the local businesses and for the rest of the organization. The Regional purchasing manager reports both to the RCM and to the GCM. See Figure 19:

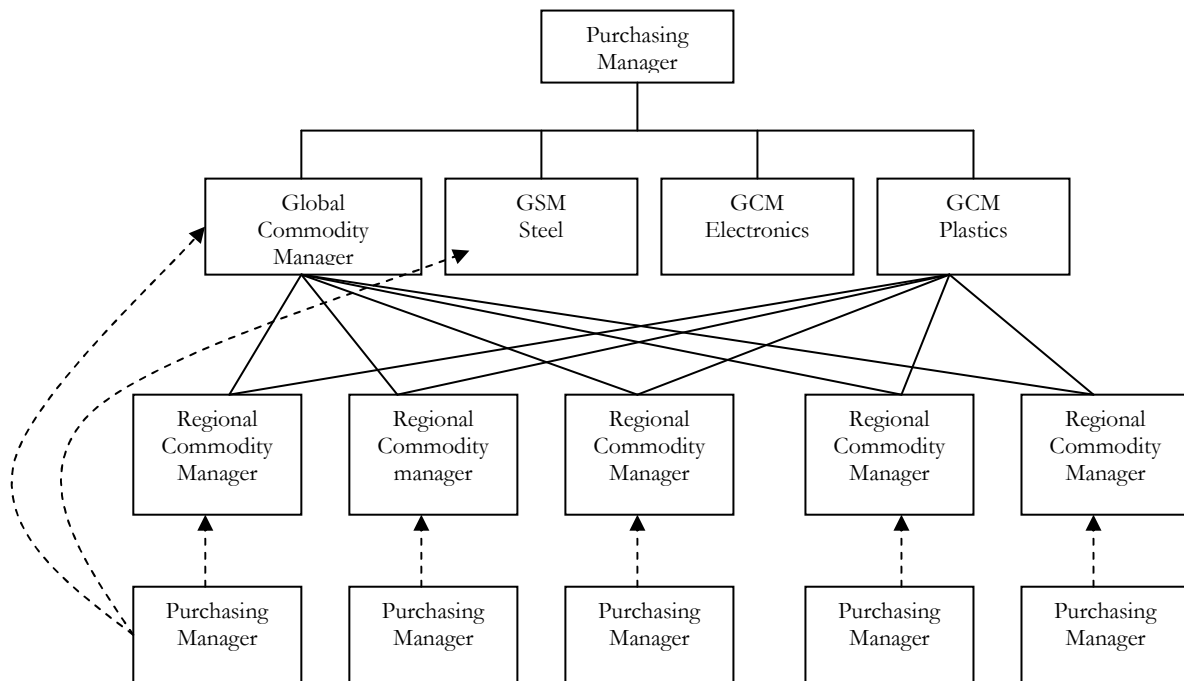


Figure 21. shows the purchasing organization at Electrolux group.

5.3.3 Business activities in low-cost countries

It was not until the end of the 1990s that Electrolux started looking closer into low-cost countries as a strategic source for supply and production, for further distribution to high-cost countries. During this short period of time Electrolux has carried out several new initiatives. One initiative within Electrolux International was to move half of the manufacturing in Australia to Thailand. This initiative generated around 20% cost savings on the activities the company moved. When it comes to production of refrigerators there are discussions to move a factory from Australia to Thailand. The production of microwave ovens has been outsourced to China (Peter Silfwerbrand).

Another initiative was taken in America where Electrolux moved a factory from North America to Mexico. The plant in Mexico now produces for both the American market and also for parts of the Mexican market. Electrolux has also outsourced parts of the production of vacuum

cleaners to external manufacturers in China. All other production of vacuum cleaners has been moved to Hungary and Mexico (Peter Silfwerbrand).

If we look at the sourcing activities within Electrolux International, the amount of the division's purchases and production in low-cost countries seems high. The total purchasing is 5.5 billion SEK and more than 60% of these are purchased from so called low-cost countries. However, one must observe that not all of Electrolux International's activities in low-cost countries are part of the company's "low-cost strategy". The organization does not normally manufacture products in China to supply the European market, but to be distributed in the domestic- and neighbor markets. Electrolux's primary goal is to have production in countries that are near their sales markets because of otherwise high transportation cost of their heavy and bulky products. The production and purchases in low-cost countries are to supply the domestic markets rather than for export to high-cost countries. For example, 85% of the production in Brazil is sold on the domestic market. The rest is exported to other countries in South America. However, Electrolux does look for the geographically nearest low-cost country for a potential place to put production (Peter Silfwerbrand).

5.3.4 Reason behind sourcing in low-cost countries

According to Peter Silfwerbrand, the margins are small and there are many, both global and local players, to compete with. One possible way to beat the competition and increase margins is by moving production to low-cost countries or source component and products from low-cost countries. Like for many other companies it is the cost savings that attract Electrolux to source in LCCs. Labor costs are especially interesting, as the company not only obtains lower direct labor cost, but also benefits indirectly from the inexpensive labor through cheaper components.

5.3.5 Type of products sourced from low-cost countries

Products manufactured in countries within Electrolux International are white goods like refrigerators, washing machines, dishwashers and cook tops. However, as mentioned before, these products are not produced there as a low cost strategy.

According to Peter Silfwerbrand, if the company would source in low-cost countries for the factories in Europe, it would be foremost labor intensive products and components. Today the company sources a lot of other component and subassembly products within electronics, engine components, plastic etc. Control boards are also good to source in low-cost countries like China

since they are not costly to develop there. The company also sources tourniquets from low-cost countries.

5.3.6 How to find and evaluate suppliers in LCC?

Electrolux has regional offices which function as sourcing offices/purchasing offices (PO). The POs are assigned to search for new opportunities and potential suppliers, map who the competitors are buying from, visit fairs etc. Electrolux International has several sourcing offices in China, Thailand, Vietnam and Korea. Their job is to search both their domestic markets and neighbor countries where the company is not present. Apart from sourcing offices, Electrolux also has connections who give the company tips and sometimes the company also uses agents. According to Peter Silfwerbrand in some cases it is customary to use agents, for example it is common that you buy steel through agents in China.

When it comes to moving production to low-cost countries, Electrolux has a list of criteria they look at before choosing country. Some examples are:

- **Risks** - It is important to consider financial, political risks etc.
- **Government funding** - Do foreign investors get any help to establish business in that country?
- **Sales market** - Also important for Electrolux is that the country or geographic area has a potential home market for sales. The company must consider cost of shipping and transportation and take all of that into consideration before choosing the country to source from.
- **Supplier market** – Another essential point is the existence of a supply chain and making sure that the market not only has good local first tier supplier but also second and third tier suppliers.
- **Labor** - It is also important to look if the right labor is available in that country. Do they have the right education level and competence we need? (Peter Silfwerbrand)

5.3.7 A different way of sourcing and slightly less direct sourcing

Compared to some other companies, Electrolux has started to source from LCCs in a different way. Also the company does not seem to source as much from LCCs as some of the other companies in this study. Peter Silfwerbrand is asked what the reason is behind this:

“There are several reasons behind this. One reason is that the transportation costs are high for our products and this eats the savings we make by using low-labor costs in LCC.

The second reason is that we have had a barrier in the organization. We have had a Europe-oriented organization that has more looked at solving this for Europe by putting some of the production in Eastern-European countries, instead of looking at what the organization can do in total. Within International we have acquired a lot of companies who have had a local market and focus has been to help them succeed themselves on that market first and not turn their business around to be focused on supplying Europe.”

According to Peter Silfwerbrand, a third reason is that Electrolux has very different versions of the same product. Many products like ovens look different depending on which market they are sold. The differences are not only between continents, but even between European countries like England and Germany, where there are great differences in product specifications. In some markets like in India they can sell standardized, one-type products. However, as soon as they want to sell products that are a bit more expensive the company has to take in account all the specifications and the demands from customers. *“We cannot only sell less expensive mass-produced products, but must sell specialized products to get good margins. It is also important with consumer insight, to know what the customers want”.*

Since there is also a lot of tradition connected to each product in different countries, it takes a lot of R&D resources to develop products for each market. The manufacturing in each country is shaped for making products for the local market, so it is very expensive to change the manufacturing in a LCC to suite the standard in Europe. Such initiative would mean that Electrolux has to reinvest in equipment.

Only recently the company has found that a type of products (washing machines) made in Italy can be sold in South-East Asia so now they are opening a factory in Thailand that will produce these washing machines. The purpose is to export these products back to Italy and also supply the local markets in South-East Asia. *“The advantages of producing in Thailand are that we don’t have to pay duty; we can reduce costs and we’ll get access to a new market”*, says Peter Silfwerbrand.

Peter Silfwerbrand continues: *“Traditionally we have entered these countries to get access to the market for sales and although we are bit restricted because of our products we still move factories. However closing factories has a lot of costs and opening new ones means a lot of investments for us”*. Therefore, the cost base is too big and costly today and if the company decides to move production to Asia, China, Thailand,

Mexico or Eastern-Europe it must make sure that it can get economies of scale and really benefit from the production move.

Peter Silfwerbrand says that before, Electrolux used to acquire many companies and therefore had many production sites everywhere. However, after all the acquisitions they tried to find a way to pull together these sites into a couple bigger sites. This was not done in purpose to automate the production, (which is not needed since there is a lot low-cost labor), instead it was done in order to coordinate the logistics and cut costs.

“To summarize, if we go back to the Supply Chain, the biggest difference between Electrolux compared to other companies is that Electrolux always has been quite local in each country. Each continent has had its own production and sales. But this picture is changing although it is not changing so fast.”, says Peter Silfwerbrand.

5.3.8 Changes in organizational structure

According to Peter Silfwerbrand, one change resulting from the firm’s new low-cost sourcing strategy has been the creation of purchasing organizations (PO)/sourcing offices like the Asia Pacific office in Shanghai. One of the reasons why Electrolux has chosen to set up purchasing offices in these countries instead of using agents is because the company was already present in some of them, like in China. Another reason is that the company saw the importance of low-cost sourcing and felt it was important to have people present there.

In the beginning when Electrolux set up POs, the company sent a lot of people from Electrolux to these countries. Gradually the POs employed more local people to run the offices and many expatriates were sent back. According to Peter Silfwerbrand this process happened a bit too fast and experienced Electrolux people left the POs a bit too early. According to him, it is important that experienced Electrolux people are present so that they can communicate the goal and culture of the company to the new employees. Furthermore, it is important not to employ too many new employees above each other in the beginning, since this also will complicate the process of spreading the culture of the company to the employees.

According to Peter Silfwerbrand, a good way to organize the company’s global sourcing activities is to have more centralized control of the big commodities combined with local presence in low-cost countries. PO will have to be responsible for finding local employees, suppliers and opportunities in those countries. However it is important that there is a close communication between the local and global divisions. In Electrolux’s case, this has worked well for some of the

commodities while the communication has been poorer between local and global staff for other commodities.

5.3.9 Challenges of sourcing in LCCs

According to Peter Silfwerbrand there are some challenges and difficulties that most companies face at one time when sourcing from foreign countries.

One disadvantage is that supply chain becomes a risk factor since deliveries and transportations take longer time. Since Electrolux products are big and heavy they are rarely ever transported by airfreight. Most goods are sent by ship which usually takes 6 weeks meaning that 12-15% of an annual production is on the boat. This has several indications; one is a financial cost since you will have fixed assets on the sea, secondly there is a risk that the products that arrive might be defect. Thirdly it is difficult for the company to know if it can supply the market with more products incase of increased demand due to a successful campaign. The indications of these problems have been that Electrolux has set up more warehouses and stores more inventory to secure the flow of products to the market together with more accurate forecasting.

Another disadvantage is the distance between R&D and production. Since Electrolux' biggest markets are in the USA and Europe, it is natural to put activities concerning consumer insight and product development there. When the production is in low-cost countries, meaning far from where the product development and the consumer market is, it becomes more difficult to develop products. The distance means that you can no longer meet your suppliers on a short term basis and discuss and find new ideas or errors. Instead it is very important that you from the beginning make careful and detailed specifications on the product for suppliers in low-cost countries.

Another difficulty concerns code of conduct and making sure that suppliers follow rules and regulations of Electrolux. Currently Electrolux has a program with external specialists who have begun working in China making audits. The company's own purchasing organizations also takes care of some activities and sends out quality people to evaluate suppliers performance and to make sure that suppliers do not have child labor etc.

5.3.10 Future plans

In the future Electrolux will continue its low-cost sourcing efforts to lower costs. The company will keep rebuilding its manufacturing footprint and continue sourcing for components. According to Peter Silfwerbrand, it is important that Electrolux keeps making products that will fulfill the needs of the consumers at a reasonable good price.

