International Logistics
Realizing the coherence between efficient logistics strategy and international growth.

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Abstract

The world economy is in a transition period never experienced before. One of the main realising factors, boosting economy growth, is the catch up of many emerging countries. The emerging countries impose new competitive dimensions to the global economy, forcing well established multinational corporations into new competitive situations, bringing both opportunities and threats.

The construction equipment industry has entered a condition of unprecedented growth. The total market demand has increased significantly and the demand development is prospected to continue for many more years. To keep up with the market demand and the sales opportunities, it is important to have machines available in the market. This impose that the logistic strategy is getting more important for companies in order to keep up with the prospected sales opportunities.

This Masters thesis is initiated by our case company, Volvo Construction Equipment International, currently suffering from an inefficient logistics strategy constraining international growth.

Based on our analysis and conclusion, Volvo Construction Equipment is recommended to move from transaction selling, spot market like international logistics strategy towards a relationship marketing based logistics strategy establishing in-depth collaborations with key account shipping suppliers. Furthermore, we recommend that Volvo CE should consider a logistics management function in order to facilitate the inter-organizational flow of logistics information.

Keywords: Volvo Construction Equipment, Middle East, Logistics strategy, competitive advantage, organisational capabilities.
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Henrik Florby and Marcus Justad
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1 Introduction

In this chapter we will introduce the readers to the problems that Volvo Construction Equipment international is up against. Furthermore, the problem definition, purpose and delimitations of our research will be described and examined to enhance the readers understanding of our intentions and boundaries. Closing the chapter our case company and the outline of the thesis will be presented.

1.1 Prologue

The world economy is in a transition period never experienced before. As we speak, globalization reaches new levels and pushes boundaries of what's possible or not further away. One of the main releasing factors, boosting global growth, is the catch up of many emerging countries. The emerging countries impose new competitive dimensions to the global economy, forcing well-established businesses into new competitive situations, bringing both opportunities and obstacles.

1.2 Global construction equipment market – an unprecedented boom

The construction equipment industry has stepped into a condition of unprecedented growth. The total market demand for construction equipment has increased significantly and the development is prospected to continue for many more years. Four main actors dominate the industry: Caterpillar, Komatsu, Hitachi and Volvo Construction Equipment (VCE). Since the actual boom of the industry outpaced what initially was forecasted, the competitive

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1 Volvo CE will be explained in more detail on page 13
situation has been to an advantage for the actors with the best global industrial set-up.

In the case of Caterpillar, Komatsu, Hitachi and VCE the global industrial set-up and level of internationalization have been to the advantage of the two first mentioned, whereas Hitachi dominates the Asian markets. In comparison with VCE, Caterpillar and Komatsu have a longer history of organic growth and as main actors in the world wide construction equipment industry, which in turn have enabled a better-developed industrial structure. The industrial structure considers production setup, distribution network and sales and service organisations. VCE on the other hand have not been competing in an international context in the same historical extent a Caterpillar and Komatsu, which have turned into difficulties competing for growth and profitability.

1.3 Problem Analysis

1.3.1 Volvo CE International – a Outlier case

As a part of the multinational corporation (MNC) Volvo group, VCE could be considered as the division with the highest growth potential. Furthermore, VCE as an organization is divided into four sales-divisions: Europe, North America, Asia and International. In this thesis we will focus our research on sales division, Volvo CE sales division International (VCEI)\(^2\). Furthermore, VCE consists of five different product categories or business lines (BL): BL Haulers & Loaders, BL Road Machinery, BL Compact Equipment, BL Lingong and BL Excavators\(^3\). The BL excavator has an industrial setup with production units in Konz, Germany, Changwong, South Korea, Asheville, USA and Shanghai, China. The product range within the BL excavators is impressive with machines

\(^2\) Volvo CE International will be explained in more detail in page 15

\(^3\) All Business Lines (BL) will be explained on page 17
from 11 tons up to 70 tons, hence the product is characterised as bulky. Furthermore, the product portfolio consists of two main categories: Wheeled Excavators and Crawler Excavators. Further crawler excavators stands for majority of the sales and are present mainly produced in Changwon. Furthermore we will in this research be set on crawler excavators with production facilitated at the plant in Changwon and its supply to sub-region ME.

1.3.2 Market demand and capacity shortage
As introduced above the total market demand for excavators has increased rapidly for the last couple of years and forecasts favour a continued increase in total market demand⁴. Furthermore, the growth potential is extremely evident in Region International where the Middle East (ME) sales region is one of the major markets. The steep increase in global demand for excavators in such a short period of time⁵ has imposed a situation, where VCE BL Excavators face major difficulties in matching production with market demand. As the situation is today VCE cannot meet market demand with the existing production capacity of Changwon production plant in South Korea. Hence, VCE faces a situation of unsatisfactory battling with a shortage of available products in the ME market.

1.3.3 Efficient logistics
In order to put products, in this case crawler excavators, available in the market place efficient logistics are one of the most decisive tools for success. Since VCE have a rather short history competing in region international, a well formulated competitive logistics strategy is missing. In the case of VCE excavators produced in Changwon, South Korea with the purpose to supply

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⁵ Volvo CE SD2008, ‘EXCBL Market Direction +/- global market’ (20080305).
ME, the situation is untenable. The actual case is that VCE have extreme problems bargaining for shipping contracts in order to take the machines to the Middle East market. VCE have a set-up of physical distribution where machine deliveries are done to single individual markets or directly to the dealers. This decentralized distribution generates lower and more fragmented volumes, which become a problem for VCE in its challenge of finding shipping suppliers. The importance of an efficient logistics strategy has increased as a result of industry globalization. Today corporate, business and functional strategies must be cohesive and take logistics into deep consideration since it have become so important for success and sustainable competitive advantage. Many MNCs today differentiate its business activities through logistics and organizations that sluggish in logistics development risk to loose customers and competitiveness.

1.3.4 Untenable situation

As mentioned earlier, VCE is struggling with a capacity shortage in terms of matching production and logistics with market demand. Furthermore, this has lead into a situation, where VCE is running the Changwon plant with overtime work in order to keep up with market demand. However, even though trying to increase production capacity the present situation with a shortage of shipping space restricts the finished excavators from reaching their final destinations. This generates a situation with ‘unshipped’ excavators standing in Korea on one hand side while on the other hand side customers in ME scream for more machines.

‘This situation is untenable, it costs a lot of money and restrains Volvo CE’s full potential’

Yongjin Kim (20080130)
1.3.5 **Introduction conclusion**

As a conclusion from this introduction we could lay down that there is incoherence between Industrial setup, efficient logistics and market share growth. In other terms availability of machines and improved lead times becomes major objectives for successful competition in the construction equipment industry, especially while focus is set on the market growth in ME. In the case of VCE, the missing link between market demand and sales opportunities could be assigned to unfortunate shipping conditions from South Korea to Middle East. Therefore, we aim to investigate how an MNC like VCE strategically can change its functional strategy, the logistics strategy, in order to become more efficient and competitive in order to reach international growth.

1.4 **Problem definition**

The above given introduction and discussion lead us to our main research problem. Merriam (1998) argues that the main problem formulation is of a strategic character. We have formulated our main research problem as shown below, in order to make thesis academic and suitable to other companies in general.

1.4.1 **Main Problem**

*How can an MNC change its global logistics strategy to become more competitive in the dynamic Middle East market?*

To answer our main research problem, we have formulated three sub questions as steps to the main problem.

**Research problem 1**
What does the present physical distribution situation look like?

**Research problem 2**  
*How can the MNC organize its internal resources to improve the logistics strategy?*

**Research problem 3**  
*What will a more efficient logistics strategy mean for the activities of an MNC in the Middle East?*

### 1.5 Research figure

To be able to answer our main research question, we have broken it down into three sub questions that have to be answered. Our first sub question discusses the physical distribution of excavators and the key success factors in this particularly industry. Our second sub question discusses how relevant resources could be matched in order to create organisational capabilities that support a more efficient logistics strategy. The third and final sub question discusses what effect an increased availability of excavators will have on the region Middle East market described as societal sectors and organizational fields.
1.6 Purpose

Our primary aim is to enhance the understanding of the global shipping industry and its importance for MNCs. Furthermore, we aim to explain how an efficient logistics strategy is an issue for international growth. On a strategy level, our purpose is to evaluate how VCE’s present logistics strategy supports the corporate goals in the Middle East market. Moreover, our purpose is to give recommendations on how a new resource-based logistics strategy could be implemented, creating new competitive advantage.

1.7 Delimitations

Within the frames of our problem definition, we have made delimitations, as outer borders of our investigation. We have divided our delimitations into two parts; Case Company delimitations and our own delimitations. The case
company delimitations are rather wide and represent the task we were given, while our delimitations narrow down the borders of our investigation.

1.7.1 Case company delimitation request
Our case company requested that we limited our research within the Volvo Construction Equipment region international. Furthermore, the limitations were to investigate the South Korean production plant and the shipping problems of excavators from South Korea to region international. Moreover we were requested to focus more on the physical distribution, i.e. Volvos outbound activities taking place after the manufacturing process have ended.

1.7.2 Our delimitations
Our own delimitations narrow down the borders of the research and specify the field of our research.

- We will restrict our research to the Changwon production plant and crawler excavators shipped to the Middle East sales region.

- Our intent is to examine the logistics strategy of crawler excavators from South Korea to ME and our intent is not to examine the distribution of spare parts, attachments (extra features for equipment device and machines) etc. The reason is that the logistical challenges are of different nature.

- When we refer to Middle East, its includes the countries Bahrain, Iran, Iraq, Jordan, Kuwait, Lebanon, Oman, Pakistan, Qatar, Saudi Arabia, Syria, UAE and Yemen.
1.8 **Case company**

We started our research with a kick off meeting at VCEI headquarter in Eskilstuna. VCEI executives, internal target owner and target leaders attended the meeting. At the first meeting we were introduced to VCEI general plan for 2008. The General plan is conducted by the VCEI strategy group and concludes in six Targets for Operational Development (TODs). As one of these TODs, the task was set to ‘Improve International Logistical Solutions for Machines’ to handle growth in international markets. Furthermore, this TOD was coordinated into our proposed research problem in accordance with VCEI target owner, target leader and Professor Hans Jansson. During our research we have aligned in close relation and cooperation with managers from VCEI region Middle East, managers from the South Korean production plant and BL excavator’s executives.

1.8.1 **Volvo CE**

Volvo construction equipment is one out of nine business areas within Volvo AB. Except for VCE other significant business areas are Volvo Trucks, Volvo Penta and Volvo Busses. Together with VCE these business areas account for 94 percent of Volvo AB’s total sales of 35 billion USD. With the total amount of employees reaching over 100.000 Volvo AB is one of Europe’s biggest MNCs. VCE alone accounts for 16 percent of Volvo AB total sales and globally employs around 12.000 people within production and R&D and an additional 4000 people within sales & marketing. VCE are one of the leading companies in the business of construction equipment. The organisation has grown considerably from almost 10.000 machines in 1990 to 70.000 machines by 2007. VCE are manufacturing and selling construction equipment used in all kind of construction areas in more than 125 countries. (VCE corporate presentation 2007, 071107)
VCE product portfolio consists of excavators, wheel loaders, articulated haulers, motor graders, backhoe loaders, skid steer loaders, compact construction equipment and equipment for road construction. (VCE corporate presentation 2007, 071107)

Moreover, VCE is divided into four sales regions: Europe, North America, Asia and International as shown in the figure 1.2 (VCE corporate presentation 2007, 071107)

![Picture 1: Articulated hauler, wheel loader and excavator](image1)

1.8.2 Volvo CE International
The total market development for construction equipment and especially excavators is growing rapidly in region International and the region is prospected to be the second biggest region in market development. The sales
in the region have increased four times since 2004 and the prospected demand is not declining. (Excavator Business Line ‘BL Calibration meeting’, 20080124)

Vision:
To be the model of Excellence and Care in the Construction Equipment Industry

Mission:
To create Value for our Stakeholders; Customers, Employees, Shareholders, Community, Brand and, Channels and Suppliers.

The wanted position by 2009 is world leading in customer satisfaction, brand image and clear number three in industry revenue. (VCEI General Plan 2008, 080116)

1.8.3 Volvo CE International ME
The demand for construction equipment in ME have been extraordinary the last couple of years. VCE sales nearly doubled in the region between 2006 and 2007, and the sales for 2008 are expected to have an additional increase by 50%. In general the construction boom in the region is expected to continue in for several years. (VCEI General Plan 2008, 080116)

VCEI region Middle East consists of Cyprus, Syria, Lebanon, Jordan, Iraq, Kuwait, Iran, Pakistan, Qatar, UAE, Saudi Arabia, Oman, Yemen and Bahrain. (VCEI General Plan 2008, 080116)
1.8.4 **Volvo CE Business Line Excavators**

Furthermore VCE is divided into five different product categories or Business Lines (BL): BL Haulers & Loaders, BL Road Machinery, BL Compact Equipment, BL Lingong and BL Excavators. The BL excavators have an industrial setup with production units in Konz, Germany, Changwon, South Korea, Shanghai, China and Asheville, USA. Furthermore, BL excavators have a depot in Brazil. Regional assembly and manufacturing (RAM) plants are under development in various countries and are expected to start assembling excavators within a couple of years. (Excavator Business Line ‘Strategy Dialogue, 2007- 2015’, 20070412)

**Vision**

*Be recognized by customers as one of the top 3 providers of excavator-based solutions in the markets we participate in.*
Mission

To be an integral part of Volvo AB/Volvo Construction Equipment’s offering of segment-specific digging, lifting, breaking, cutting and contouring solutions.

Volvos BL excavators’ present market position is number four after Caterpillar, Komatsu and Hitachi. Volvos BL excavators aim to grow stronger in terms of market position and market shares. The operative goals and objectives for VCE BL excavators is to claim position number three in the global excavator industry by 2010. (Excavator Business Line ‘Strategy Dialogue, 2007- 2015’, 20070412)

1.8.5 Volvo CE Business Line Excavators ME

The excavator demand in region international is blooming and region ME is one of the regions where the demand is increasing considerably. By 2009 the region ME will be the second biggest region within VCEI. VCEI Business targets and actions in the ME region during 2008 will be to reach the desired market share target XX%. Furthermore, development of the regional sales training and enhancement of relationships with the VIP customers in the region is set to be a major objective for the company. (Excavator Business Line ‘BL Calibration meeting’, 20080124)

1.9 Outline of the thesis

The figure below shows the outlined our thesis.
Chapter 1: Introduce the reader to nature of the problem. Background of the research, purpose, problem definition and delimitations are introduced.

Chapter 2: Shows how the research was conducted; Research strategies, methods, approach, design and quality are presented.

Chapter 3: Provides the theoretical framework used to answer our research questions.

Chapter 4: Presents the empirical findings gathered about the shipping industry in South Korea.

Chapter 5: Presents the empirical findings gathered about Volvo CE Business line excavators in South Korea.

Chapter 6: Presents the empirical findings gathered about the region Middle East.

Chapter 7: Analyses the empirical findings from chapter 4, 5 and 6 with the theoretical framework as a foundation.

Chapter 8: Concludes the academic questions and draws up strategic conclusions.

Chapter 9: Gives suggestions for further research.

Figure 1.4: Outline of the thesis (Florby and Justad, 2008)
2 Methodology

The intent of this chapter is to explain and justify how we have conducted our research. Our research strategy, methods, approach and design will be described and discussed. How our data collecting and analysing proceeded will follow. In closing the chapter, quality and trustworthiness will be discussed to gain the highest level of internal, external validity and reliability of our research.

2.1 Research strategy

The research strategy, or the research design, is the comprehensive strategy of how to gather and conduct research information. Yin (2003) argues that there are five research strategies; experiment, survey, archival analysis, history and case study. Concerning the latter, Merriam (1998) argues that the case study is designed to gain in-depth understanding of the situation and meaning for those involved. Gummesson (2000) argue that case studies can vary in characteristics. However, there are especially two major characteristics that he emphasises, generalisation and specific conclusions. Gummesson (2000) describes generalisation as a case study consisting of interviews, in one or more case companies with focus to lay down general conclusions. The purpose with ‘specific conclusion’ is to find a specific conclusion for one single phenomenon or company. This latter approach, ‘specific conclusion’ of conducting a case study is strengthen by Duboис and Gadde (2002, pp. 554) who argues ‘that case studies are too situation specific and, therefore, not appropriate for generalisation’.
<table>
<thead>
<tr>
<th>Strategy</th>
<th>Form of Research Questions</th>
<th>Requires Control of Behavioral</th>
<th>Focuses on Contemporary</th>
</tr>
</thead>
<tbody>
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<td>How, Why?</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
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<td>Yes</td>
</tr>
<tr>
<td>Archival</td>
<td>Who, what, where, how many, how</td>
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</tr>
<tr>
<td>History</td>
<td>How, Why?</td>
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<td>No</td>
</tr>
<tr>
<td>Case study</td>
<td>How, Why?</td>
<td>No</td>
<td>Yes</td>
</tr>
</tbody>
</table>

**Figure 2.1: Research strategies (Yin 2003, pp 5)**

In general, case studies are the preferred strategy when “how” or “why” questions are being posed, when the investigator has little control over events, and when the focus is on a contemporary phenomenon within a real life context.

(Yin, 2003, pp. 1)

However, the case study method has some drawbacks. According to Yin (2003) the most frequent pitfall is that the case study investigator does not follow systematic procedures, or has allowed equivocal evidence or partial views to influence the direction of the findings and conclusions. Furthermore, he argues that a second drawback is that a case study provides little basis for scientific generalisation. As a third complaint Yin (2003) argues that case studies are extremely time consuming and often results in massive, unreadable documents.

As a research strategy we have chosen the case study approach since our research requires an in-depth understanding of a specific phenomenon in a specific case company, VCEI. As a research strategy we consider the case
study as the most adequate approach due to the complexity of the given research problems. Furthermore, we find the case study strategy as of significance in order to gain a monitoring, holistic view of the different market dynamics influencing matching and business strategy formulation for MNCs.

2.2 Research method

Alvesson and Sköldberg (2008) argues that there are two different methodologies when processing a research; quantitative and qualitative. The quantitative approach requires the use of standardised measures so that varying perspectives and experiences of people can be fit into limited or predetermined response categories to which numbers are assigned.

The qualitative research method, on the other hand, is looked upon as a more open method. Furthermore, this method gives an opportunity for data compilation, which generates information of both subjective and objective nature. Another qualitative feature is that it enables the researcher to acquire in-dept data in accordance with the specific research area. Further Dubois and Gadde (2002) emphasise that interactions between a phenomenon and its context its best understood through in-dept case studies. Also significant for the aforementioned approach is that it enables the respondent to participate in a less strict dialogue.

These mentioned characteristics, concerning a qualitative research method, are the foundation of how we conducted our master thesis. Furthermore, the choice of a qualitative approach is based upon the purpose to get an in-dept picture of the studied problem but also to result in specific conclusions.
2.3  Research approach

Alvesson and Sköldberg (2008) states that, a distinction can be made between three research approaches, induction, deduction and abduction. The inductive approach is based on several occurrences and the relation between these occurrences. The identification of this phenomenon in a real life situation and out of this phenomenon develop a theory is seen as an inductive approach. The deductive approach, on the other hand side, is based on theory and the point of departure is to test an existing theory with a particular hypothesis.

![Diagram of research approaches](image)

**Figure 2.2: Research approaches (Own, based on Alvesson and sköldberg, 2008)**

Alvesson and Sköldberg (2008) argue that the abductive approach is the most frequently used in a case study. Abduction could be seen as a mix between the inductive and deductive approach. Abduction has its point of departure in the empirical findings, similar to induction. However, a significant difference is that the abductive approach does not reject new adequate theoretical directions that might occur during the research process. Furthermore, the combination of induction and deduction forms the basis for discovering certain hypothetical patterns. During the research process, the hypothetical patterns are adjusted and refined. This process is according to Alvesson and Sköldberg (2008) a significant feature for conducting a deeper understanding of the research phenomenon.
2.3.1 **Systematic combining**

As an extension of the abductive approach, Dubois and Gadde (2002) examine the systematic combining approach.

>'Systematic combining is a process where theoretical framework, empirical fieldwork and case analysis evolve simultaneously, and it is particularly useful for development of new theories’

*(Dubois and Gadde, 2002, pp. 554)*

Furthermore, systematic combining could be divided into two processes. The first process is to match theory and reality while the second process focuses on direction and redirection. Dubois and Gadde (2002) explain the matching of theory and reality as a process of going forth and back between framework, data sources, and analysis. The matching process plays a crucial part when finding the most suitable symbiosis between theory and reality instead of a forced fit between the two.

Dubois and Gadde (2002) argue that direction and redirection is a vital process when conducting matching. Furthermore, the systematic combining enables the researcher to take new information that might broaden or narrowing the research spectrum into consideration, and redirect the initial focus.
We argue that the abductive approach, with the extension of systematic combining, is the most frequent one in our research. We base this argument on the fact that theoretical framework, empirical fieldwork and case analysis has evolved simultaneously during our research process. Initially we had our point of departure in the empirical findings. Out of this initial approach we’ve matched the empirical data and theory in a process of going back and forth between framework, data source and analysis. During this research process our direction have changed and the hypothetical patterns have been adjusted and refined, which have given us a deeper understanding within the research field. This approach enabled us to take in count new information that broaden, and sometimes narrowed, our view in special parts of the process.

2.4 Case study design

There is a variance among authors how a case study design should be performed. Merriam (1998) have an inductive approach to case study while Yin
(2003) has a deductive approach. We have used a combination of these approaches in our case study design.

2.4.1 Characteristics
A case study could be designed in different ways. Yin (2003) argues that the different designs could be divided into four variables; single or multiple cases with holistic or embedded designs. The first distinction reflects whether the study implies to consist of one or multiple cases, e.g. MNC’s. The latter distinction is made between cases that study a single unit (holistic) or multiple units (embedded) within a case.

The first decision to make, when designing a case study, is whether the research requires multiple or single case study. Since we only studied a single company, VCEI, we have a single case design. Yin (2003) distinguishes five rationales in single case study:

- **Critical case**: The case represents a critical test of an existing theory
- **Extreme or unique case**: The case represents a rare or unique circumstance
- **Representative or typical case**: The case captures and represents a common or everyday situation
- **Revelatory case**: The case serves a revelatory purpose
- **Longitudinal case**: The case studies at different points of time

The second decision to make when designing is whether the case study is on one single (holistic) or multiple (embedded) unit(s) within the case study.