5.4 IKEA

5.4.1 General about the company

IKEA sells home furnishing products and their concept is to offer furniture “... *at prices so low that as many people as possible will be able to afford them*” (Franchisor IKEA). IKEA has an annual turnover of 11.3 billion Euros and has 186 stores in 31 countries (Kulldroff, 2004).

5.4.2 Purchasing at IKEA

Today IKEA has 43 trading offices in 33 countries working with 1600 suppliers in 55 countries (Kulldroff, 2004). IKEA has purchasing all over the world and of the 55 countries approximately half of them are so called low-cost countries (Kent-Åke Ahlgren). The top five purchasing countries are China, Poland, Sweden, Italy and Germany. China and Poland stand for 18 % respectively 12 % of the total purchasing of IKEA. This means that 30% of IKEA's purchase comes from these countries.

IKEA's purchasing is material oriented to fit the company's product range and it is also divided in to geographic areas (trading areas, TAs) in order to cover all areas it is active in. There are totally 17 TAs and each trading area can cover one or several countries depending on how big the countries are. For example, South-East Asia is one TA but China is divided into three trading areas because of its size. You have North China, Central China and South China. In each TA there are material areas called MA. Each MA is responsible for taking care of its supplier relationship and also the supply of materials from that region. Some materials exist in several of these seventeen TAs like plastic, while other materials like hand weaved carpets are centered in South Asia like India and Bangladesh. Normally the company tries to concentrate each material to one MA. The suppliers within the different MAs and TAs compete with each other globally and the TA that has the best and most competitive suppliers becomes responsible for sourcing and supplying that material to the rest of the IKEA organization. There are of course exceptions

in cases where certain materials are sourced from two places in the world because of freight costs or where capacity need is big. Otherwise IKEA has found that it can be better to do purchasing by “concentrating and consolidating” (Christina Niemela).

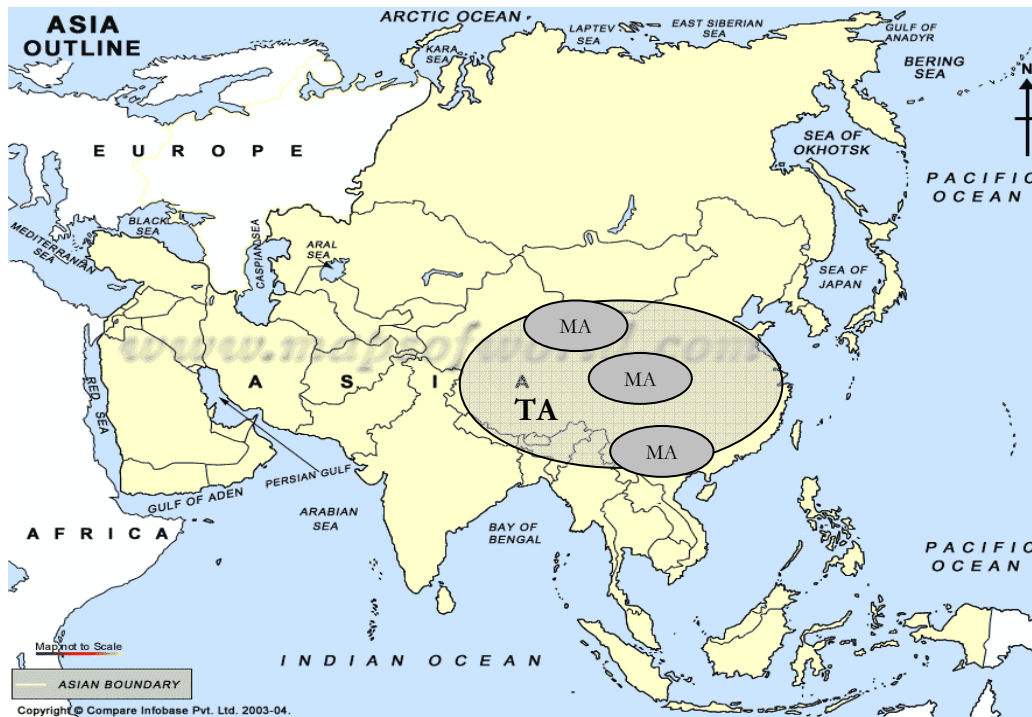


Figure 22. illustrates the way that IKEA has divides its LCCs activities in China, through a trading area and several material areas in China.

5.4.3 Reasons behind sourcing in low-cost countries

IKEA started sourcing from Poland in 1960s. This was the first time IKEA purchased from a foreign country. The reason behind this was that IKEA had been boycotted by Swedish furniture manufacturers who refused to sell furniture to lower prices. Also since the company’s capacity was not enough IKEA set out to find furniture manufacturers in Poland.

In 1980s IKEA started establishing offices in other parts of the world. The main reason behind the company’s expansion in low-cost countries is to maintain competitiveness and cut costs in order to offer their customers low prices. Today LCC sourcing seems to be a necessity for the company. According to Christina Niemela, “Our concept is to be the price leader on the market...If we are going to stay competitive towards our retail competitors we have to keep finding better materials, cheaper labor etc . Among our competitors you find companies like Wal-Mart, Kmart and similar companies that have part of our assortment. Also many companies are sourcing in low-cost countries, so it is not something new and in order to be better than the rest you just have to try harder.”

IKEA feels it is important to have IKEA people present and close the suppliers to have control over quality, deliveries and more recently also control over environmental issues. Another reason is to help improve price development and also the efficiency at the manufacturing sites and be able to see new product possibilities. *“This is especially important if you want to develop and change your product assortment, then you must have IKEA employees out on the different markets.”* (Christina Niemela)

5.4.4 Purchasing strategy

IKEA has a slightly different purchasing strategy than many other companies. According to Christina Niemela there are two main ways of doing purchasing as viewed by IKEA, either through competition or cooperation. In 1998 IKEA had 2400 suppliers, today the company has only 1500 suppliers. IKEA has reduced the number of suppliers and gone from using competition to start cooperating with its suppliers. *“Because you come to a point where you have already gotten the lowest price you can get from the suppliers and of course the suppliers must also have a profit, a profit that they can reinvest to become even more competitive in the future. Then you reach a point when you try to cooperate with the suppliers instead and work more long-term with them.”* (Christina Niemela)

According to Christina Niemela, IKEA has constantly been moving between these two strategies. After working closely with a supplier for a long time the relationship might not give as much as before and you might miss other development and trends that are happening on the market. Then it is time to once again put the supplier under competition and maybe change supplier if the competitiveness has shifted.

As IKEA has a lot of sourcing activities in many countries, this study will look deeper into and describe IKEA's sourcing activities in Asia with focus on China.

5.4.5 Type of products sourced from low-cost countries

IKEA buys finished products and raw materials (cotton, plastic, wood and metal) from low-cost countries. The company sources all types of products, both high-tech products, standardized, high-labor products and recently they have also started with R&D because there is software and technique to buy in low-cost countries. IKEA has R&D suppliers in most low cost countries; some examples are China and Taiwan. However, the company prioritizes labor intensive products to dramatically lower labor costs. It is also important that the products sourced are easy to transport, i.e. have good flat lines.

5.4.6 Type of contractual business form in low-cost countries

IKEA is more of a sales organization rather than a manufacturer and the company has outsourced almost all of its production, even though some of the products are sensitive to becoming copied. The company owns a few manufacturing units of wood and flat line products in mainly former Eastern European countries and only a few cases of joint-venture in mainly Sweden.

According to Christina Niemela, a disadvantage of outsourcing is that the organization does not have so much control over its suppliers. However, the reason why IKEA still can work and have significant power over its suppliers is that it purchases not only big volumes but it makes continuously big purchasing. So the suppliers have an approximate knowledge of their monthly income and also have a better cash flow control. According to her the lack of sound cash flow is one of the reasons why many suppliers go bankrupt. *“Although we don’t own our suppliers we can help them financially if we believe it to be of advantage for us too.”* Christina Niemela.

Although low-labor costs are one of the important benefits sought in LCCs, the success of IKEA’s low-cost country sourcing seems to partly lie in its relationship with its suppliers. According to IKEA, the company does share many of its suppliers with its competitors such as Wal-Mart and Kmart, but what could be IKEA’s advantage is that it works long-term and with long-term product range. Many of IKEA’s competitors do not have the same long-term product range but rather make “one-time-buy”, while IKEA works together with suppliers to develop new products and concepts. The company therefore feels it can offer suppliers more security.

Furthermore, according to Christina Niemela, what is most cost-efficient for the company is to help develop their suppliers. *“Because that gives us better quality, better products, better price and deliveries.”* By having good supplier relationships and by helping them, IKEA can also be sure that its social and environmental demands are fulfilled. According to Christina Niemela, all of these are easier to achieve with close supplier relationship and therefore supplier relation is very important for IKEA. As a consequence of this, IKEA has also started to try to have common business plan with its suppliers, *“... a common plan for coming years, where we try to decide how much and what IKEA and the suppliers have to do in order to reach the key performance indicators”.*

IKEA has organized its sourcing through trading offices in different countries. According to Christina Niemela it is better to open a sourcing office. Some companies only want to make a

couple of purchases here and there, but since IKEA's concept and range is stable they must have much more control over what they buy so that they can guarantee continuous material flow, good constant quality, right price, compliance to social and environmental laws and IKEA requirements. *"Therefore it is necessary to have a sourcing office and be present in that country."* Christina Niemela.

5.4.7 Ways to find the right low-cost country and the right suppliers

According to Christina Niemela, there are some macro factors to consider before entering a low-cost country. You have to consider what wages and raw materials are available there and what is the trade balance in the country to see where the country is moving. Material analysis is also very important to do because of the scarcity of materials

Before establishing business in a new country, IKEA makes an assessment of that country on a more strategic level from the neighbor country or in Sweden. IKEA also sends people to these countries to visit fairs, exhibits, potential suppliers and conduct a market analysis. Often these people are purchasers with experience from sourcing in low-cost countries. If the purchasing people find suppliers that seem to have potential then they first make test buys. Finally, if the suppliers and the materials found are interesting the company sets up an office in that area and begins to search for suppliers.

5.4.8 Changes in the organizational structure

As IKEA has been doing global sourcing over a period of 20-years, the company's internal structure has changed. According to Kent-Åke Ahlgren, the company had central purchasing from Älmhult until the mid-80s. After that IKEA has gone from being very centralized to becoming decentralized. The company's global sourcing strategy led to the creation of a bigger and more complex organization and it changed the role of purchasing. Since the company had to react quickly to changes, more responsibility was given to the purchasing teams out on the field. IKEA people were placed in different parts of the world and were given autonomy to manage and maximize purchasing in their own area. However, the more countries that were included in the company's procurement activities the more it became evident that IKEA was sub-optimizing since it was sourcing the same products from several countries. So the development then made a turn and went from decentralized to become more coordinated. The development went towards putting together the countries into bigger trading areas. Each TA is still in the driving seat of

their business but they do follow decided business maps and plans. As a whole, the IKEA organization has become more decentralized and this has been necessary to be able to quickly respond to new trends and opportunities in foreign markets.

Further changes seen over the last 5-10 years is that IKEA now has more local support functions like quality, environment and distribution and there are more people working at each sourcing office than there was before. So the support functions have become important and the employees are closer to suppliers than they were before. According to Christina Niemela the differences of working with suppliers in a low-cost country like China, than in for example Sweden, is not that big except that in China they must help the suppliers more.

Another change has been to create conformity so that the company has the same assessment and evaluation criteria all over the world. According to Christina Niemela, in order to have a uniform system one must specify demands and have clear and detailed documentation on everything. This process applies for quality, social and environmental issues, delivery and price. The reason for this is that the company must make sure to make a fair judgment of the suppliers and assure compliance so IKEA offers its customers the same quality, regardless of where the products have been purchased.

In terms of employment the company hires people with higher education and in general with higher qualifications today than previously. IKEA also put emphasis on people being mobile (especially within managerial positions) since the company operates on international ground. International experience and schooling is an advantage for both local and global employees. The purchasing organization demands more from the employees who must be able to see advantages and possibilities of other counties and markets.

According to Christina Niemela, when you move in to a new country, most local people do not know what IKEA is, what is important for the company and also the IKEA culture is quite special. Therefore when IKEA moves in to a new country the company usually sends experience IKEA people called TE (transfer employee) to these countries. These employees can be of other nationalities than Swedish as long as they have the relevant experience and are good IKEA ambassadors. The TE's then work with a team of local employees who knows and understand the local conditions. Long-term, IKEA's goal is to have as many local employees as possible, however it is necessary to have TE's in place to teach and pass on the culture of IKEA and way of business to the new local employees.