Our case study is a single case design based on Yin’s (2003) definition, since we are only studying one single company, VCE International and its context. Yin (2003) argues that this approach is applicable to use when the case is unique or represents a phenomenon not previously studied. We argue that our
case has the characteristics of a unique case, since our research is conducted with VCE International preferences in a specific circumstance. Furthermore, we have been studying several different units within VCE International, Business Line excavators, region Middle East and international Distribution. We studied the different units on the one hand side internally and on the other hand side VCE’s external network and the business environment/context that the company’s activities take place in. Based on these facts and Yin’s (2003) definition our design is of embedded nature. The case study design is illustrated in figure 2.4 below.

![Case Study Design](image)

**Figure 2.4: Single embedded case study design (Own, Based on Yin, 2003, pp 40)**

### 2.5 Sampling

When a research is conducted, the researcher needs to take in consideration where, when, whom and what to observe. Merriam (1998) argue that there are two different types of sampling; probability and non-probability. Probability research builds on a random sampling selection, contradictive to non-probability sampling. Our intent with this research was to discover, understand
and gain deep insight in the subject and therefore we have been selecting our samples after the criteria, ‘what and where’ we can gain the most insight, and not by a random selection. Furthermore, since our goal is to gain deep insight and not generalise in statistical sense, our sampling method is considered as a non-probability sampling, also called purposeful sampling. Furthermore, Merriam divide Purposeful sampling in six categories; Typical, unique, maximum, convenience, snowball and theoretical sampling. We have used convenient sampling as our sampling method since it is based on time, money, location and availability of respondents.

2.6 **Data collection**

According to Merriam (1998), the data collection in a case study research usually involves the three strategies, interviewing, observing and analysing documents. Furthermore, Yin (2003) argues that data collection in a case study research consist of an agenda with three principles.

**Principle I: Multiple sources of evidence**

The use of multiple sources of investigation enables the investigator to address a broader spectrum of historical, attitudinal, and behavioural issues. According to the author these features aligns with a more convincing and accurate conclusion of the investigated phenomenon/case. However, there are some prerequisites for conducting multiple sources of evidence. The first burden impose that the multiple sources of collecting evidence are more expensive than using a single source, both in terms of time and expenses. Second, and perhaps the most important obstacle in conducting a multiple sourcing process, is that the investigator need the adequate knowledge and techniques to carry out such an extensive data collection.
Principle II: Create a case study database
This second principle copes with the organisation and documentation of the collected evidence. The aim of establishing a case study database is to separate the researchers subjective narrations from the raw data. Another feature is that the data base enables the researcher to go back and take part of real time information and evidence whenever desired. The mission is to develop a formal, presentable database, so that in principle, other researchers can review the evidence directly and not to be limited to the written case study report.

Principle III: Maintain a chain of evidence
The third principle copes with how the data is collected. A case study protocol could be used as a guideline that helps the reader to understand how the data was compounded into empirical findings. We have chosen to describe our way of compounding data into empirical findings in the appendix (Appendix 1, Case study protocol).

2.6.1 Primary and secondary data collection
For this specific case study we have used both primary and secondary data during the research process. Firstly, we have been provided with internal documents, surveys and general plans consisting of company descriptive information, both historically, present and predicted prognosis. This, in alignment with the researched theory and other academic researches within the field of the case topic, consolidates the foundation of the secondary sources that we have examined.

Secondly, we have done interviews which according to Yin (2003) are seen as primary data. Furthermore, interviews have been our primary source while collecting data. With permission from the respondents we recorded several interviews. Hence, this has given us the opportunity to document extensive
information that otherwise could have been lost during the interview. Hence, we have had the opportunity to listen more deeply to the respondent, but also to produce follow up questions both during the interviews and for later occasions. However, there are some drawbacks using a recorder. We realize that the respondent might not reveal the whole truth or might miss out on possible case related critique.

During the interview we set up different roles that shifted consistent during from one interview to another. We divided the interview roles into primary interviewer, follow up interviewer/observer. The primary interviewer was responsible for conducting the interviews, but also to lead the follow up questions. The latter primary role was to assist with both questions and follow up question during the interviews. Another task for the follow up interviewer/observer was to document the interviews but also to observe the physical artefacts, body language of the respondent and symbols in the surrounding environment.

We conducted all interviews, apart from one phone interview, face to face with the respondent. We gathered our primary data about Middle East by interviewing Area Sales Managers (ASM), Area Customer Support Managers (ACSM) as well as coordinators and managers from the shipping department in VCEI headquarter, Eskilstuna. The primary data regarding VCE BL excavators and the market dynamics of the shipping industry in Korea was done in a two weeks field study. The interviews concerning the BL excavator activities, OtD process was conducted at VCE production plant in Changwon. Furthermore, interviews and meetings with Volvo logistics was conducted in the facilities of Changwon while interviews concerning StO and marketing were conducted at VCE headquarter in Seoul. Moreover, interviews concerning market dynamics of the Shipping industry and the shipping situation were done with shipping agencies, shipping companies, car carrier companies and freight forwarders in Seoul. A more practical approach was taken as we visited the port of
Pyongtaek for a guided port tour as well as meetings with port executives and contract entrepreneurs, specialized in port and terminal construction.

2.6.2 **Active vs. Passive Data**

Dubois and Gadde (2002) make a distinction between two types of data, active and passive. An active interview is explained as a more structuralized collection-process, generating passive data and vice versa. The authors explain it by stating that a very active interviewer will come across passive data only, passive data is seen as a limited answer connected to a direct question. Merriam (1998) argues that this kind of highly structured interview gives direct answers to the question. Dubois and Gaddes (2002) definition Active data on the other hand requires a more passive interviewer and gives the respondent the opportunity to speak more freely while answering the question. Merriam (1998) argues that this kind of informal interview is seen as more of a conversation and gives the interviewers a broad view of the subject. Furthermore, he states that it is more common used in an explanatory stage. We started this case study research in a passive way to generate more active data. Moreover, we felt that this point of departure was the preferred way to gain the best overall picture. The further our research developed the focus became more narrow. Which in turn lead us into a more active approach, collecting and conducting passive data.

2.7 **Data analysis**

Yin (2003) argues that case study evidence is one of the least developed and most difficult aspects of a case study. Further he focus on a deductive approach which has a focal point in testing theories. Yin (2003) further argues that researcher that do not have a clear analytical strategy is tied to ‘play with data’ until coherence occurs. However, this view is not recommended by Yin,
hence it reflects his deductive approach. Merriam (1998) who on the other hand have an inductive approach argues that collected data should be classified in order to develop models or generate theories.

We have managed our data analysis in an abductive way, which conducts a combination of both above mentioned methods. Moreover, we have been playing with data to test and create models during our research process.

2.8 Quality of the research

Both Yin (2003) and Merriam (1998) discuss validity and reliability. However, Yin has a more deductive approach, which intend to draw general conclusions while Merriam has a more inductive approach which means that she have a more subjective view to the research. We will use neither of these in their pure form, but combine the different views when we measure our validity both internal and external, and reliability.

2.8.1 Internal validity

According to Merriam (1998) internal validity is related to how deep the research findings match reality. She continues to argue that the reality is holistic, multidimensional and ever changing. In a qualitative research it is important to understand that the reality is constructed by interaction between humans, and not a single, permanent, objective phenomenon waiting to be discovered. Merriam (1998) further argues that researchers should use triangulation, checks, peer examination and clarify his/her biases to enhance the internal validity. Hence, a vital role is appointed internal validity when giving recommendations to the case company.

To increase the internal validity of our research, we have used multiple sources of information. Hence, we have used multiple sources within the organisation
for our research problems. Furthermore, we have asked respondents to confirm given data, empirical findings and our interpretations. We have also had a close relationship with our case company, VCE International, which enabled us to gain in-depth information about our research problem. Furthermore, since the shipping industry and exporters are interdependent, we argue that the information we gain from external sources such as shipping agents, shipping companies and port executives is of high validity, since all involved actors want to improve the present shipping situation. To conclude, we argue that our internal validity is high.

2.8.2 External validity
Merriam (1998) argues that external validity concerns to which extent the findings in the case can be applied to other situations. She further argues that qualitative research as a single case or small non-random sample is selected because the interest of gaining in dept understanding, of the particular case, and not generate generalisations. In order to enhance the external validity the researcher could make an in dept description of the situation and create a scenario where the reader could determine whether the case study is applicable for generalisation or not. Merriam (1998) argues that there are two ways of describing the situation; rich or thick description and typical category. On one hand side, rich or thick means that the descriptions explains the situation in order to let others compare their situation with the case. And on the other hand, typicality describes how typical an event seems to be.

Since our research is based on one single case company, VCEI, the recommendations might not be applicable for other MNCs. Furthermore, we have explained the situation in this specific case situation and other MNCs can evaluate how their organization can fit this specific profile in this particularly situation. The present shipping situation in Korea is extremely tense and not a typically case; therefore our findings might not be applicable on geographical
markets with a shipping situation defined by lower intensity. Even though we present the case thoroughly, in order for other companies to evaluate how their profile fit within our case company context, we believe that our external validity is not very high.

2.8.3 Reliability
Reliability refers to what extent the research findings or evidence could be replicated with the same result by another independent researcher (Merriam, 1998). Furthermore, Merriam (1998) argues that in contrast to natural science, the social science is problematic especially when it comes to measure reliability. However, since human behaviour is non-static, additional observations within the field cannot make the observations more reliable.

It is hard to measure the reliability, but there are strengths and weaknesses that increase or decrease the reliability. The strengths in our research is that we have interviewed shipping executives involved in the strategic decision making, therefore another independent researcher would probably get fairly the same answers about the shipping industry. Furthermore, we did all interviews, accept from one phone interview, ‘face to face’ which enabled us to interpret the body language of the respondent, artefacts and symbols in the surrounding environment that influenced us as researches as well as the respondent.

The weakness of our research has been the risk of misinterpretation. To minimise this, we have recorded the interviews with the respondent’s approval. However, in some cases the respondent did not approve to be recorded. Hence, some interviews are only documented on paper. Furthermore, the ‘follow up interviewer/observer’ documented the interviews and observed the body language, physical artefacts and the surrounding environment to understand the answers in more detail. We also had the ability to send follow
up questions to the respondent if there was any indistinctness after the interview.

Moreover, there are possibilities that the respondent misunderstood our questions, since all our interviews were in English. Firstly, either we or the respondents have English as their native tongue, secondly, because of the nature of strategy questions. We overcome this problem by explain the questions very thoroughly, and reformulation of question when needed. Furthermore, we argue that both we and the respondents had a fairly good level of spoken English, something that facilitated the interview processes.

2.9 **Summary of the Methodology**

As a research strategy we have chosen the case study strategy since our research requires an in-depth understanding of a specific phenomenon in a specific case company, VCEI. Furthermore, to gain in-dept understanding, we have done a qualitative research. Moreover, the choice of a qualitative approach is imposed by the fact that we are aiming for specific conclusions. We have used convenient sampling as our sampling method since it is based on time, money, location and availability of respondents.

We argue that the abductive approach with the extension of systematic combining have been the most adequate for our research, hence theoretical framework, empirical fieldwork and case analysis evolved simultaneously. We had our point of departure in the empirical findings and as a result of this initial approach we have matched empirical data and theory in a process of going forth and back between framework, data source and analysis.

Our case study could be seen as a single case design according to Yin’s (2003) definition, thus since we been studying one single company, VCEI.
Furthermore, we are studying several units, both internally and within VCE external network, our case study therefore has an embedded design.

We started this case study research in a passive way to generate more active data. We felt that this point of departure was the preferred way to gain the best overall picture. The further our research developed the focus became more narrow which in turn lead us in to a more active approach of collecting and conducting passive data. Our case study methodology proceeded as the figure below shows.

Figure 2.5: Our case study methodology (Florby and Justad 2008, based on Alvesson and Sköldberg, 2008, and Dubois and Gadde, 2002)
3 Theoretical Framework

In this chapter we will present our theoretical framework. We have divided our theoretical framework in five separate parts: logistics, resources of the firm, industry key success factors, strategy formulation and finally external environment analysis.

3.1 Logistics

As a first step of our theoretical framework we will describe logistical activities and responsibilities from a broad and general perspective. The purpose is to give the reader a broad overview of logistics as a phenomenon in order to enhance the understanding. Even though the focus of our case study is set on physical distribution and outbound logistics it is vital to give a brief presentation of logistics in its total.

In comparison to many other research fields within the nature of management, logistics is a quite young field. Hence, the development has been rapid in the past few decades. Aligned with this development the definition of logistics has been multifaceted and practitioners, scholars and managers therefore refer to logistics in different ways. A common association is that logistics concerns transportation and warehousing, but as a matter of fact, logistics is about the process of efficient material flow, the physical distribution of flows and the allocation between warehouses.

The above mentioned characteristics of logistics are to be set to tactical and operational. However, Cooper (1997) argues that the strategic dimension of logistics is as important as the tactical and operational. The classical approach to formulating a logistics strategy consists in beginning with the firm’s overall strategy and then defining the logistics strategy that will enable the firm to
reach its objectives. Logistics is thus conceived as a functional support system and a tool for global strategy; control of the flow of materials and goods today constitutes a key factor for success.

Kohn (2005) explains logistics as a ‘part of the supply chain that process plans, implements and controls the efficient, effective forward and reverse flow and storage of goods, services and related information between the point of origin and the point of consumption in order to meet customers’ requirements’. Furthermore, Persson and Virum (1999) defines logistics in seven explicit R’s with purpose to secure the availability of the right product, of the right volume, with the right quality, done the right way, at the right time, delivered to the right customer at the right cost.

‘Logistics is the process of planning, implementing and controlling the efficient, effective flow and storage of raw-materials, in-process inventory, finished goods, services, and related information from point of origin to point of consumption (including inbound, outbound, internal and external movements) for the purpose of conforming to customer requirements’

Persson och Virum (1999, pp. 13)

These definitions point out several important aspects of contemporary logistics, some of which we will discuss further on in the thesis. Common for all is the conclusion that on the one hand side a supplier/producer must fulfil the requirements and demand of the customer but on the other hand side the supplier/producer efficiently must discover and manage the cost aspect to optimize and reduce costs directly linked to the logistics.
3.1.1 Logistical activities and responsibilities

Persson and Virum (1999) point out some main activities and responsibilities for logistics. To mention a few we have ranked six of the most common objectives based on Persson and Virum (1999).

1. Transportation
2. Warehousing
3. Material management/administration
4. Order management and customer service
5. Forecasting
6. Production planning

Since the purpose of this thesis work will be dedicated to the physical distribution of the product. Furthermore, our main focus will be on transportation, outbound logistics and the activities taken place after production/transformation.

![Figure 3.1: Supply chain (Own, Inspired by Kohn, 2005, pp 21)](image)

3.1.2 The role of distribution

Logistics in general have been viewed as equal to transportation and warehousing. Furthermore, the distribution in general terms are about transfer goods and services from one point to another, it is perhaps not surprising that logistics and distribution are looked up on as synonymous. However, this is not a hundred percent correct though the distribution only is one a ‘part’ of the...
logistical systems that a company practices. The distribution, or the physical distribution, concerns the outbound logistics of goods and the delivery from the producers’ facilities to the customer.

According to Kohn (2005) distribution can be referred to in many ways. One of these ways is that distribution is synonymous to marketing. Furthermore, he argues that distribution should bridge the gap between the producer and the customer of a single commodity and therefore being seen as a value-added activity. Therefore, as a value-added activity, distribution could be addressed as synonymous to marketing. The definition of distribution as the physical distribution of goods has traditionally been viewed as equal to transportation and shipping. However, in recent years the physical distribution has come to consolidate more activities and to be a more centralized part of the firms’ strategic agenda.

3.1.3 Distribution set-up
One important decision a logistics manager has to take is the number of warehouses there should be in a logistics system. The importance of warehouses is strategically linked to the cost of distribution as well as the customer service that a producer can offer. According to Kohn (2005) deciding on the number of warehouses is seen as a cost trade-off between on the one hand side warehousing and inventory cost, and on the other hand transportation cost and cost of lost sales. He further argues that the purpose with distribution is to bridge the gap between producer and customer, a gap that often is measured as the geographical distance. Therefore, the physical set-up and footprint of a logistics system becomes crucial to up-hold customer satisfaction and a high level of competitiveness in the market place. However, as a result of revolutionized information technology and the new abilities to impose a tighter control over the logistical activities the geographical focus, number of warehouses, have been shifted in to a focus where time is the
defining factor. This shift has in many cases turned more traditionally theories on their head with a new focus on centralized distribution instead of the previously more frequent decentralized system.

![Distribution setup diagram](image)

**Figure 3.2: Distribution set up (Kohn, 2005, pp 17)**

### 3.1.4 Centralized distribution

Kohn (2005) argues that in order to achieve economies of scale, distribution should both physically and organizationally be centralized to a logistics platform and separated from other functions in the channel, such as sales function. The reason for this is that logistics can be run more effective through this separation at the same time as sales can be more integrated on a local basis and adapted to match local demands. Furthermore, Kohn (2005) describes that a logistics platform should exist of concepts for logistical operations, a physical structure, processes and its activities. On top of this there should be an information system to design the operations as well as reporting the operations. Another advantage with such a system is that expansion into new markets will be enabled and covered by a marginal cost.

Kohn (2005) lists some advantages with re-designing a logistics system into centralized distribution. Divided into two categories he list on the one hand side logistical advantages and on the other hand side service advantages.
Logistical advantages rendering from centralized distributions are:

**Lower fixed distribution cost:** since the resource intensity is lower in running one centralized warehouse. Diminishing costs directly related to warehouse activities.

**Lower variable cost:** constant transportation cost and a lower amount of total inventory.

**Gains owing to integration and separation of activities:** Lower management cost due to centralization of activities. Lowering learning costs: as all products are localized to the same warehouse old products can be phased out quicker at the same time as the distribution system can adapt faster to fluctuations in volume.

On a level where service is the common variable for a centralized distribution system the major advantages are:

**Shorter and more secure lead-times:** applies to all products on all markets

**Higher delivery precision:** more deliveries carried out correctly, both regarding matching time windows and the number of deliveries that have been made at the same time.

**Differentiation:** the possibility of customizing solutions for different markets as a result of centralization.

**Better information:** Easier to manage inventories with centralized distribution. Expected lead-times and information can easier be delivered to customers.

As a summary a centralized distribution system enables a company, perhaps not to hold a full range of products but to hold a more complete product range in comparison with decentralized distribution. Furthermore, and seen from a pure transportation perspective, the total cost will be easier to control due to fewer emergency shipments to individual markets. Furthermore, transportation
to one strategic single point has a potential to decrease the total amount of shipping time and distance which generates a better situation both from a cost perspective as well as from an environmental point of view.

### 3.2 Resources of the firm

In order to formulate a logistics strategy that supports the cooperate strategy it is important to understand the external and the internal environment of an MNC. Since our case study is to investigate how VCE can change its global logistics strategy to become more competitive in the dynamic Middle East market it is vital to understand the internal environment of the MNC. The MNC must identify the internal resources that are relevant for logistics and understand how they could be combined in order to create organizational capabilities supportive for a more efficient logistics strategy.

Grant (2008) argues that it is important to distinguish between the resources and the capabilities of an organisation. The resources are the productivity assets that an organisation possesses and the capabilities are what the organisation can do with its resources. Moreover, an individual resource can’t create an organisational capability that confers as a competitive advantage. Hence, these resources have to be organised and work together to create an organisational capability that is seen as something that they do well in the eyes of the customer. Grant (2008) divides the resources of an organisation into tangible, intangible and human resources.
### 3.2.1 Tangible resources

Grant (2008) argues that the tangible resources are the physical and financial possessions that are identified and valued in the company’s financial statement. It is not the value of the company that are important in this case, but the understanding of the potential of the company to create competitive advantage.

> ‘Information that British Airways possess tangible fixed assets with a book of £ 8.2 billion is of little use in assessing their strategic value. To assess British Airways ability to compete efficiently in the world airline industry we need to know about the composition of these assets, the location of land and buildings, the types of plane and their age, and so on.’

(Grant, 2008, pp. 131)

Grant (2008) states that the tangible resources of an organisation can be divided into financial assets such as cash, borrowing capacity, securities and into physical assets such as plant, equipment, land and industrial setup.

<table>
<thead>
<tr>
<th>Tangible</th>
<th>Intangible</th>
<th>Human</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Financial</strong></td>
<td><strong>Technology</strong></td>
<td><strong>Skills/know-how</strong></td>
</tr>
<tr>
<td>(cash, securities, borrowing capacity)</td>
<td>(patents, copyrights, trade secrets)</td>
<td></td>
</tr>
<tr>
<td><strong>Physical</strong></td>
<td><strong>Reputation</strong></td>
<td><strong>Capacity for communication and collaboration</strong></td>
</tr>
<tr>
<td>(plant, equipment, land, mineral reserves)</td>
<td>(brands, relationships)</td>
<td>Motivation</td>
</tr>
<tr>
<td></td>
<td><strong>Culture</strong></td>
<td></td>
</tr>
</tbody>
</table>

Figure 3.3: resources of a firm (Grant, 2008, pp 131)
3.2.2 **Intangible resources**

Grant (2008) states that the intangible resources of a corporation are considered as the resources that are hard to grasp, but even though they are considered for most companies as more valuable than the tangible resources. Furthermore, he argues that the intangible resources can be divided into technology, reputation and culture based assets. Technology based resources are the technological and artistic resources which are defined in law such as patents, copyrights, industrial technologies and trade secrets. Reputation based assets is the foundation of how an organisation is perceived and in the confidence they instil in customers. These resources are based on the brand and relationships that the organisation possesses. Finally, Grant (2008) states that the cultural resources are based on the organisational culture that influences the organisation.

3.2.3 **Human resources**

Grant (2008) argues that human resource is hard and complex to identify and measure. These resources do not appear in the corporate balance sheet, because of the nature that an organisation can’t own their employees or contract workers. The appraising of the human resource is valued under the period of employment or the period of the contract. Further he states that the knowledge to motivate employees to communicate and collaborate both internally and externally of the organisation is seen as a human resource. Furthermore, the-know how and skills among the employees and the ability to point out competence training needs, hiring and promotion is a great asset to the company.