5.4.9 Challenges of sourcing in low-cost countries

When talking to both Christina Niemela and Kent-Åke Ahlgren it has become evident that there are several challenges and difficulties in sourcing from LCC.

Cultural differences and language barriers - The main challenges mentioned are cultural differences and language barriers. First of all, there are cultural differences between not only the European and the Asian cultures but also the IKEA culture which in itself is special. Furthermore it is difficult to find people who speak English or people who know the domestic language of the foreign company in the organization. Therefore it is not always easy to make yourself understood. *"We have discovered that it is very important that we translate as much of our documents as possible to the local language. Since not all suppliers know English well enough."* (Christina Niemela)

Different frame of reference - Another challenge which partly descends from cultural and geographical differences is the fact that people from different countries have different frame of reference. It is therefore difficult to convey what customer benefit is to the suppliers, meaning what is quality in our customers eyes? For example it is difficult making suppliers understand how the products should look like, what quality they should have and for what the product is going to be used for etc. One reason for this is that IKEA often does not have department stores in low-cost countries making it is difficult to show suppliers the concept behind the products they are assigned to manufacture.

Foreign suppliers – It is also a challenge is to find the right suppliers who have the capability and capacity to manufacture the products that the company wants. According to Christina Niemela, the company takes a risk when starting to work with suppliers it does not know and who might be inexperienced.

Environmental and social issues - A further challenge has been to make their suppliers to measure up to IKEA's social and environmental standards. Many suppliers follow IKEA's demands, but it is often because IKEA has told them to do so. However, IKEA wants suppliers to understand the reasons behind the demands. According to Christina Niemela, a lot have been achieved in this area but it is an ongoing work that has to be on the agenda at all times.

Other – An advantage of NOT moving business to LCCs is that IKEA has most of its designers and product developers in Sweden, so it is good to be near them. Also many of the company's

suppliers of R&D have more experience than the ones in low-cost countries and they might therefore also have more ideas and speed up product development time.

5.4.10 Benefits from low-cost countries

The benefits sought from low-cost countries have foremost been lower costs through access to low-cost labor. The company has also secured the constant flow of low-cost products and material by working closely with suppliers.

However, IKEA has not only gained benefits from the low labor and material costs in low-cost countries but also discovered new materials in unexpected combinations, which in turn has set of new trends on their sales markets. This has been important for the product development and to the company's product assortment as IKEA has been able to offer new kinds of products to customers.

According to Christina Niemela it is difficult to say how much IKEA has been able to save from moving purchasing to low-cost countries. According to her, *"in the beginning when we started with this, say when we moved production from e.g. France to China we might have saved 20 %. After this we have been able to save more by keep developing the suppliers and optimizing all parts of the business like, new technology, new materials, and working with the whole supply chain. Our focus today is that all activities from raw material procurement till end product are optimized. Therefore it is difficult to give an exact figure on how much we have actually been able to save since this is an ongoing work."*

Christina Niemela continues explaining that, in the whole one can say that in the beginning when a company moves its production to low-cost countries it achieves a heavy cost reduction and then this cost reduction will keep on IF improvements are constantly made and monitored. *"That is at least our experience."*

One reason for why it is possible to get good prices and keep on reducing costs through competition is that there is an abundance of good/skilled suppliers in for example China. So it is not true that there are no good suppliers available on the market. According to Christina Niemela, *"...on the contrary there are lots of skilled suppliers and they are good in doing business and hungry to get a deal with IKEA and other buyers"*. Since there are many companies competing for the same business, none of the suppliers sits still.

5.5 Summary Matrix

The below matrix gives a summary of the four case studies in chapter 5. Each vertical row presents information about on topic, for example: Companies' reason for LCC sourcing, Benefits sought and gained from LCCs, business activities in LCCs etc. In each column you find the answers for each company.

	Powerwave	Ericsson	Electrolux	IKEA
<i>1. Reasons behind sourcing in LCC</i>	Pressure from the competitors to lower their prices. Another reason was to be presence in China, a market where everything happens, to catch new trends and business opportunities.	Pressure from competition and the market to deliver products at lower prices. Low-cost sourcing is also seen as a competitive advantage.	Low-cost sourcing is necessary in order to be able to compete on the market and increase margins.	Low-cost sourcing has always been part of the companies strategy and goes well with the company's business concept.
<i>2. Benefits sought and gained LCC</i>	Low labor costs, low material costs (components).	Low-labor costs, access to the local market.	Low-labor costs, low material costs (components).	Low-labor costs, access to new trends and material.
<i>3. LCC they are active in</i>	Estonia, China, Singapore, Thailand, Malaysia,.	China, India, Eastern-Europe and the Baltic countries.	Many countries like; Thailand, China, Mexico, Brazil Vitenam, Korea.	Present in many low-cost countries.
<i>4. Type of activities in LCC / Type of contractual business form in LCC</i>	Production in LCC in their 100% owned factories in Estonia and China. Sourcing from suppliers (contract manufacturers and Black box manufacturers).	Sourcing office, wholly owned companies for R&D, Joint Ventures and contract manufacturers.	Electrolux has moved some of its production from HCC to LCC. It has PO (purchasing offices) and contract manufacturers.	Wholly owned companies of wood and flat line products. Long-term relationship with external suppliers.
<i>5. Type of products sourced in LCC</i>	High volume, low degree of complexity, high DL factor. Example are, parts and components to antennas, filters and amplifiers.	Electromechanical, electronic and microelectronic components. Electronic manufacturing services and R&D.	Electronics, engine components, plastics.	IKEA sources all kinds of materials and has everything from high-tech products, standardize labor intensive products to R&D.
<i>7. Transactional/ Relational approach to suppliers</i>	More towards relationship oriented approach to suppliers in LCC. They have two people in Asia who work close the suppliers and visit the factories. Also since the products are technically advanced it is important to be close the suppliers, incase of problems.	Relational approach to customers. By collaborating with suppliers in an early stage in a product's life-cycle enables the supplier to benefit from their cost advantages and generate lower costs. This strategy can lead to 30-50% savings.	Electrolux does not have so much low-cost activities, but most of their initiatives seem to be on a more transactional basis.	Relational approach to suppliers. IKEA works very closely with its suppliers to lower costs.
<i>8. Organization of activities in LCC</i>	Strategic low-cost sourcing function is centrally coordinated, with people employed to work locally, searching new opportunities in low-cost countries.	Sourcing offices in LCC that report to Sweden.	Global commodity managers that are in contact with purchasing offices in low-cost countries.	IKEA has become more decentralized and the Trading areas have quite big autonomy. This has been necessary in order to react to new trends more quickly.
<i>9. Challenges with sourcing in low-cost countries.</i>	Often difficult and time consuming to build up a know-how, often there is a language and cultural barrier to overcome. Geographic distance makes it difficult to solve problems that occur.	Often difficult and time consuming before suppliers understand what to do. Language and cultural differences are the greatest challenges. Also a challenge to find suppliers and understand what capabilities they have.	Transportation takes longer time which means more warehouses and inventory and that the company has to make better forecasting. Distance between R&D and production makes it difficult to develop products. Also a challenge to make suppliers follow rules and regulations regarding code of conduct.	Language and cultural barriers. Different frame of reference. A challenge to find the right suppliers the right suppliers. Also a challenge to make suppliers follow social and environmental standards and regulations.

There are great similarities in the companies' answers to questions 1, 2, 5, 7 and 9. All companies state low labor costs as one of the important benefits sought in LCCs. The companies source from a wide variety of LCCs, and have a variety of business set-up, such as wholly-owned factories, joint-ventures and external suppliers. These results will be analyzed in chapter 6, with focus on questions 4, 5 and 8.

6 ANALYSIS

In order to better understand the results from the empirical study, the four companies in the case study will first of all be evaluated according to the Worldwide Sourcing Strategy Sequence model by Monczka & Trent (1992). We ask our selves; *in which phase are the different companies and is their behavior somehow linked to the length of their global sourcing activities?* Since there are some links between the two first propositions, there will be a discussion chapter after their analysis. Chapter 6 will then continue with the analysis of the third proposition. This analysis will be concluded by looking at in which stage in the Purchasing Maturity Level (van Weele, 2002), the firms are.

6.1 Level of World Wide Sourcing

According to the Worlwide Sourcing Strategy Sequence model (Ibid.), the four companies in the empirical study would fall under the following phases:

Powerwave has only 2 people in South East Asia who work closely with the company's current suppliers and they are also dedicated to find other low-cost suppliers. The company has no purchasing offices but feels that it is more efficient to be out on the field working with suppliers. The company's reason behind sourcing in low-cost countries is of a reactive and it decided to do so when it felt the pressure from its customers. Although reactive, Powerwave's world wide sourcing strategy seems to have a relatively high priority and the company is aiming on sourcing 90% of its total purchases from low-cost countries. So it is estimated that the company is somewhere between Low to Medium level in Monczka & Trent's (1992) model of Worlwide Sourcing Strategy.

Electrolux has many people in low-cost countries working through the company's purchasing offices. The company's reason for purchasing in low-cost countries is reactive as it felt the pressure from competition. Electrolux has structured its purchasing organization to better match its global sourcing activities by having Global and Regional Commodity Managers. The company corresponds to Medium level of worldwide sourcing.

Ericsson has purchasing offices in low-cost countries and it cooperates with and develops its relationship with suppliers. The company has structured its purchasing organization to better fit its international sourcing activities through Global Sourcing Units. However, a lot of the company's global sourcing is also done locally through their Market Units. Ericsson's reason

behind low-cost sourcing was initially reactive which grew out of lower prices and global competition. However, the company considers low-cost sourcing as a proactive strategy for strengthening its position on the world market. Ericsson fulfills the criteria for Medium to High level of worldwide sourcing.

IKEA has come farther than the other companies and answers to many of the criteria of the highest level of Monczka & Trent's (1992) Worldwide Sourcing Strategy Sequence model. Global sourcing has high priority in the company and the purchasing organization of IKEA is adjusted to support its sourcing strategy, through Trading Offices (TA) and Material Areas (MA). IKEA works very closely with its suppliers, helping them to develop their business and manufacturing capacity. The company has also coordinated its global sourcing activities among several functions. It has moved support functions closer to the markets in order to better coordinate those activities with its purchasing. The Figure 23. below shows a rough estimation of which sequence the companies might be in their global sourcing strategy.

Worldwide Sourcing Strategy Sequence

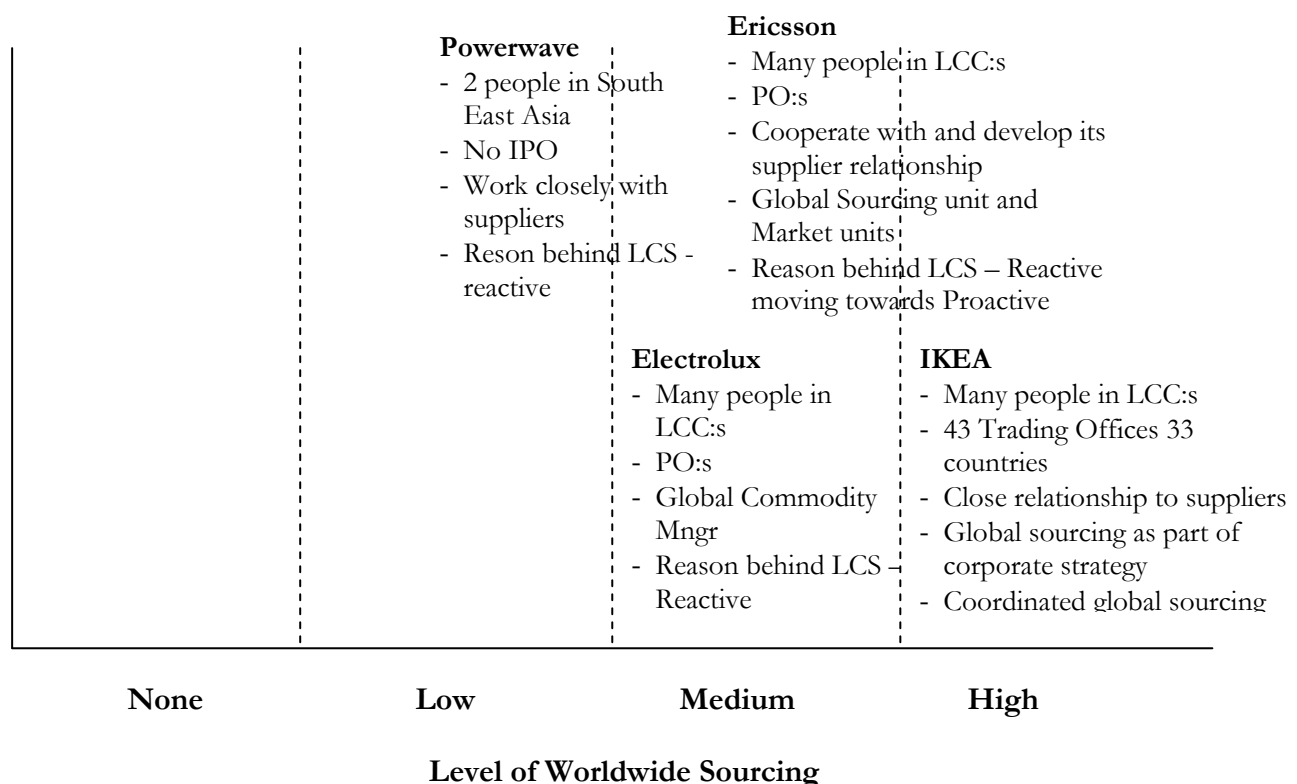


Figure 23. Illustrates a modified version of the Worldwide Sourcing Strategy Sequence modified from Monczka & Trent's (1992).