Grant (2008) divides human assets into three elements that affect the human resources of a firm, skills/know-how, motivation and the capacity for communication and collaboration.
Jansson (2007) make a distinction between how organisations communicate and collaborate. He divides these relationships of in two different networks, dyads and triads. The dyad is a two party network where the supplier and the customer have a direct relation towards each other. The triad is a three party network, where a third party or intermediary works between the supplier and customer. Furthermore, Jansson (2007) argue that the triad can appear in different forms. The triad can be dominated by the intermediary, this means that the supplier and the intermediary have a very strong tie but the ties between the supplier and customer is very weak or do not exist at all. He further argues that the triad could also be more balanced, where the three parties have a more equally balanced relationship and the supplier have a equally balanced relationship towards both the intermediary and the customer.

Moreover, Jansson (2007) argues that there are different ways of approach in supplier relations, transactional selling and relationship marketing. The transactional selling emphasises a short-term orientation looking for suppliers that can solve immediate problems. Each problem can through transaction selling be solved by different suppliers. The relationship marketing on the other hand focuses on finding and keeping suppliers that can solve problems on a long-term basis. The characteristics of relationship marketing is having a continuously research of supplier preferences in order to adapt to and comply with each others preferences improving the relationship.

The internal resources of an MNC are the bases that the corporative activities and operations build upon. However, no resources are productive in its own, resources must be combined and matched in order to create competitive advantage. Competitive advantage are achieved by organizational capabilities therefore it is important to understand the art of combining and matching resources into organizational capabilities.
3.2.4 Organisational capabilities

As mentioned earlier, resources are not productive on its own instead resources must work together to create an organisational capability. Grant (2008) argues that the primary interest of these capabilities is what they can provide as a foundation for the competitive advantage of an organisation.

‘A brain surgeon is close to useless without a radiologist, nurses, surgical instruments, imaging equipment, and host of other resources.’

(Grant, 2008, pp. 135)

The linkage between the resources and the capabilities is of vital art, when developing capabilities. An organisation can have the greatest resource endowments and not manage to create a well functioning cooperation that leads to an exceptional capability. According to Grant (2008, pp. 149) it is not the ‘size of a firms resource base that is the primary determinant of capability, but the firms ability to leverage its resources’.

Grant (2008) argue that an organisation could either start from the inside or from the outside to identify the key resources and capabilities of the organisation. From an external focus, it is vital to understand the key success factors in the industry to identify the organisations key resources and capabilities. Moreover, to organise these key resources and capabilities it is helpful to look inside the organisation. Furthermore, Grant (2008) argues that the organisation can out of this view, assess the strength and weaknesses of the recourses and capabilities within the organisation.

3.2.5 Organizing for logistics

Logistics could be described as ‘the corporate traffic cop’, directing the flows of material and finished products from source through production and distribution
to the final customer. The scope of its potential responsibility is staggering at the same time, as the ability of logistics management to take direct actions is limited.

Cooper (1997) presents a fundamental problem for logistics management: how to build and guide integrated management systems, which spans the entire organization through the actions of other managers. The ultimate objective of the logistics manager is to support corporate goals by delivering products to the final customers, at a time and place of their choosing. This normally means not only managing individual shipments to end customers, but a continuing series of transactions which provide genuine service to customers.

The perspective of logistics has been shaped in recent years by three forces: the concept of supply chain, the movement towards globalization and the integration of industry. According to Cooper (1997) the first of these three forces, supply chain, focuses logistics on integrating the entire set of activities in procurement, production and distribution into a single decision system. The second emphasizes that logistics has developed in a world of international markets and supply links, organized through corporations with global perspectives. The environment of global logistics must take into account different conditions and parameters. The third is a fundamental change in the organization of industrial production. Corporations focus on their core activities, contracting and outsourcing the rest from or to suppliers and service organizations. The last force presents both challenge and opportunity for logistics management. The challenge comes from the necessity to coordinate across organizational boundaries. The opportunity is that this is an extension of the traditional role of logistics management.
3.3 Industry key success factors

According to Grant (2008) a key success factor is what determines whether the firms ability to survive and prosper. Furthermore, key success factors could be identified as the features that are a necessary condition for success in a given market. In dynamic industries, competition between industry participants ultimately becomes a battle for competitive advantage. Therefore it is crucial for a firm to identify the key for success to capture all possible sources for a profitable competition. Furthermore Grant (2008) argues that two questions are to be answered when a firm seeks survival and prosperity:

Figure 3.4: Key success factors (Grant, 2008, pp. 90)

3.3.1 What does our customer want?

According to Grant (2008) the first question one need to look more closely at customers of the industry. It’s important to examine them as the basic rationale for the firms’ survival and existence as well as the underlying source of profit. This implies that the firm automatically must identify who its
customers are, what are their needs, and how they choose between competing offerings. This could also be referred to as the ‘customer preferences’, which is the initial point of departure in a chain of analysis.

3.3.2 Customer preferences
Porter (2004) brings up two dimensions of relations between supplier and customer, the bargain power of suppliers and customers. The bargain power of the customer is about how price sensitive and what relative bargain power the customer has. The customers price sensitivity distress to which extent the customer are sensitive to the price charged by the supplier. The greater proportion of the total cost of the product, the more price-sensitive is the customer about the price. Furthermore, products with a shortage of supply rate in the industry are less price-sensitive to the customers. The relative bargain power is the factors that influence the bargain power of customer relative to the supplier. One factor is the size and concentration of customer relative to suppliers. If there is a concentration of customer that buy small quantities, the bargain power of the supplier gets stronger, because it doesn’t damage so much to loose a customer.

The information is really important in this relationship as well, an informed customer, with price or other vital information, has a better bargain position. The ability to integrate vertical is another factor that increase the bargain power of the customer. Furthermore, they do not have to integrate vertical, but the knowledge that they have the ability gives a better bargain position. The second dimension of customer-supplier relation is the bargain power of the supplier. This dimension handle the relative bargain power discussed above, but from a supplier point of view.
3.3.3 What does the firm need to do to survive competition?

Concerning the second question firms need to examine in order to identify key success factors of the industry. In this question it is important to clarify the intensity of competition and its key dimensions. Furthermore Grant (2008) argues that there is no such phenomenon as a universal blueprint for successful strategy. Moreover, even in individual industries there is no general generic theory for conducting a winning strategy. However, each industry is different in terms of customer preferences and the rationales for competition. Understanding these aspects of industry dynamics and its environment is a prerequisite for an effective business strategy. However, due to the fact that individual firms possess different capabilities and resources every strategy outcome will become unique in terms of linking them together with the industry key success factors. As a summary, industry key success factors could be pinpointed as, the difference between loss and profit, competitive success or failure. More specifically a key success factor could be defined as a specific skill or talent, competitive capability and/or something a firm must do to satisfy customers.

3.3.4 Network relationships

In order to analyse and understand the context of a relationship it is important to identify the substances embedded in a relationship or in a network. Managing relationships becomes more and more important in industry competition nowadays. Ford et al (2003) divides the substance of a supplier relationship into three fields, activity links, resource ties and actor bonds. These features explain the high-involvement that co-exists between the actors as well as the intensity that there is in ongoing activities.
Activity Links
The activity links are intended to create efficient structures between the buyer and the supplier. This linking is strongly related to procedures, routines and systems that are embedded in the firms’ activities. Depending on the frequency of business transactions and volume and the offerings involved, activity links can be directed either towards the physical flow of products, services or the flow of administrative routines between the actors. Furthermore, the activity links are something that evolves during time through mutual orientation to better match the actors’ individual and internal activities with the external settings and prerequisites. Including the supplier activities into its own business systems have become a great success factor for Caterpillar Inc. In order to capture the intelligence that co-exists in a supplier network, which in turn has enabled the competitive advantage of a superior distribution system.

‘The biggest reason for Caterpillars success ha been our system of distribution and product support and the close customer relationships it fosters’

Ford et al (2003, pp. 136)

Ford et al (2003) summarize the high involvement relationship as one with high continuity for efficient improvement through adaptations that leads to cost and revenue benefits over time. Characteristic for this type of relationship is the long-term orientation and the high level of intensity from which actors can identify key benefits for individual and/or mutual success.

Resource ties
Resource ties are the combined outcome of companies’ resources. In certain areas innovation is the result of successfully combined resources. According to Ford et al (2003) this innovativeness is often the spring for specific solutions beneficial for both actors. Hence, the supplier is a potential source of
innovation, possessing explicit knowledge and skills. In order for one company to utilize a business relation one must find a way to adapt its own resources to the ones the supplier have. To define resources, both internal and those of the supplier, is of crucial matter when scooping for benefits and profitability. The more your own resources becomes a key factor for your supplier the more profitable and beneficial the relationship becomes. Ford et al (2003) emphasize the importance of learning and teaching as a process to efficiently match resources and knowledge capital between actors in a relationship.

**Actor bonds**

Actor bonds could be identified as attitudes, trust and commitment that exist in a relationship. Important to know is that building trust and commitment is a time-consuming process that develops over time. Ford et al (2003) argues that the social aspects of the relationship in the end are generating most of the benefits and success. These social relationships are very important in order to interpret what is going on and the status of the on-going relationship.

‘*Actor bonds mean that a relationship with a supplier can withstand substantial strain, as long as the underlying policy is believed by the participants to be sound. On the other hand, even small changes may impact greatly on the supplier relationship if they are interpreted as shifting the underlying philosophy*’

Ford et al (2003, pp. 103)

### 3.4 *Strategy formulation*

In this chapter we will explain how strategies are formulated and as a summary we will give an explanation of how logistics and strategy interrelates and together creates advantages for MNCs.
Grant (2008) argue that ‘strategy is concerned with matching a firms resources and capabilities to the opportunities that arise in the external environment’. He further states that there is an increasing emphasis of the role of resources and capabilities in an organisations strategy formulation, firstly because the external environment has become unstable, and secondly because it has become more apparent that competitive advantage is the primary resource to profitability rather than industry attractiveness. The figure below shows the links between the external environment interface, the internal environment interface and the organisations strategy formulation. Grant (2008) further argue that there are three levels of strategy, corporate, business and functional. Corporate strategy comprises overall strategies for the organisation or group, while business strategy comprises strategies for the different divisions within the group. Functional strategies on the other hand comprise the functions within the division, such as logistics, sales, marketing etc. Furthermore, Grant (2008) argue that it is important that business and functional strategy must be cohesive and support the corporate strategy in order to sustain competitive advantage.

![Diagram of strategy interface](image)

**Figure 3.5: The interface between strategy and the firm (Grant, 2008, pp. 125)**
Grant (2008) states that the greater the external environment tends to change, the more likely it is that resources and capabilities will provide a great foundation for the organisations long term strategy.

Grant (2008) argue that to gain competitive advantage the organisation must organise its productivity assets, the resources into something that is seen as thing that they are doing well in the eyes of the customer, capabilities. The organisation must understand the industry that they are functioning in, identify the key success factors in the industry and organise its resources into a strategy that’s leads to competitive advantage.

![Diagram](attachment://diagram.png)

**Figure 3.6: Links between capabilities, key success factors and competitive advantage (Grant, 2008, pp. 131)**

### 3.4.1 Formulating Logistics strategy
In order to formulate a strategy for logistical activities it is important for a firm to identify whether the logistics is a competitive advantage or a competitive necessity. In order to give the logistics a strategic role in the overall strategy the linkage between profitability and logistics activities must be addressed. Historically logistics activities have been mainly operational but today as a result of globalization and dynamic market changes logistics becomes more strategic based. Today many modern firms have turned logistics into the most important competitive and fundamental for the overall corporate strategy (Cooper, 1997).

He further argues that the strategic formulation of logistics can be expressed by two classic concepts of strategy: the profession and the mission. In concrete terms, to formulate a logistics strategy, one defines the ranges of movement that it produces, how it produces them (technologies, know-how, organization), to whom they are directed (internal or external clients) and the needs that they satisfy. Consequently, this formulation can identify several sectors of activity that are more or less synergistic. Among them, some can be considered support for the firm’s overall strategy (logistics strategy perspective), while other sectors can be vectors of its strategy (Strategic logistics perspective).

**Logistics strategy**

The classic approach to formulating a logistics strategy consists in beginning with the firm’s overall strategy and then defining the logistics strategy that will enable the firm to reach its objectives. Logistics is thus therefore conceived as a functional support system and a tool for a global strategy; logistics strategy should appear as a subset of the overall strategy. The control of the flow of materials and goods today constitutes a key factor for success in numerous domains, which justifies this downstream approach.

**Strategic logistics**
Logistics, like other functions such as marketing and information, also opens new strategic lines of action. In order to formulate these new lines, it is essential to reverse the classic approach, to think strategic logistics rather than logistics strategy. Strategic logistics consist in imagining and developing strategic actions that would be impossible without strong logistics competence. From being seen first as a key factor for success (KSF), logistics is becoming a fully competitive advantage. This viewpoint makes it important to think about logistics at the moment when the overall strategy is being elaborated and to foresee how, in certain cases, it can be the very foundation of the strategic action.

<table>
<thead>
<tr>
<th>Perception of logistics stakes</th>
<th>Logistics strategy</th>
<th>Strategy logistics</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>Strategy support</td>
<td>Strategy foundation</td>
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<tr>
<td>Effects on organisation</td>
<td>Improvement, evolution</td>
<td>Change, transformation</td>
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</tbody>
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*Figure 3.7: main differences between logistics strategy and strategic logistics (Cooper, 1997, pp. 39)*

**Coherence and differences between Logistics strategy and strategic logistics**

The two interrelated perspectives between logistics and strategy, shown in figure 3.8 lead to very different formulations and to company projects and objectives that are also very different. One important feature of the logistics and strategy relationship, the logistics strategy and the strategic logistics perspective, is that they do not exclude each other, but correspond to distinct finalities. Cooper (1997) argues that he determining factor for reversing the perspectives is the maturity of the perception of logistics as a cross-functional and deliberately open-ended management domain in the firm. Therefore, the interactive loop between strategy and logistics is generally maintained by a
request from strategy to logistics with the purpose to control the logistics costs.

![Diagram](image)

**Figure 3.8: From logistics strategy to strategic logistics (Cooper, 1997, pp. 39)**

### 3.5 The basic institutions model
The first four chapters of our theoretical framework focus on the one hand side on logistical activities and external environment of an MNC (the shipping industry) and on the other hand side on the internal environment, resources and capabilities, of an MNC. The fourth chapter concerns how strategies are formulated in order to sustain and create competitive advantage. However, it is also important to understand the very end of the logistical (supply) chain, the customer market. The customer market is the driver behind the demand and therefore consequently the driver and demand behind competitive logistics. Hence, we will use the basic institutions model in order to analyse how a customer market might respond to logistical activities and a change in a MNCs logistics strategy.

Jansson (2007) describes the basic institutions model as a world of institutions examined from the perspective of one institution, namely the MNC. The MNC is placed in the centre of the model, surrounded by the institutional settings of an emerging country market. The institutions illustrated in the model are divided
into two distinguished categories; Organizational fields (second rectangle) and Societal institutions (third rectangle).

The organizational field is described at two levels: the micro institutional level, where specific institutions within the organizational fields are examined, and the meso institutional level. The latter one views upon organizational institutions as an entity. Furthermore, this perspective examines the institutions as embedded with many organizations, e.g. the product/service market which consists of customers, suppliers and competitors sharing common rules, norms and values. Common for the organizational field is the two-way influence. Meaning that the impact is mutual, both institutions and MNC are affected and influenced by the interplay between them.

In the societal institutions, the macro level, the influence is more of a one-way nature. As explained by Jansson (2007), the influence is characterized as directional. Hence, the societal sector influences the MNC and not vice versa.

3.5.1 **External Environment analysis**

When analysing a MNCs external business environment the most common approach is to conduct an inside-out perspective. The inside-out perspective has the MNC as a point of departure, and analyse the MNC s potential influence on the institutional settings of a country market. On the other hand we have the outside-in perspective whit its focus on determine however the development of a country markets external environment might impose strategic changes on MNC activities. According to Jansson (2007) these above mentioned perspectives are combined, as the researcher often moves back and forth, while analysing emerging country markets external environments.
Jansson (2007) divides the institutional approach to environmental analysis into four stages:

1. The identification stage
2. The descriptive stage
3. The explanation stage
4. The prediction stage

Figure 3.10: the four stages of institutional analysis of the external environment (Jansson, 2007, pp. 114)

Stage 1: Identification of Institutions
Jansson (2007) describes this initial step as scanning for potential institutions that are likely to influence MNC activities. Hence, the outside-in perspective is the optional choice for approaching this scanning process. As examined in figure 3.9, the emerging market institutional setup consists of several generalized institutions. However, when identifying adequate institutions for a specific case, one might find that not all institutions could be addressed as relevant for the specific industry or country market that the MNC operates in. Jansson (2007) illustrates certain institutions that are likely to influence MNC activities, but at the same time ads that additional models are necessary when a market is to be analysed.

Stage 2: Description of Institutions
While the aforementioned identification stage, which address a number of adequate institutions that are likely to influence the MNC, this second stage, the descriptive stage, focus on translating and understanding a certain
descriptive language. Furthermore, Jansson (2007) argues that the institutions must be labelled and described in a specific way and projected into institutional language. Institutions are in many cases multifaceted and need to be defined to better understand their influence on economical and political interactions. The main purpose of the descriptive stage is moreover to describe the rules of the potential institutions, the relation to the MNC and its International Business Strategy (IBS), rules that influence or are influenced by the MNC.

Stage 3: Explanation of institutions
The two initial stages (identification and description) define and describe adequate institutions that are likely to influence the MNC. To gain a deeper understanding a third stage, explanation, serves as a tool to interlink the societal sector with the organizational fields. Furthermore, Jansson (2007, pp. 127) describes the purpose of explanation as:

‘To look for rules in the form of explanatory factors or determinants in the third rectangle to explain institutional patterns (rules) and developments in the second triangle. By doing so, one is able to specify more how the institutions identified and described in the third triangle directly influence organizational fields and indirectly MNCs’

Basically, one is to examine how and whether the markets and firms in the second rectangle are influenced by institutional settings and factors in the third rectangle.

Stage 4: Prediction of institutional developments
While stage one-three in the external environment analysis focus on analysing structures and patterns in the external environment the fourth stage, prediction, focus on studying the dynamic nature of the external settings.
According to Jansson (2007) it is important to extend the environmental analysis and examine whether the identified, described and explained institutions are likely to reproduce over time. Furthermore, Jansson (2007) argues that institutions also might become modified, transformed or deinstitutionalized and therefore direct affect the conditions of an MNC.

Since many emerging markets are found in very turbulent external environments it’s likely that the institutional foundations are rather weak. Therefore many decision makers consider the markets as very uncertain, especially when it comes to addressing the future. According to Jansson (2007, pp. 133), ‘the uncertainties of institutional development need to be evaluated’. Hence, he makes a distinction between two types of risks:

1. **MNC risk.** This type of uncertainty concerns how the strategic situation of the MNC is influenced by specific future institutional developments.

2. **Institutional risk.** This is an evaluation of whether a certain institutional development will take place in the future, mainly independently of how the MNC concerned acts. This risk is dependent on the characteristics of the institution in question, for example how complex and dynamic it is.

According to Jansson (2007) prediction of the future could be conducted in several ways. However he argues that country markets, such as emerging country markets, with a high level of uncertainty are best predicted by the scenario method. However, the forecasting method could be seen as an assisting tool, embedded in the scenario method when the conclusion of analysis is expected to be a foundation for future decision-making. Furthermore, Jansson (2007) describes the forecasting method as a suitable quantitative tool for examining the tip of the iceberg whilst the scenario method grasps beneath the surface, examine structures in a qualitative way.
3.6 Summary of the theoretical framework

In the first section of our theoretical framework we discussed the role of logistics, physical distribution and the distributional setup. The role of distribution networks and logistical systems are entering a new era. A new era where the strategically incentives are becoming more crucial for the coherence between logistics and competitive advantage. Furthermore, we present the theoretical benefits of changing distribution systems into a more centralized structure.

We continue the chapter by discussing different kind of resources and capabilities that a company possesses. Based on the theory we distinguished that resources are the productivity assets that an organisation possesses and that capabilities are what the organisation can do by linking and matching their resources. Furthermore, we found out that in order to gain competitive advantage throughout a strategy, organisations must organise and link its resources after the key success factors, factors that determine whether a company succeeds or fail in a certain industry. We have also discussed the coherence between logistics and overall strategy and how these two evolves and interrelates. We have theoretically presented two types of logistics strategy formulation, the logistics strategy perspective and the strategic logistics perspective.

In the last section of our theoretical framework we have discussed the basic institutional model. Since the customer market in many cases defines how a logistics strategy must be formulated it is important to understand the drivers behind market development, opportunities and threats.

Based on the theoretical framework we developed our own research model illustrated below.
1. Identification of Industry Key success factors (KSF), in order to create a pre-understanding about the shipping industry preferences and how the present MNC strategy complies with it.

2. Identification of internal resources. We must identify what resources the MNC possesses, resources that are relevant for the logistics strategy and how these could be organized in order to create organizational capabilities.

3. Organizational capabilities are created if they are experienced as compatible and something good in the eyes of the shipping industry.

4. Strategy analysis. In order to identify the present strengths and weaknesses that exists in the present logistics strategy we must assess and define the coherence between KSF, resources, organizational capabilities and competitive advantage.
5. A scenario with improved logistics will influence or be influenced by the customer market. Therefore it is important to understand how the customer market, described as organizational fields and societal sectors, is organized, what the main characteristics are and how a new logistics strategy will work in practise.
4 The Shipping Industry

In this part we will present the empirical findings about the shipping industry. The information is mainly based primary data collected during field studies in South Korea. The empirical findings consist of interview material conducted in interviews with Shipping companies, Shipping agencies, port representatives and Volvo Logistics. Furthermore, some additional secondary data is gathered through case company documents, presentations, articles and Internet.

Today more than 90 percent of all physical distribution is done by sea. Furthermore, the globalization becomes more and more tangible in terms of new exporters and new destinations, which implies additional demands on an industry suffering from capacity shortage. Due to this situation, the constant battle of available shipping space has turned the shipping industry into one of the most competitive industries for customers.

Basically, the ocean shipping industry could be divided into three main categories, container shipping, Lift on – Lift off shipping (Lo-Lo) and Roll on – Roll off shipping (Ro-Ro). The Ro-Ro vessels, which are the main VCE supplier of shipping space, have had an extreme arise of space pressure the last couple of years.