The level of the companies' worldwide sourcing is expected to affect our findings that belong to the two first propositions. It is expected that companies that have come further in their worldwide sourcing initiatives also source many different kind of products or products with higher complexity, since they have more market and global sourcing knowledge. These companies, Ericsson and IKEA, are also expected to have different types of contractual business forms in LCCs. As we already can see, they have higher market presence through several purchasing offices. It is interesting to see if their supplier relationships somehow differ from companies with lower level of worldwide sourcing

6.2 Type of products most suitable for sourcing in low-cost countries

There are many factors that affect companies' choice of products sourced in low-cost countries. However, a few things have been mentioned several times by the companies in the case study that seems to be crucial when they make their decision on which type of products to source in low-cost countries.

6.2.1 Labor intense and high-volume products

In regards to the first propositions, previous research suggests that low-cost products are often drivers of global purchasing (Birou & Fawcett, 1993; A. Salmi, 2006). In chapter 2.8, low labor cost and products with high labor content were assumed to be more suitable to source in LCCs. The findings in this thesis confirm the assumptions in chapter 2.8. First of all the companies preferably source products with high labor content from low-cost countries. It is evident that the biggest cost savings gained are in the lower labor costs. These results are also inline with Axelsson (2004), who means that the potential of low-cost countries lies in products that have a significant share of the labor-based activities in their production. Some examples given are; electronics, small machinery, or hard white goods. Even though other factors play a certain roll and this factor (low-cost labor), is without exception the most sought factor in LCCs.

Companies not only gain lower costs directly through lower labor costs but also indirectly through lower material costs through the whole supply chain. Material that has been processed using inexpensive manpower makes the final price of material cheaper in low-cost countries than in high-cost countries.

Except high labor content, this thesis also found other product related factors which are important to consider when sourcing from LCCs;

6.2.2 High-volume products

The results also show that the companies move production of high-volume products to low-cost countries in order to benefit from economies of scale. While, the production of low-volume products are kept in Sweden. For example, Powerwave has chosen to continue sourcing low-volume products from Sweden, however high-volume products are sourced from China.

6.2.3 Transportation cost

Cost of transportation is another factor which is decisive for whether it is profitable or not to source certain products in low-cost countries. In many cases the transportation cost is too high and exceeds the profits gained from purchasing in low-cost countries. There are both market- and product-related factors that affect the cost of transportation:

6.2.3.1 Distance between buyer and supplier

As mentioned earlier, the distance between buyer and supplier and the distance goods must be transported determines the pricing of transportation. Many companies manufacture products in South-East Asia to be transported back and sold on the European and/or American market. The geographic distance is far, leaving airfreight and sea freight as the only possible mode of transportation. The disadvantage is that supply chain becomes a risk factor since deliveries and transportations take longer time. In the case of Electrolux who's products are big and heavy they are rarely ever transported by airfreight. Most goods are sent by ship which usually takes 6 weeks meaning that 12-15% of an annual production is on the boat. According to Peter Silfwerbrand, this has several indications; one is a financial cost since you will have fixed assets on the sea, secondly there is a risk that the products that arrive might be defect. Thirdly it is difficult for the company to know if it can supply the market with more products incase of increased demand due to a successful campaign.

6.2.3.2 Product related factors

The density of the product also affects the cost of transportation. Usually low-density products tend to cost more to transport on a per kilo basis than high density products. Stowability is the degree to which a product can fill the available space in a transport vehicle (Lambert et al. 1998). Bulky products that take a lot of space in containers are usually more costly to transport and therefore not preferable to source from low-cost countries. In this study we can see it is more

profitable for Ericsson and Powerwave that have relatively small products to source from low-cost countries, since the transportation costs are not so high. However, the transportation costs are quite high for Electrolux that has bulky, heavy products. This has also been one of the reasons why the company has chosen to set up manufacturing sites in or near its sales markets.

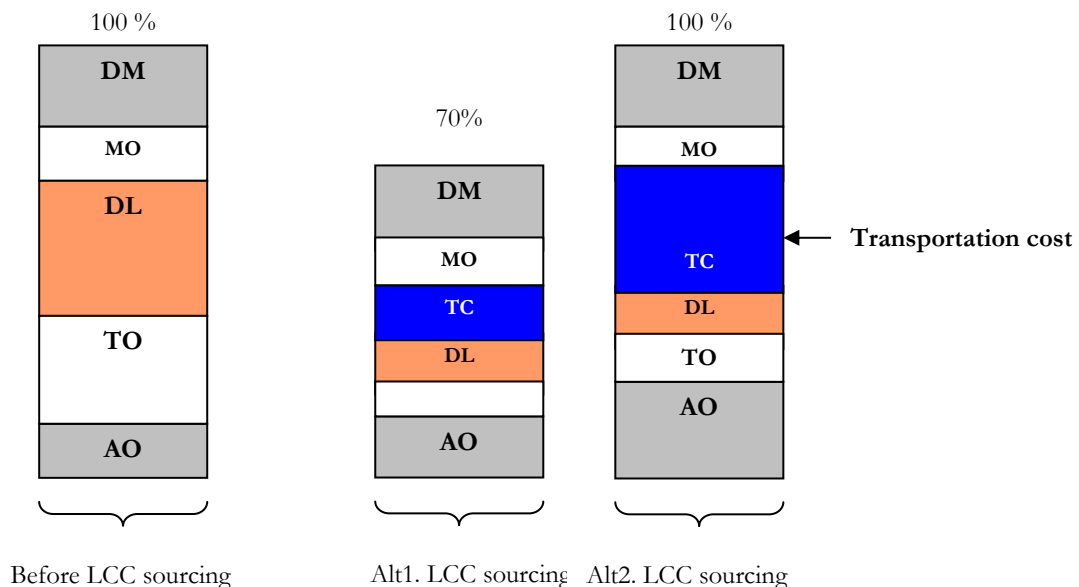


Figure 24. illustrates cost calculations of making a product in a high-cost country vs. low-cost country. The cost structure can decrease substantially when sourcing from LCCs through lower labor costs, or be unchanged because of other increasing cost factors such as transportation and administrative costs.

The picture illustrates how the cost structure of a product may change when a company starts to source in low-cost countries. The first column illustrates how the cost structure of the product can look like when sourced locally, in a high cost country. The two other columns on the right represent the cost structure when sourcing from LCCs;

Alt1. As direct labor costs decrease dramatically, transportation costs might appear as a new relatively big separate cost. However, in this example the transportation cost does not exceed the savings from lower Direct Labor (perhaps because of relatively small distance between buyer and supplier) and therefore it is still profitable to source in LCCs.

Alt2. In other cases although direct labor costs decrease, the cost increase of transportation and administrative costs may be so high, that it is not profitable to source from low-cost countries. The company must therefore source products that are not so difficult to transport and

in such volumes that it is profitable to source them from a faraway country. Otherwise it is wiser to try to find a low-cost country closer to home or source the goods domestically.

6.2.4 Technical complexity

As mentioned in chapter 2.8, in the study of A. Salmi (2006), it was found that a majority of the products sourced in China were non-critical and leverage products. Many respondents had stated that they would not source critical components or strategic items for their core business process from China. Therefore it was assumed that companies tend to source more non-critical products in low-cost countries than highly strategic products.

As many core products, especially in technical companies, are often more high-tech than the rest of the products manufactured, it would be interesting to see if the companies in the cases studies purchase or put production of their high-tech, core products in LCCs.

The results of this investigation are not totally in accordance with the first proposition in chapter 2.8. The results in this thesis show that, when it comes to products' technical complexity there is no clear rule for what is most suitable to source from LCCs. One would think that companies would not source or move production of products with high technical complexity to low-cost countries due to lack of competence and/or risk of having their technology copied. In the case of Powerwave this statement proved to be true. In fact, the company has chosen to keep the manufacturing of its high-tech amplifiers in Sweden, while it has put the production of low-tech products antennas and filters on contract manufacturers. However, when we look at the other companies in the case study the picture is more diverse. Ericsson sources all kinds of components from less technical components, like electromechanical and electronics, to complex microelectronic components. The company has even moved parts of its R&D activities to China, this regardless of the products strategic importance. The same goes for IKEA which sources both high-tech and low-tech products in low-cost countries. IKEA even has R&D suppliers in LCCs. Electrolux also sources many type of products in low-cost countries, however, they are not all as high-tech as Ericsson's products.

Figure 25. shows the width of the products sourced in low-cost countries. It can be everything from microelectronic components to, less technical components like materials and finished products. Observe that this is only an example of some of the products the companies in the case

study source. In fact, as mentioned above, IKEA also sources high-tech products from low-cost countries.

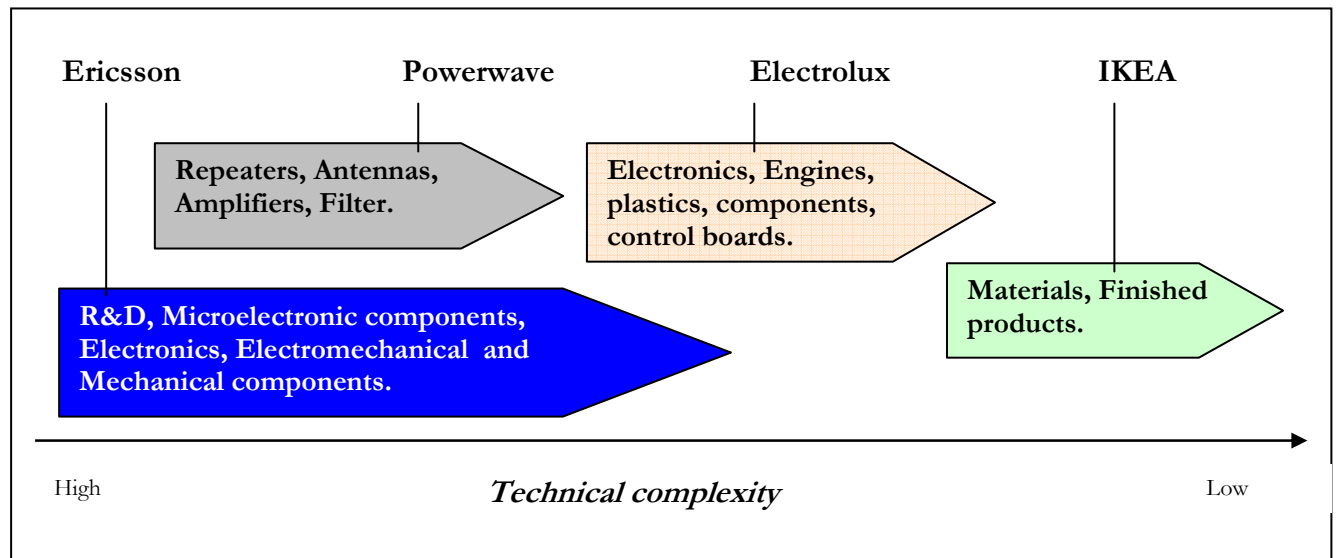


Figure 25. Shows the width of the products sourced by Ericsson, Powerwave, Electrolux and IKEA, in low-cost countries.

The four case studies show that there is not only one type of product more suited for sourcing in low-cost countries. According to both Stefan Mähl and Christina Niemela there are pools of talented trainable workers, as well as large pools of skilled workers eager to apply “craftsman” talents. It seems the choice of products is more decisive of the knowledge, technology and capabilities available in the low-cost country. The results from the case studies show that it is possible to source all kinds of products from low-cost countries independent from their technical complexity.