‘Today the Ro-Ro shipping industry is facing an extreme space pressure, an unprecedented situation with incredible export volumes’

Örjan Johansen (080407)

The situation of an extreme space pressure and a significant capacity shortage haven’t always been the case for the shipping industry. The shipping companies are adequately influenced by the global business cycles. During a
negative business cycle the shipping companies struggles with surplus rather than shortage. In the beginning of the 21st century we struggled with capacity surplus due to the decreasing global exports. ‘This situation was very unfortunate for us though our customers had most of the bargain power and therefore the ability to press freight costs’ says Örjan Johansen (080407). Today the balance of power is different in order to the extreme capacity shortage. In order to help out customers they need to adjust them self after our business and not vice versa Örjan Johansen (080407) continues.

One major reason for the present capacity shortage is the unprecedented boom of exports that is going on. Shipping companies, such as EUKOR and MOL extend their fleet and capacity after what the main customers have in their forecasts. The higher export numbers presented by the customers the more expansion of capacity, it’s easy and logical. However, concerning this way of forecasting and capacity planning the present capacity shortage is a result of an export boom no one could foresee. In general all automobile and heavy construction machinery manufacturers missed significantly in their forecasting. No one could ever believe that the Chinese export industry should grow so rapidly, which according to Örjan Johansen (080407) is one major reason for the shortage situation. For some years now the global demand for shipping space have outpaced the actual capacity which have had an negative impact on exporters with rather low and inconsistent volumes.

4.1 EUKOR Car Carriers Inc.

Eukor is one of the world’s largest shipping companies specialized in transporting automobiles and other rolling cargo. Eukor deliver tailor-made ocean transportation and logistics services of the highest quality to the global automotive industry. Furthermore, the base of Eukor is to export Hyundai Motor and KIA Motors from their plants in Korea and around the world, but
also serve other leading manufacturers of automobile and rolling cargo such as BMW, Scania, Caterpillar, General Motors and Volvo (EUKOR, company presentation, 2008).

Vision

“To be the best shipping company for the global automotive industry’

Eukor directly operates around 90 specialized vessels, and has 11-23 ships on short-term arrangements at any given time. All together, this fleet have an annual transport volume of 3,2 million cars to 200 different ports, in 150 countries, utilizing a extensive network of offices and agents.

Through continuous expansion of route network, minimization of transit times, utmost attention to cargo handling quality and a strong dedication to cost savings for customers, Eukor are striving towards delivering a total customer satisfaction. Hence, strive to achieve their vision of becoming the best shipping company for global automotive industry. Their main field of experience lies within port-to-port ocean transportation of completely built vehicles – primarily cars trucks, busses and heavy machinery.

At a present stage Eukor covers a route network with main trades from Asia to Europe, Asia to North America, Asia to South and Central America, Asia to the Pacific area, intra Asian routes, Europe to the Middle east, East Africa to the east Asia and Europe to east Asia. Furthermore, Eukor have two routes covering the Far East to the Middle East. One route directly from Far East to Middle East and one route passing the Middle East with the Mediterranean as a final destination (EUKOR, company presentation, 2008).
4.2 *Mitsui O.S.K Lines – MOL*

Mitsui O.S.K Line (MOL) was founded in 1884 and is today one of the world’s biggest shipping company. MOL operates more than 700 vessels, from containerships to tramp vessels and specialized carriers for cargos including automobiles, iron ore, coal, natural gas and oil. The MOL group’s total logistics service links sea, air and land transport, warehousing, and distribution (MOL, company presentation, 2007).

MOL operates one of the world’s largest fleets of car carriers, more than 80 in total, some of which can hold up to 6,400 vehicles. Furthermore, all MOL car carriers have enough headroom between decks to accommodate today’s very popular SUVs and minivans, and in many cases also enough strength to handle extra-heavy construction machinery.

In step with the globalization of automobile manufacturing, MOL has developed a world wide route network, in addition to the initial and traditional Japan-based export operations. In recent years the core for development has been the expansion of the ASEAN countries. The ASEAN countries, and especially China, are today emerging as a major exporter. Therefore MOL has an increasing focus on this area in order to meet the rapidly growing demand for vehicle transportation. In order to offer the best total solution in the industry, MOL is adopting the ‘total logistics’ concept. Expanding beyond ocean shipping MOL provides, in certain markets, supply of transportation from factory to port, inventory control, trucking, and inland depot operations.

Concerning routs covering the Middle East, MOL offers one regular rout two to three times per month to the Persian Gulf and another rout to the red sea, one-two times per month. Additional routs pass by some ME ports with final destinations in Europe and the Mediterranean area (MOL, company presentation, 2007).
Both EUKOR and M.O.L have realized the ME, and especially Dubai as a logistics central for the future and have therefore established site offices and organizations in Dubai in order to develop the activities in the region to cover full range solutions.

4.3 Challenges for shipping companies

In order to explain the shipping industry and its challenges more in detail it is important to define what is important and what are the main drivers behind the present situation.

4.3.1 Capacity situation

The present capacity situation could be explained by three major reasons.

1. The customers of the shipping industry, those companies who demand shipping space for their exports, missed significantly in forecasting during a couple of years. Since new vessels are such a significant investment shipping companies around the world did not dare to take the chance and spend enormous amounts of money on new vessels. In order to avoid the risk of having a capacity surplus shipping companies are conservative concerning buying new vessels.

2. China emerging as a leading global exporter was also something that could not be foreseen. According to Örjan Johansen (080407) everyone knew that China was under transition, turning towards more global business activities but that no one could ever believe that they would turn out to be one of the world’s biggest exporters in such a short time. This is something that has contributed to the extreme space pressure. China often produces goods to a relatively low cost and therefore has
high export volumes. Furthermore, higher export volumes are more attractive for the shipping companies.

3. The lead-time for a new Ro-Ro vessel is today more than four years. Even though a lot of new vessels are in the pipeline the time to market is extremely long and therefore the capacity situation only faces insignificant improvements. The exports increase, if not in a higher, at least in the same pace as the new Ro-Ro capacity reach market, which generates in a status quo.

4.3.2 **Cost situation**

By having oil as their main consumption resource strongly affects the cost situation for shipping companies. When oil prices reach all time high levels, durability of vessels also reaches new cost levels. The cost situation imposes a need for increased efficiency in order to cut down costs and increase the gross margin per shipped unit. The exporters must realize a higher freight cost and some export markets like China and Japan have, but South Korea have not. Moreover, the prices for new ships have had a great impact on the total cost for shipping companies.

‘Ordering a new Ro-Ro vessel cost today more than 100 MUSD. A couple of years ago a Ro-Ro vessel could be bought at the price of 50 MUSD, the increased investment price puts a lot of pressure on our profitability. However, at same time as the initial investment in Ro-Ro vessels becomes continuously higher, the capacity increase, at the same time the fuel consumption decreases. New vessels are much more efficient concerning the durability, so in a long-term
perspective this will improve the whole shipping situation. But who will help the shipping companies to cover those initial expenses?’

Örjan Johansen (080407)

4.3.3 Flexibility

In order to improve the shipping situation with a shortage of available space, flexibility of many exporters must increase. Örjan Johansen (080407) understands that this will be hard to achieve but says that:

‘In order to meet the increasing demand of exports the exporters must recognize us, the shipping companies as something that adds value to their businesses.’

‘If the shipping industry could be perceived as a value added service I am quite positive that exporting firms would try to embed the shipping industry more in their systems’ says Min Han (080407). Furthermore, Min Han (080407) says that many exporting companies’ gets too involved with the outbound logistics and puts up unrealistic demands. He further states that this is definitely something that all companies should think over. Örjan Johansen (080407) says that exporters often try to rule the shipping companies business as well, while they should focus on their core competence, building cars, and leave the shipping to the companies that have shipping as core competence. An example could be that exporter X wants to ship 45 items from destination A to destination B with departure and arrival on certain specific dates and another quantity of 45 to destination B three days after. Using this system means that shipping company has to adjust a lot the situation and it is not optimal. This is a state of the art situation in terms of how to increase the freight cost Örjan Johansen (080407) says. He further argues that the shipping companies would prefer to have a specific date for arrival of the items on final destination, and
organise the pick up of the items due to their schedule and not have specific departure dates. "We will give the exporter a time frame of three days when we planning to pick up the products, and they make sure that the products are prepared in the port’ Örjan Johansen (080407) further states. On this way cost could be cut in the system which is a benefit for both parts. Since our service consists of so much more than just ocean shipping today we know how to help exporters decreasing their total shipping cost. However, they must recognize this and realize our importance by implementing shipping company systems into their own systems says Min Han (080407). He further says that collaborations like this, between exporters and shipping companies, could take cost out of the system and improve the situation both in terms of space and cost.

4.3.4 Optimization
In order to improve the ongoing situation the answer is optimization. Optimization in this case means 100 percent durability of the vessels to the lowest possible cost says Örjan Johansen (080407). Optimization could impose some adjustments for the exporters, but the result will perhaps increase the satisfactory.

‘Exporters need to do a trade off between sacrifices and benefits, common business sense. Unfortunately, concerning the shipping industry this is hard for many companies. Putting everything in its context by comparing some ten years ago with the present situation. Today we live in another world; exporters need to strain themselves in order to improve the situation’

Min Han (080407)
Optimization is going to be the result of exporters’ flexibility, and this together with the shipping companies’ know-how and competence can lead to innovative solutions taking cost out of the system.

4.4 **Customer Preferences of the shipping industry**

In order to give a picture of potential innovative solutions it is important to examine the preferences of a shipping company.

4.4.1 **Collaboration**

The exporters must count in the shipping industry in to its own production systems. The shipping industry preferences must influence the OtD systems. In the case of KIA and Hyundai we have developed tailored shipping systems that enable efficient vessel operations says J.H. Lee (080410). The efficient workflow of the Pyuntaek port is a result of in-depth collaboration between KIA and EUKOR (appendix 2). This is what the future looks like exporting companies must integrate with the shipping industry in order to achieve efficient and more profitable shipments. Since the collaboration between KIA and EUKOR have turned out so well we have decided to invest more money in exclusive terminals for our key account customers. Smaller exporters like VCE cannot reach the same level of collaboration as EUKOR have with KIA and Hyundai due to the low volumes they operate with. However, many features from this collaboration such as the information flow and the planning processes could be transferred to VCE in order to facilitate better shipping conditions.
4.4.2  **Consolidation**  
Combine the resources and capabilities of actors, shippers and exporters, in order to reach innovative results and improvement of the shipping situation. Furthermore, consolidation means that one vendor with several production units could consolidate the output volume into one big shipment. In this case optimization is achievable. Yansik Kim (080408), M.O.L, Chief Car Carrier Team says that in recent years, product transport from Asia to Europe and the United States has increased. The MOL Group offers a service, which transports all the products purchased by European and U.S. retailers and apparel companies from several suppliers in China and Southeast Asia, from ports in Asia. By consolidating the cargo at loading ports, we can greatly reduce transport costs compared to transporting each shipment separately. We call this service our "Ocean Consolidation Business (OCB)." It helps our customers at all stages, from the production sites to warehouses and cargo collection/delivery centers. MOL's exclusive Starlink logistics management system allows customers to check the status of their cargo from anywhere at any time via the Internet. MOL Group's OCB is a logistics service that delivers real benefit to customers while fully utilizing the advantages of our worldwide group network.