If we analyze the type of products sourced from LCCs from the list of identified product types in chapter 1.3.5, we get the following results:

Type of Product	Description	Good to source LCC	Comments
<i>Raw materials</i>	Raw materials include iron ore, coal, grains, coffee etc. These materials are used as a base from which more refined products are manufactured.	NO	The prices of raw material is more or less global, and as the transportation of raw material can be difficult, companies are better of sourcing these products near their production markets.
<i>Supplementary materials</i>	Supplementary materials are used or consumed during the production process, and include lubricating oil, welding electrodes, industrial gases, etc.	NO	
<i>Semi-manufactured products</i>	Semi-manufactured products have been processed at least once and will be further processed. This group includes for example: steel plates, rolled wire and plastic foils. O	YES/NO	If processing includes a lot of labor work, then it could be more interesting and cost beneficial to purchase these products from LCCs. However, if sourcing there products will mean higher transportation cost and longer delivery times, then it is better to source it locally.
<i>Components</i>	Two types; specific and standard. These items are incorporated into the end product without any further change and include electronic parts, batteries, rolling bearings, etc.	YES	Mostly standard components but also some specific components.
<i>Finished products</i>	Finish products encompass all the products purchased to be sold.	YES	Many products sought in LCCs are finished products.
<i>Investment goods and capital equipment</i>	Investment goods and capital equipment are all those machines and equipment to be used as facilities over a long period of time, for which life-cycle cost is important.	YES/NO	Heavy machinery are not always bought from LCCs, rather components to these products. However, it is efficient to purchase tools for these type of machines in LCCs, as the development cost is less expensive. For example, molds and dices.
<i>MRO-Items</i>	MRO-Items are used for Maintenance, Repair and Operation supply.	NO	Often maintenance, repair and operation supply needs to be near the customers. If the customers are in HCC then so most these services as well.
<i>Services</i>	Services are highly heterogeneous. In Axelsson (1996) services are described as products that are immaterial, difficult to demonstrate, cannot be stored, production and consumption take place at the same time and customer participates directly in the production.	YES	Depends on the type of service, however, in the case of Powerwave, the company sources consultant services from highly educated low-cost labor in Russia and India. Ericsson has moved part of its R&D in LCCs as they also found highly educated labor within field of knowledge. Another example are the sourcing/outsourcing of call centers to LCCs.

The matrix shows that semi-manufactured products, components, finished products, investment goods and services can be bought in LCCs. This is a wide range of different types of products. However, companies need to take other factors such as: *transportation costs*; *administrative costs*; *availability of suppliers*, *technology* and *competence*, into consideration, before deciding if it is possible and profitable to source certain products from LCCs.

6.3 Type of contractual business form most suitable in low-cost countries

When it comes to the second proposition, the findings in this thesis are slightly different from the original assumption and the findings of A. Salmi (2006). The results do confirm Salmi's findings that the types of relationships companies have with their suppliers in LCCs vary depending on the type of products they source. However, it does not entirely confirm the assumption of long-term relationships and joint ventures/partnership being most suitable types of contractual business form in low-cost countries. The companies in this study have a variety of contractual business forms in low-cost countries. Analyzing the model by Quinn & Himler's (1994), we find that the most common set up is through fully owned companies and/or long-term relationships with suppliers. Of all four companies only Ericsson has joint-ventures in China. Furthermore, none of the companies really consider short-term relationships an alternative. Picture 26 below and the belonging texts give a detailed description:

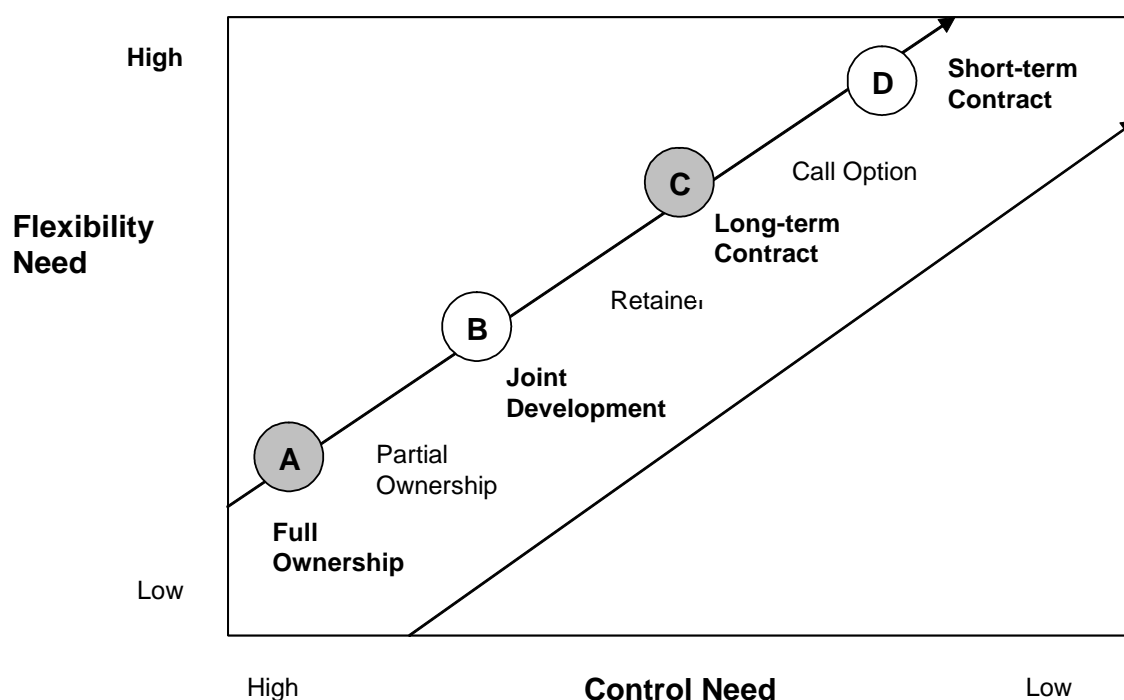


Figure 26. Relationship between flexibility and control. Quinn and Hilmer 1994.

A. Full Ownership

Powerwave has 2 fully owned factories in China and Estonia. The company manufactures low/mid volume antennas with high technical complexity in their factory in Tallinn. The reason why they have not put this activity on external suppliers is because the products are part of the company's core competence. The company wants to have control over production of its core products but at the same time utilize the low-cost labor factor.

Ericsson has established fully owned companies in China for activities like R&D, Business Consulting and Technology Services. These are activities on a strategic level, affecting the future of the organization which Ericsson wants to have control over. At the same time the company wants to take advantage of the low-labor cost of engineers and consultants.

Electrolux also has fully owned factories in low-cost countries. The company has chosen to move the production of some of its core products to the nearest low-cost country. It is therefore a transfer of wholly owned factories from a high-cost country to a low-cost country. Naturally the company wants to have control over the production of its core products.

Although IKEA is more of a sales organization and has never really had any production in-house, the company owns a few manufacturing units of wood and flat line products in mainly former Eastern European countries. Wood and flat line are basic materials in a large part of the company's products. By having fully owned manufacturing units the company has secured its control over wood and flat line supply.

B. Joint Venture

Ericsson has several joint ventures together with Chinese companies within different fields. Because of governmental policies, the company was initially obliged to enter joint ventures and collaborate with Chinese companies to be able to do business in China.

C. Long-term Contracts with external suppliers

All four companies in the case study source from external suppliers. Powerwave sources components and works closely with its suppliers to optimize the manufacturing and improve the quality of the components purchased.

In the same way, Ericsson works closely with its suppliers. The company collaborates with its suppliers on a more strategic level from the beginning when it develops a new product and involves the supplier in this process. Together, both companies can develop a product where the supplier can produce part of the product at a much lower cost. Therefore the savings made on products where there is cooperation on a strategic level, are often much more substantial. This strategy can give the company up to 30-50% savings, instead of working more short-term.

Electrolux also has more long-term relationship with its suppliers in low-cost countries. The company is not only concerned with finding a good first tier supplier, but rather the existence of an entire supply chain with high-quality second and third tier suppliers as well.

As mentioned earlier, IKEA wants to be flexible to be able to quickly respond to new trends and therefore it has outsourced most of its activities to external suppliers. A disadvantage of outsourcing is that the organization does not have so much control over its suppliers. However, IKEA has partly solved this problem by working closely with suppliers on long-term basis, ensuring continuous material flow, good constant quality, right price and compliance to social and environmental laws of IKEA.

By having close relationship with external suppliers, these companies ensure a continuous flow of materials and components, better prices on purchased items and improvement on design and quality of products.

D. Short-term Contracts with external suppliers

The companies in this study mostly talk about long-term relationship with suppliers in low-cost countries. None of the companies seem to search for short-term relationships and to frequently play suppliers against each other. Instead they believe to gain more from long-term relationships with their suppliers. Often the companies must invest a lot of time in explaining what they want and teaching suppliers how to manufacture the products they need that it is not profitable to go through the same process repeatedly. One of their biggest challenges is to help the supplier in a low-cost country to build know-how about the production process and the product they have been assigned to make. There is always a learning curve to overcome before the supplier is in agreement with the demands of the buying company. This seems to be one of the main reasons why the companies in this study do not have so many short-term relationships with suppliers in low-cost countries.

6.4 Discussion of the two first propositions

In chapter 6.4 the two first propositions will be further discussed and analyzed from the perspective of Kraljic's matrix and the Worldwide Sourcing Strategy Sequence model.

6.4.1 Analysis from Kraljic's matrix perspective

The results show that the overall reason behind low-cost sourcing, in all four cases, is to get access to low cost labor in order to manufacture products to a lower cost. The analysis in the previous chapter 6.2 shows that companies can source many different types of products in LCCs. Using Kraljic's matrix (in van Weele, 2002) those products would fall in the category of Leverage products and Strategic products. Both of these types of products have high purchasing impact on financial results and therefore companies seek to reduce their cost by manufacturing or sourcing these from LCCs, given there is a high labor factor in the products to benefit from. Some examples on leverage products from the case studies are electronic components and on strategic products, for example Ericsson's microelectronic components.

According to Kraljic's matrix (in van Weele, 2002), since Leverage products are expensive and the supply risk is low, companies use competitive bidding and short-term contracts (if any contract) among suppliers to get the best possible price. For Strategic products partnership is more suitable as the products or services bought are not only expensive but also for example technically complex products where only few suppliers have the necessary skills and resources to provide it. Therefore the supplier base is scarce.

Given this, it would seem that the most common contractual business form for sourcing in LCCs should be short-term contracts and partnership. However the results show that companies mostly engage in long term relationships and/or full ownership. This deviation can be explained by examining what happens when products are moved to LCCs:

- When moving Leverage products to LCCs, the products' cost decrease and therefore also their purchasing impact on financial results. However, at the same time it becomes more difficult to find and teach new suppliers how to manufacture those products the company is looking for. As the companies have to spend time and money to find appropriate suppliers and to create relationship with their new suppliers, they do not want and/or cannot change suppliers frequently. Meaning the supply risk increases when sourcing from LCCs. The products are therefore no longer Leverage products but have become more of Bottleneck

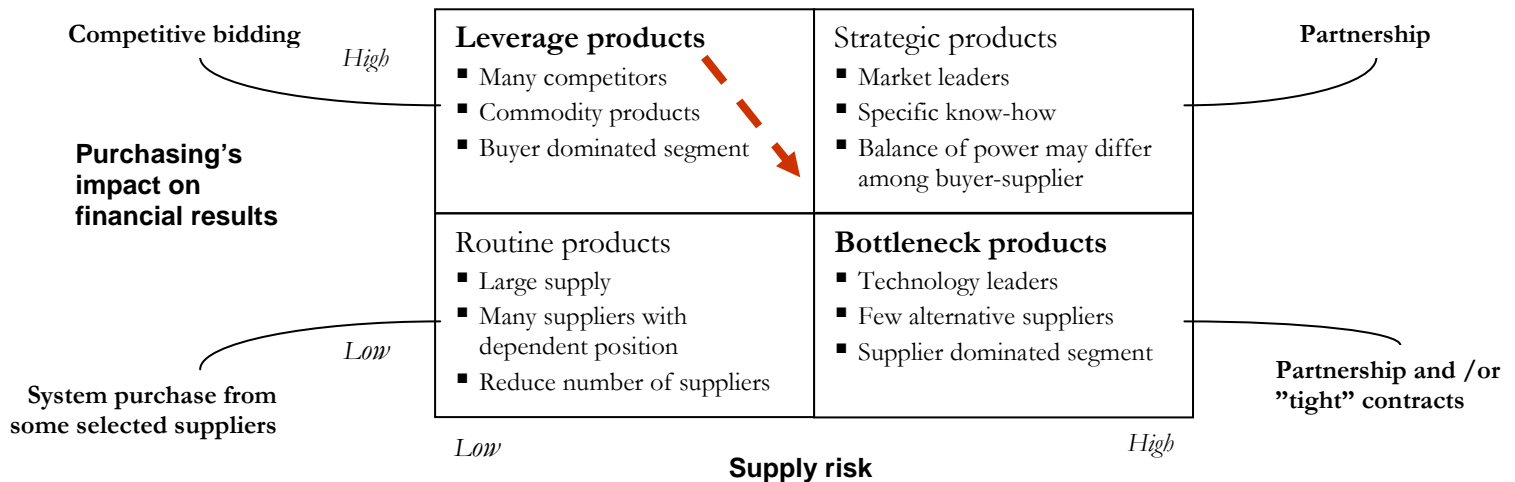
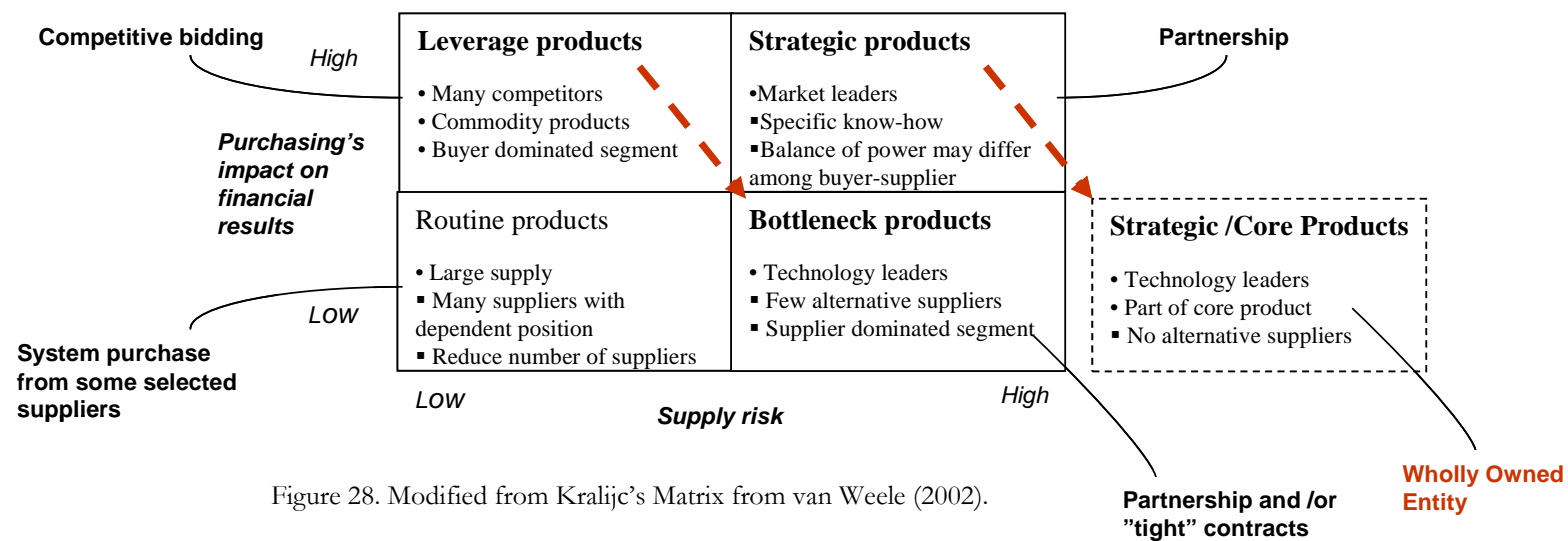


Figure 27. is developed from Kraljic's Matrix from van Weele (2002).

products. According to Kraljic's matrix, companies use partnership and/or "tight" contracts with their suppliers of Bottleneck products.

- The reason for the high amount of wholly owned companies could be explained by companies' not only re-sourcing but also moving production of core products or core activities such as R&D to LCCs. In the case of Ericsson the company has found educated, skilled workers that can drive their R&D activities. However research and development is something companies want to keep ownership and control over due to its sensitivity.
- The high rate of fully owned entities can also be explained by the sourcing of Strategic products. Like Leverage products, Strategic products also become more of Bottleneck products since it becomes possible to manufacture the goods to a lower price than before. However Strategic products require more investment in suppliers as they are often technically complex and require special knowledge. The learning curve for these products must be even higher than Leverage products and in some cases it might even be impossible to teach external supplier in LCCs to manufacture the products. Therefore it is possible to assume it is better to manufacture the goods in-house instead. In this way the company has better control

over the supply of important strategic products and components. This is illustrated in figure 28 below.



6.4.2 Analysis from the Level of Worldwide Sourcing Perspective

Looking at the results of the two first propositions through the Worldwide Sourcing Strategy Sequence model (Monczka & Trent, 1992), we see that IKEA and Ericsson, who have reached Medium/High level of worldwide sourcing, also source a wide range of products from low-cost countries. Not only do they source components, but also R&D, while for example Powerwave, who has reached a lower level of worldwide sourcing, has not gone all the way to source its most critical products in LCCs.

In the beginning of chapter six, it was said that it would be interesting to see if IKEA and Ericsson's supplier relationships somehow differ from companies with lower level of worldwide sourcing, such as Powerwave and Electrolux. In regards to this second proposition, there does not seem to be major difference in the type of contractual business form the companies choose, although they have reached different levels in of worldwide sourcing.

6.5 How is the structure of the organization affected from the company's low-cost sourcing strategy?

The interviews with the different companies in the case study show that during the past few years the role of purchasing has become more important in the entire organization. Due to increased competition and the threat of low-cost suppliers, purchasing has become a strategic issue in all

four companies and low-cost sourcing is an important part of the companies' strategy. But just as we see from previous research (Giunipero & Monczka 1997), the biggest structural changes take place within the purchases organization.

The results from the empirical study confirm the third proposition in chapter 2.8, and the findings of Guinipero & Monczka's (1997). In their research they see that as firms become more deeply involved in offshore sourcing, several alternative forms of organizational support groups appear. These include: **centralized international purchasing groups; foreign buying offices; international purchasing specialists; foreign subsidiaries; and trading companies**. Similar to their study, some common trends found in this study are that companies increase their local presence in low-cost countries, often through sourcing offices. We see that strategic questions are handled by a central purchasing organization at the head office, while the sourcing offices are responsible for finding suppliers and providing the head office with information that will guide them in their decisions. Opening a sourcing office is costly however it is a sign of a long-term commitment, moreover it is necessary to have people present who can visit suppliers not only in the beginning when the company is looking for a new supplier but also after making an agreement with suppliers it is important to follow up, visit them and help them improve their activities. Without sourcing offices and people present in low-cost countries it is difficult to get an understanding of the environment and the market.

These are some of the general changes companies that source globally go through. Naturally, there are some differences between the four companies in this study and the structural changes that have formed their purchasing activities:

6.5.1 *Powerwave*

At Powerwave, strategic purchasing is part of Operations, which is one of the main functions in the EMEA division, and therefore high up in the decision hierarchy. Purchasing has become more important and the purchasing group has expanded with the employment of new employees with special technical competence. These people will together with the Purchasing Manager work with strategic purchasing from the head office. At the same time Powerwave has two people working in Asia. These are responsible for finding suppliers and to work with them on specifications, deliveries etc. It is clear that almost all purchasing and sourcing decisions are taken centrally from the head office.

6.5.2 *Electrolux*

Electrolux is a bigger organization than Powerwave and has consequently a larger purchasing organization. The company has centralized the purchasing of its global commodities, while other purchases are taken care of by the different business units. Parallel with this, the company's low-cost sourcing strategy has led to the creation of purchasing offices in low-cost countries. The purchasing offices are responsible for finding suppliers and local employees, and keeping a lookout for other business opportunities. The purchasing offices report to the global divisions where the strategic sourcing questions are decided.

6.5.3 *Ericsson*

At Ericsson, purchasing and sourcing is part of Operational Excellence, which reports directly to the CEO. Therefore sourcing has an important role in the organization. Similar to Electrolux, Ericsson has coordinated its sourcing of direct material, while the rest is purchased directly by their Market Units. The company's sourcing initiatives has led to the creation of sourcing offices. These are responsible for supporting the R&D activities in China and develop the local sourcing and purchasing activities for Ericsson in and outside China. The sourcing offices are given authority to take advantage of the local supplier markets. However, they also have to report to Sweden, seeing as strategic sourcing questions are taken centrally. Purchasing at Ericsson has become more decentralized in the sense that it has taken a step closer the local markets. The company has even put some of its R&D activities in China and it works closely with suppliers on the product development stage.

6.5.4 *IKEA*

Purchasing has a very important role in the IKEA organization. In fact, big part of the business is organized and dependant on purchasing. IKEA has gone from being centralized to becoming decentralized. The company's global sourcing strategy has led to the creation of a bigger more complex purchasing organization. Initially more responsibility was given the purchasing teams on the local markets and they were given authority to maximize purchasing in their own area. As the company's global sourcing activities increased, IKEA realized that they were sub-optimizing and started to coordinate their activities across different low-cost countries. The organization was instead divided into trading areas and material areas. Today, top strategic questions regarding sourcing is still partly taken on a higher level; however a lot of decisions are affected based on the performance of the trading and material areas. IKEA's organization is closer to the local markets,

not only through the TA:s and the MA:s but also since it has moved its support functions like quality, environment and distribution closer to the local purchasing organizations. In terms of employment, the company hires people with higher education today than previously. IKEA also puts emphasis on people being mobile and having international experience. The companies have the following set up:

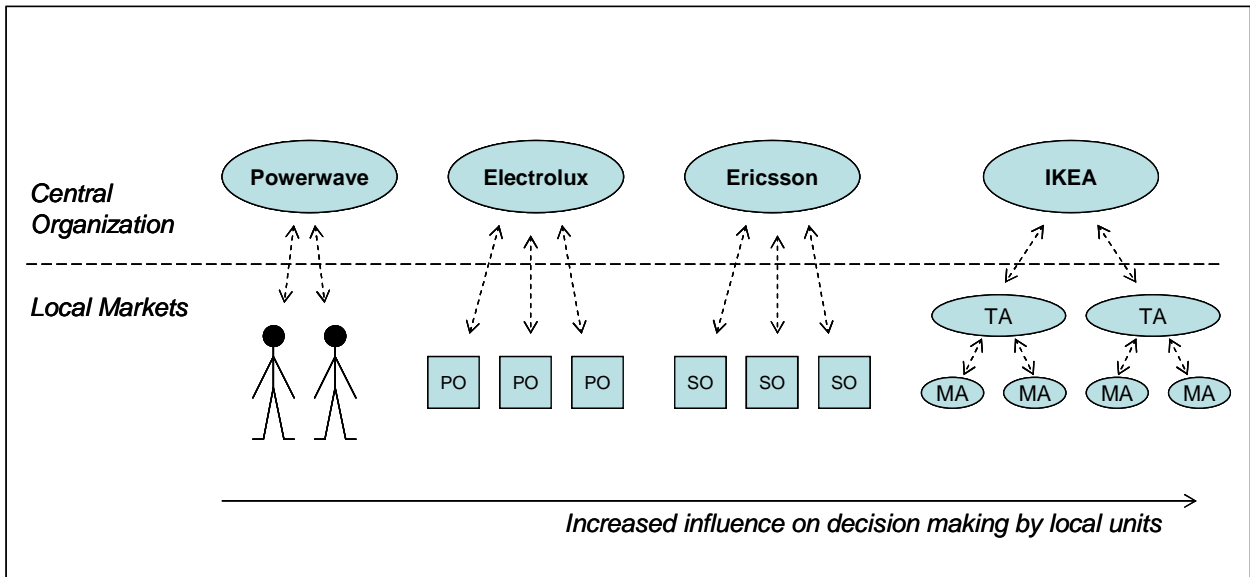


Figure 29. Illustrates the organizational set up of the companies in LCCs.

We see a general trend where the central organizations take care of strategic planning and decision making while the local organizations work operationally. However, as the purchasing activities and the knowledge of the local (purchasing) units' increases, they become more involved in the decision making, meaning the firms go from more centralized decision making and centralized purchasing organization to a more decentralized. This confirms the third proposition in chapter 2.8 and what was found in Giunipero & Monczka (1997). According to their study, general for all companies was a strong trend towards decentralization of the global purchasing task. However, no one form, structure or support staff dominated in their research sample. Giunipero & Monczka (1997) also found that firms with decentralized purchasing environment, still had some support and backing from corporate-level staff.

This trend towards decentralization also goes in line with Monczka & Trent's (1992) Worldwide Sourcing Strategy Sequence model. The company that has reached the highest level of Worldwide Sourcing has a larger and more developed purchasing organization and many activities are

positioned closer to the local markets. However, companies in lower level of worldwide sourcing have more centrally controlled purchasing and no purchasing offices in low-cost countries.

6.5.5 Purchasing development model

The results and the picture above also show similarities with the different stages in the “Purchasing development model” found in Van Weele’s (2005). With this model as our point of reference, we see that Powerwave fits the descriptions in the Internal Integration and External Integration level. The company has started to source globally and the purchasing is involved in strategic issues like core/non-core questions and make-or-buy decisions. The company handles its suppliers in more process-oriented way, for example, by involving suppliers in the development and design of the products.

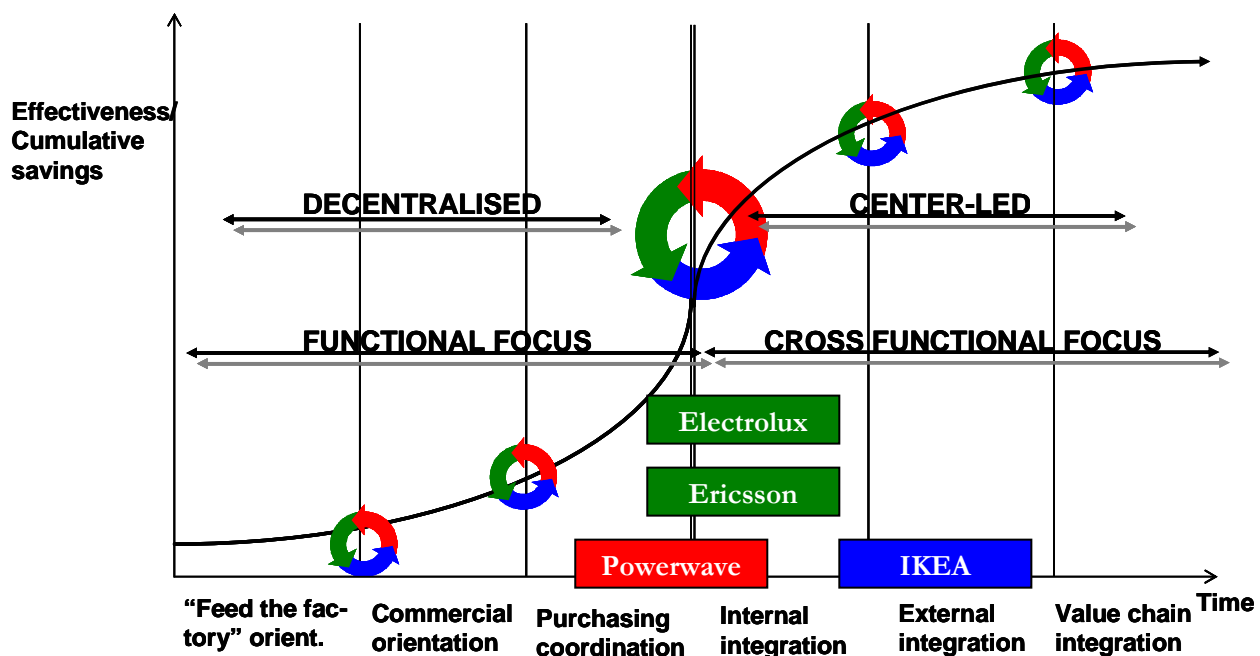


Figure 30. Illustrates the four companies set out in the “Purchasing development model” in van Weele (2002). According to this model, Powerwave falls between “purchasing coordination” and “internal integration” level, while IKEA has reached furthest on to External integration level of purchasing maturity.

Electrolux would also fall between Internal Integration and External Integration (Ibid.). The company is doing global sourcing and it has even outsourced some of its production to low-cost countries. As mentioned earlier the company has centrally coordinated purchasing of global commodities. Electrolux has discovered that global sourcing increases the distance between R&D and production which is a problem. Electrolux has organized its purchasing internally; however, the company has not yet taken the next step to coordinate purchasing with material planning, line planning and R&D. Therefore Electrolux has not yet fully reached the External Integration level.

Ericsson also fits the description of the Internal Integration and External Integration level of Van Weele's (2005) model. The company has center-led coordination of its international sourcing activities through its Global Sourcing unit. The company has also brought R&D activities geographically closer to its suppliers and works closely with them to manufacture products more cost efficient. The company has seen the value of involving suppliers early in the products development stage.

IKEA has been sourcing internationally for a long time and sourcing is one of the core activities of the organization as more and more has been outsourced to external suppliers. As mentioned earlier, IKEA has gone from centralized to decentralized purchasing. However, today the company has more coordinated purchasing. This corresponds to Van Weele's (2005), Six level of purchasing maturity with a centre-led, coordinated purchasing organization. IKEA has not only integrated between its internal functions but the company is also very customer oriented and works closely with suppliers to find products and concepts that are interesting and appealing to the end-users. IKEA therefore fits the description of a company in between the External Integration and Value chain Integration levels in Van Weele's (2005) model.

7 CONCLUSIONS

This chapter concludes the results from the analysis in chapter 6.

7.1 Types of products best suitable for sourcing in low-cost countries

The results confirm proposition 1, that lower labor cost is the reason why many companies are drawn to LCCs, and from this investigation we see that products with high labor content are best suited to source in LCCs. If the low-cost country is geographically far away it is not suitable for heavy and bulky products to be sourced from there, because of high transportation costs. However, the results do not entirely support the assumption that companies tend to source more non-critical products in low-cost countries than highly strategic products. The findings in this thesis show that it is possible to source both high- and low-tech products, regardless of their strategic importance. It all depends on whether you can find labor with the right know-how and skills in the LCC.

7.2 What kind of contractual business form is most suitable when sourcing in low-cost countries?

The results show that the type of contractual business form most suitable for low cost countries vary depending on what type of products the companies choose to source. The most common type of contractual business forms are long-term relationships with external suppliers and wholly owned companies. The companies in this investigation have established fully owned companies for the production of core products and strategic products with high technical complexity. This is partly a question of sourcing core/non-core products. However it has also to do with the high investment costs that follow from having to teaching their suppliers in LCCs what to do. Often there is a long learning curve before the suppliers can deliver products according to the needs of the buying companies. This is the case for all four companies in this investigation. Therefore companies either choose to manufacture important, strategic product in-house in LCCs and/or have long-term contracts and close relationships with their suppliers in LCCs. These results partly confirm the second proposition in chapter 2.8, as to long-term relationships being a common business set up/relationship in LCCs. However, the results do not support the assumption that joint ventures and/or local partners are common set up in LCCs.

7.3 How is the structure of the organization affected from the company's low-cost sourcing strategy? And as a consequence; is there an organizational structure that is more suitable for sourcing in low-cost countries?

The results do confirm the third proposition in this thesis. As companies realize the strategic importance of purchasing and sourcing in LCC, the purchasing organization becomes an important part of the rest of the organization. However, the biggest changes mostly take place within the purchasing departments. As companies expand their purchasing activities to also include low-cost sourcing, the organization hires people with higher education and technical skills, people with competence in strategic sourcing and also international experience or background.

The low cost country sourcing activities are often set up with a central decision making organ in the home country, while the operational activities are put locally in the LCC. As the company's low-cost country sourcing increases, the local organizations get more authority. This means that firms go from more centralized decision making and purchasing organizations, to a more decentralized one, at least when it comes to their low-cost sourcing activities. The sourcing activities also go towards a more cross functional development, with other functions working closer with the local sourcing offices.

8 IMPLICATIONS FOR THEORY AND PRACTICE

In this chapter we will extend the discussion of global sourcing and examine this subject from a more holistic perspective. We rise our focus from the firms as our object of examination and discuss the results of this thesis from a bigger perspective; bringing other external factors such as the industry environment, the national environment and the low-cost country into our frame of analysis. We see that the choice of low-cost country, products and business forms are taken in consideration to other factors than the pure capabilities and needs of the sourcing company.

8.1 Many Factors Affecting Global Sourcing Decisions

The results show that it is possible to source many different types of products from low-cost countries. It is possible to use different types of contractual business forms for your low-cost sourcing activities. The case studies show that companies have a geographically wide range of low-cost countries they can choose to source from. *The question is how companies decide what is right for them, which products, what type of business activity and which country/s? Do companies really have a wide variety of LCCs and suppliers to source from, or are they dependant of fact the suppliers they choose also want to be chosen?* Some of specific factors have already been presented earlier; however, one must take a holistic view to see the entire picture.

For many companies low-cost country sourcing is a strategy for survival and to gain competitive advantage. Their LCC sourcing strategy can be a reactive strategy to cope with competition or a proactive strategy to become the leader on the market. According to Kotabe (2004), “*Global sourcing refers to management of (1) logistics identifying which production units will serve which particular market and how components will be supplied for production and (2) the interfaces among R&D, manufacturing, and marketing on global bases.*” Grant (2002) however, takes it even farther. According to him, regardless of the firm’s strategy, competitive advantage is achieved when a firm matches its internal strengths in resources and capabilities to the key success factors of the industry, illustrated in the figure 31. below.

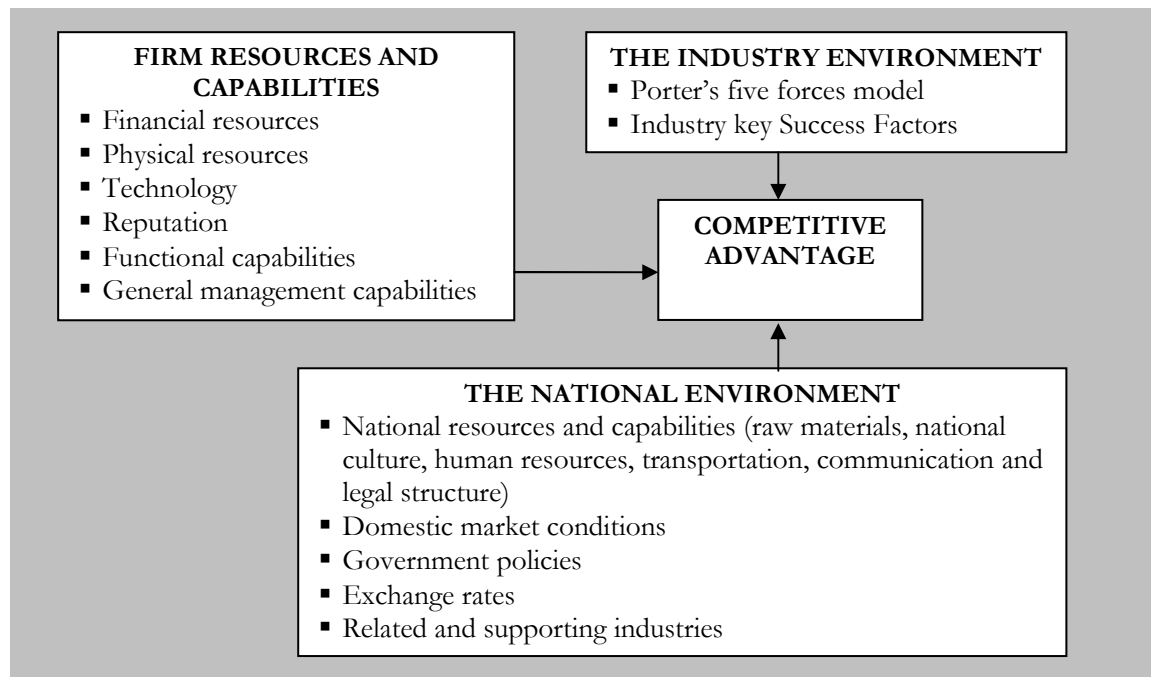


Figure 31. According to Grant (2002) firm's strategy, competitive advantage is achieved when a firm matches its internal strengths in resources and capabilities to the key success factors of the industry.

However, it is different for firms competing on global markets to achieve competitive advantage, than firms who are active in domestic markets. When firms are located in different countries, their potential for achieving competitive advantage depends not only on their internal stocks of resources and capabilities, but also on the conditions of their national environments – in particular, the resource availability within the countries where they do business. Therefore, the goal of global sourcing strategy is for companies to exploit both their own and their suppliers' competitive advantages, and the comparative locational advantages of various countries in global competition.

Figure 31. illustrates how the firm's resources and capabilities, the industry environment and the national environment affect the company's decision and strategy for achieving competitive advantage. To analyze how firms, competing on global markets, achieve competitive advantage we therefore need to add another variable to picture above and that is the LCC Environment. Let us take Powerwave as an example to demonstrate this, see figure 32. The example shows that the environment of the low-cost country affects the decisions of the companies. The low cost country's resources and capabilities, its domestic market conditions, related and supporting industries and not least governmental policies can either prohibit or enable sourcing for companies and they also affect the way an organization chooses to source from the low-cost

country. For example, Ericsson has been forced to enter joint-ventures in order to be able to do business in China due to past governmental policies.

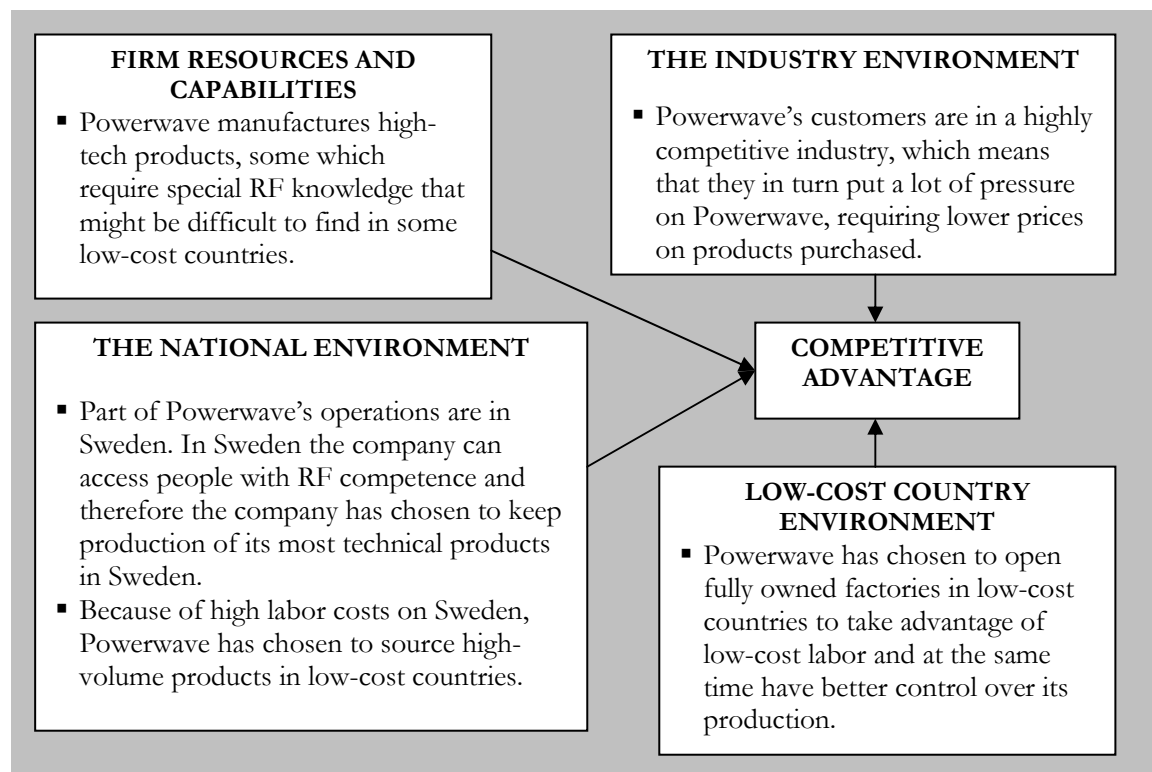


Figure 32. shows an example of how Powerwave competes on a global market. The low-cost country environment is added here from the original model shown in Figure 29.

8.2 Different low-cost countries

After reviewing numerous news articles in the subject of low-cost country sourcing it became clear that many writers often use the term low-cost countries without making any distinguish between the low-cost countries per say. As the LCC sourcing has become one of the hottest trends, many companies are recommended to hurry up and enter low-cost countries as soon as possible. It is almost as if it does not matter where you source, as long as the labor costs are low.

What is a low cost country really? Does it matter which low-cost country a firm chooses to source from or are they all the same? If there are important differences between low-cost countries then this would probably mean that more companies should pay higher attention to the choice of country.

The case study in this thesis and other cases and articles about global sourcing show that there are some general benefits and risks that companies must consider before they start sourcing from

low-cost countries. However, there are also many country specific factors that have to be taken into consideration before choosing which low-cost country to enter. The picture below illustrates some of those factors. The picture also shows that there has to be a match between the company's resources and capabilities and the resources and capabilities available in the low-cost country.

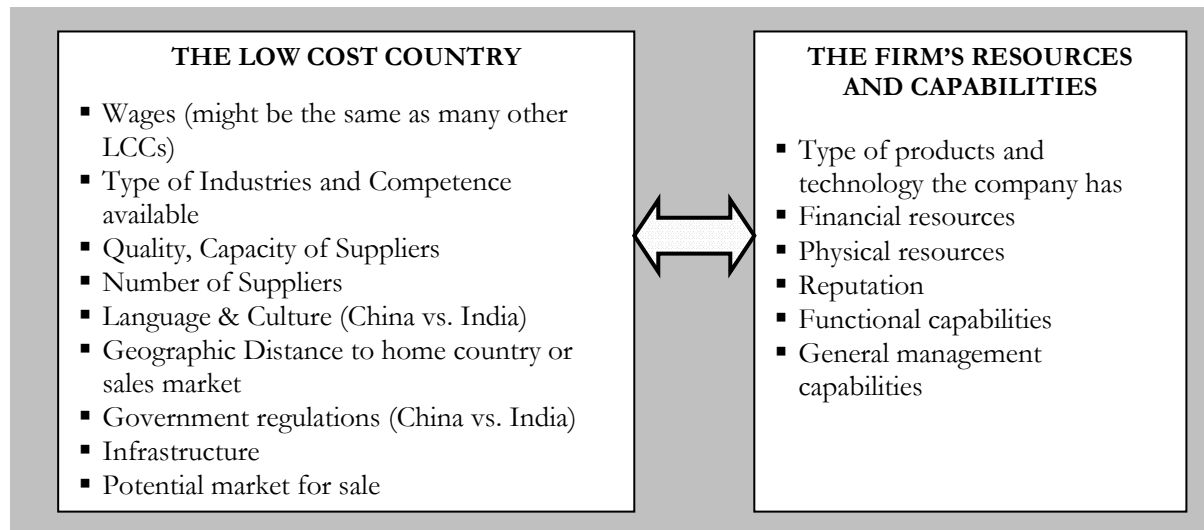


Figure 33. The picture also shows that there has to be a match between the company's resources and capabilities and the resources and capabilities available in the low-cost country.

There are several factors regarding that must be taken under consideration before choosing low-cost country:

1. First of all it is very important that there are suppliers with the type of competence and technology the firm is looking for.
2. Secondly if there are several countries that have what the company is looking for it is important to see how big the supplier market for those products are, what the capacity of the suppliers are and the quality of the products they make.
3. Thirdly, the geographic distance is also important to take into consideration. If the market for sales is in Europe but then it might be better to find a low-cost supplier in for example Romania than in China.
4. Another important factor to consider is government regulations. The governments in different low-cost countries all have their own opinion and policy regarding international trade and foreign investments. While some governments might support foreign investments like China for example, others might be more restrictive, like India (Ariba 2003).

5. The infrastructure in the country may also play an important role. If the products the firm wants to source need to be transported from inland to the nearest port, the inland transportation must be well-functioning.
6. Finally, it might be in the company's interest to choose a country where there also is a potential for future sales.

The figures 34. and 35. below show different industries and products that can be found and sourced from different low-cost countries.

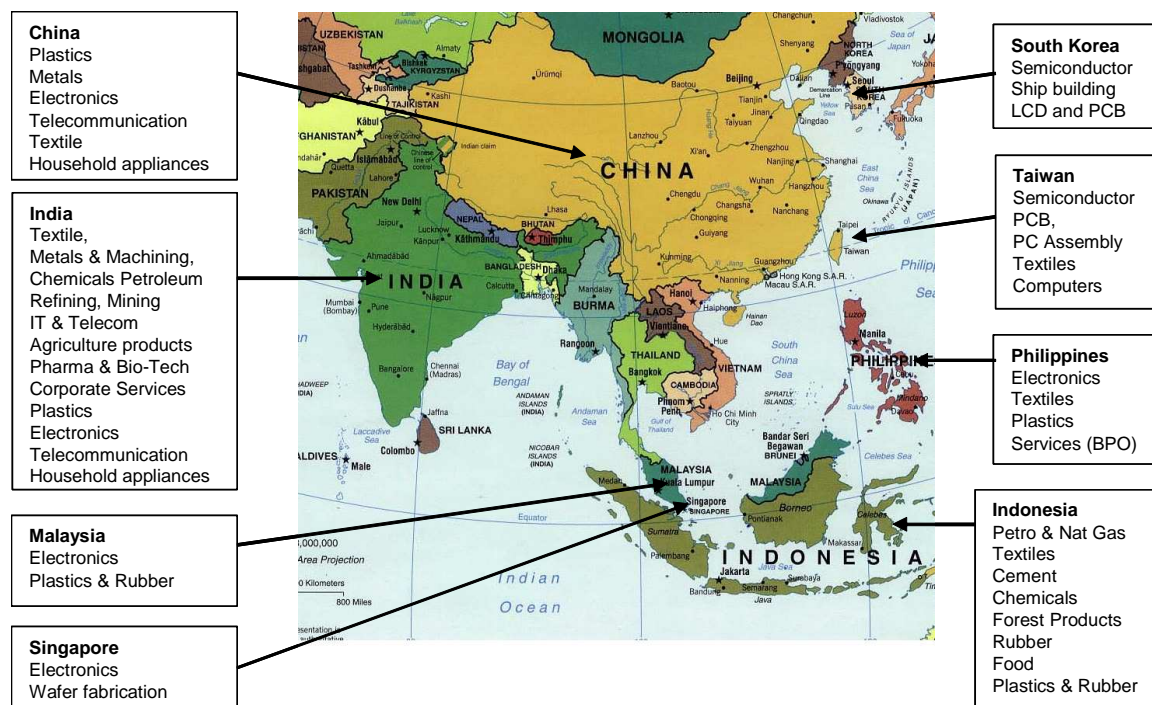


Figure 34. illustrates different resources available in the South-East Asian countries and in China and India, from ARIBA (2003).

It is clear that low-cost countries are not the same when it comes to type of industries and technology available. Therefore the choice of low-cost country can also affect the type of products you choose to source and the type of contractual business form you might establish in the low-cost country. The characteristics of a specific low-cost country may also affect how companies choose to organize their sourcing organization. If the country has a broad supplier market who are used to working with international companies, then there might not be a need for having sourcing offices and to frequently visit suppliers. The suppliers are self-driven and there is little need for supervision. However, if a company sources from a country with high corruption rate and where the supplier market lacks experience from working with international

companies or does not have the know-how to manufacture the products the foreign company wants, then there is a need for constant supervision and support of suppliers.



Figure 33 – Illustrates different resources available in the Central European countries, ARIBA (2003).

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APPENDIX I

General

1. Tell me little about your self
 - a. How long have you been working for company X
 - b. Job description
2. What has been the company's strategy for international/global/emerging markets?
3. How come the company decided to start doing business in a low-cost country?
4. What were the reasons behind this decision?
5. What benefits did you think that you would get by sourcing in low cost country?
6. What benefits did you get when entering that market?
7. What were the main challenges and obstacles of this strategy?

Products

8. What type of products did you decide/ are you sourcing from this country?
9. Why do you source this type of products?
10. What are the advantages of sourcing this product in particular?

Contractual form

11. What kind of contractual business form have you chosen for this business? Why?
12. What are the advantages/disadvantages of this kind of contractual form? Why did you not choose other contractual form?
13. How do you handle risk when entering foreign countries?
14. Have you had any problems with pirate copying or other companies stealing information/technology from you?
 - a. If yes, what actions have been taken to prevent this? (Is it a problem at all?)
15. What factors or criteria are important when sourcing from low-cost countries?

Organizational structure

16. What kind of organizational structure do you think is most suitable for sourcing in low-cost countries and why?

17. Has the company been obliged to change its organization structure to better fit its global strategy? If yes, how?
18. How do internal work forms, inter-organizational structures and relationships change when sourcing from low-cost countries? What internal resources, capabilities and information are required?
19. Has the company been obliged to make any internal re-organization to better suit global strategy? If yes, what type of changes?