4.4.3  **Relationships**  
Always have a good solid relationship to the shipping companies. There will be situations when the shipping company cannot help you. It is important to maintain a good atmosphere even though you as an exporter might feel overlooked say Min Soo (080408). If we have a good solid relationship with our customers it is easier for us to help them with their shipments. The same thing goes for the customers, if they have a good solid relationship with us they will enhance their knowledge about how we prefer to run our operations. To have a consequent flow and transfer of information and know-how between customer and supplier creates a good base for improved operations. If you se us,
EUKOR, as a service supplier adding value to your business perhaps it becomes quite clear that information must be shared and handled in a collaborative sophisticated way. Every supplier customer relationship that builds upon a service application is dependent on information otherwise it becomes hard to find the perfect solution (Örjan Johansen, 080407)

4.4.4 Value added service
The physical distribution must be realized as a value adding activity. Without it are product/goods is worthless. It’s clear that exporters with a higher understanding for our business, our importance, have a more efficient physical distribution, Örjan Johansen (080407). Furthermore, he adds that today many exporters see everything as transactions with cost and prices, if companies tend to only think in those ways the situation will be untenable. The actors in the shipping industry must work in a symbiosis instead, creating value for each other. M.O.L and all the other shipping companies have a problem solving approach in its strategy, and this way of thinking must be transferred into exporters view on logistics as well says Yunsik Kim (080408).

4.4.5 Future Information about the shipping industry
Today are all involved companies working to improve the present shipping situation. Both Shipping companies and car manufactures are building and improving their port terminals. The South Korean car company KIA, have built and developed two exclusive export terminals in the port of Pyangteak, close to their production in Hwa-Sung to get more efficient shipping. More than 60 percent of the export of KIA cars goes exclusively from this Port. Hyundai is another car producer that gathers most of their export to one harbour, almost 90 percent of their export of cars departure from the port of Ulsan.
EUKOR are in present situation building two terminals in the port of Pyoungteak to improve the shipping situation. By building more terminals are the shipping companies and car companies increasing the yard space of the ports, which in other terms lead to more efficient shipping states J.H. Lee (080410). He further states that before they had to ship machines between ports because of the lack of free yard space and that leads to occupied vessels.
5 Volvo CE Business Line Excavators

This chapter presents the empirical findings we found out in Sweden, but mainly from our field study in Changwon and Soeul, South Korea. Our primary data is mainly collected during interviews in the VCE Changwon plant in Changwon and VCE headquarters in Seoul. The secondary data is based on company presentations, internal documents and internet.

VCE is divided into five different product categories or Business Lines (BL): BL Haulers & Loaders, BL Road Machinery, BL Compact Equipment, BL Lingong and BL Excavators.

VCE BL Excavators have had a steady growth in terms of market share the last decade. VCE BL excavators have grown from being the eight biggest actor in 1998 with 4,5% market share, to be the fourth biggest actor with 7,2% market share in the business. The great competitors in the excavators business are Caterpillar, Komatsu and Hitachi in order of precedence of size. Furthermore, BL excavators are aiming to claim the number three position in the global market with X.X% market share by 2010. The figure below shows market share 2006 (left diagram) and market share goals in 2010 (right diagram).

Figure 5.1: Market share goals by 2010 (Excavator BL strategy dialogue, 2007-2015)

'BL excavators are now the fourth highest mountain in the world, Lhotse, but we are aiming to be the third highest mountain, Kangchejango, by 2010.'

Yongjin Kim (20080309)
This vision of gaining market share is appointed in the vision, mission and goals set in the strategic dialogue for the BL excavators.

**Vision**

*Be recognized by customers as one of the top 3 providers of excavator-based solutions in the markets we participate in.*

**Mission**

*To be an integral part of Volvo AB/Volvo Construction Equipment’s offering of segment-specific digging, lifting, breaking, cutting and contouring solutions.*

**Goals by 2015**

The operative goals are to sell more excavators and build in a higher profit per sold unit. The market share goals are set as below:

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**Figure 5.2: Market share goals by region 2015 (Excavator BL strategy dialogue, 2007-2015)**

To increase the market shares, BL excavators are continuously working with their identified business fundamentals. BL excavators is focusing on building a integrated high calibre global organisation and in their soft value strategy contains of building strong customer knowledge, build a global purchasing...
competence, upgrading service skills and support, and build up a global engineering competence. The hard value strategy contains of building up a global production infrastructure, improve the global infrastructure and build up good distribution channels. These business fundamentals are expected to build up BL excavators and help it reach a mature business by the end of 2010, with a full line-up of products and a globally satisfying industrial infrastructure.

**Figure 5.3: Key strategies until 2015 (Excavator BL strategy dialogue, 2007-2015)**

Moreover, within these key strategies are the goals of becoming number one in customer satisfaction by 2015 and number three in terms of market share included. The strategies also includes goals such as archiving ISO certification, development of product portfolio cover and institutionalise 6 Sigma culture in all production plants and Regional Assembly and Manufacturing (RAM) plants.

**Figure 5.4: Goals until 2015 (Excavator BL strategy dialogue, 2007-2015)**
5.1 Industrial set up

The BL excavators have constantly developed their industrial setup for the last couple of years. The BL excavators present industrial set up have production plants in Changwon in Korea, Konz-Könen in Germany, Shanghai in China and Asheville in USA. Volvo has a three-step strategy to increase the globally industrial set up that are set to be finished by 2015. The first step in this strategy was conducted in 2005 and included the RAM expansion in Shanghai and Konz. BL excavators are presently in the implementation process of the second step in this strategy. This step includes the expansion of RAM expansion in Asheville and the future RAM development in various countries. During this step will also the production capacity increase in the plants in Changwon, Konz and Shanghai.

The third step includes a RAM expansion in other countries and an additional capacity increase in Konz, Shanghai and Asheville. The capacity will by this strategy expand and increase from three manufacturing locations with a capacity of 12,200 units in 2006 to more manufacturing locations with a capacity of X.X units by 2015.

Figure 5.5: RAM development (Excavator BL strategy dialogue, 2007-2015)
Main competitors industrial set up are quite the same as VCE BL excavators, the production plants are spread globally. The biggest actor in the construction equipment industry, Caterpillar, has manufacturing plants for crawler excavators in USA, Brazil, Belgium, France, Japan and China, and production centres for wheeled excavators in France (appendix 3). Caterpillar also has an extensive global RAM coverage. The industrial footprint and RAM set up have a total capacity of 33,000 units a year.

The second biggest actor, Komatsu, has manufacturing in USA, Brazil, UK, Sweden, Germany, Italy, China, India, Indonesia, Thailand and Japan (appendix 4). Furthermore, they have also developed a well functioning RAM coverage close to the markets and are in the phase of developing four new production plants. Two of the regions that they have reviewed for new production plants are in Russia and South Africa. The industrial set up have a total capacity of 33,000 units a year.

The third biggest actor, Hitachi, has manufacturing plants in Canada, USA, Netherlands, India, Indonesia, China and Japan (Appendix 5). Moreover, they are expanding their globally RAM coverage and are presently reviewing to increase their industrial set up with four new production plants in the near future. The industrial set up have a total capacity of 20,000 units a year.

‘Both Komatsu and Hitachi will expand their industrial set up with four new production plants in the next coming years.’

Beomsu Kim (080403)
5.2 Assembly footprint

The strategies for the new industrial set up are to produce high volume machines close to the market. Furthermore, the spread of manufacturing and assembly plants will give BL excavators the opportunity to divide the production on high volume machines to several production centres. By this strategy can BL excavators increase their production capacity from X.X units to X.X in a range of ten years. Moreover, this strategy will release some of the production pressure from the core plants, Changwon and Konz, and allocate the production balance between all RAMs. Figure 5.6 shows how the supply of machines will change from X.X% supplied by core plants to X.X% supply by the RAMs close to the market.

Figure 5.6: production allotment
(Excavator BL strategy dialogue, 2007-2015)

'The expansion of the industrial set up will increase our production capacity and be a crucial step to achieve our goal of having the third largest market share.'

Seyeong Kim (080401)
5.3 Depots

Apart from the development of the industrial manufacturing and assembly footprint, VCE are simultaneously developing regional depots. The regional depots enable centralized distribution, regional assembling and attachment of knocked down machines. Seyeong Kim (080401) says that the machines arrives with boom, arm and bucket separated to the depot where they are assembled and attached to the base machine. The strategy is to work with continuously improvements of the existing depots though periodic audits and development of new depots in regions with high growth potential.
5.4 BL excavators Changwon, Korea

BL excavators core production plants are Changwon and Konz. Furthermore, Changwon is the biggest supplier of excavators in BL excavator. The production includes crawler excavators up till 70 tons classified in four assembly lines. The lines is classified are compact (0-14 tons), medium size (14-29 tons), large size (30-69 tons) and extra large size (70 tons and up) excavators.

All assembly lines is supervised and under a system called ALC (Assembly Line Control). The ALC system primary purpose is to supervise the four assembly lines, see what sequences and serial number that are in process and what sequence that should be in process next. Seyeong Kim (080401) says that ‘by this system we could see which type of excavator that is in process and when it is going to be finished and ready for delivery’. Further he says that this
makes it easier for the suppliers to supply directly to the assembly line with just in time delivery when they have control over the production schedule. The production schedule is set in the end of the day and is an evaluation of the daily work and a forecast for future production. Furthermore, due to the daily updated production schedule, with the ALC system and the coordination of just in time delivery directly to the assembly line, it becomes easier to manage a shift of excavator models in the production process.

5.4.1 Shipping Machines out of Changwon

There are many things to consider when shipping excavators; they are both higher and heavier. Firstly, the excavators’ producers can’t compete with the production volumes of the car industry. Secondly, the vessels are built so that high and heavy products must be placed on a limited space in lower parts of the vessel.

‘When it comes to shipping such high and heavy products as excavators, it’s getting harder the heavier the excavator weights. Excavators with a weight over eleven tons are hard to ship.’

Kilwon Kim (080331)

Kilwon Kim (080331) says that the shipping contracts from Changwon plant differs due to the final destinations. Logistics activities and shipping within the VCE organization is mainly handled by Volvo Logistics. However, in the case of VCE sales division international the shipping is handled by the internal shipping department in collaboration with an external shipping agent, B.G.S International Co., LTD. When Volvo logistic are negotiating for a contract with shipping companies they are gather the global volume to a destination in Gothenburg and bargain for a contract with the shipping company that are
strongest in the market to that destination. VCE have contracts to Netherlands, Panama and Brazil from Changwon production plant.

Kilwon Kim (080331) says that the physical distribution of excavators produced in Changwon, South Korea is different regarding which sales division it supplies. In sales divisions North America, Europe and Asia all shipping is administrated and processed by Volvo Logistics. Volvo Logistics, with the headquarters in Gothenburg, have an organization in Korea with the explicit objective to handle logistics of the machines. Concerning sales divisions North America, Europe and Asia VCE/Logistics have contract for the route: Korea-Netherlands (RTM, Rotterdam) with WWL, Wallenius-Willhemsen Logistics. Furthermore, VCE have contracts with WWL covering the destinations Korea-Panama and Korea-Brazil. These contracts only cover a very limited amount of the total export of excavators. The rest of the destinations are contract less meaning that VCE have to bargain for space and short-term contracts from time to time with a very short notice.

Moreover, Kilwon Kim (080331) says that there are big different of shipping routes between South Korea towards EU and USA compared to South Korea and ME. Shipping routes towards EU and USA are more in numbers and have more frequent departures. Furthermore, he says that he has not seen any specific trends in shifting shipping routes during the last five to ten years.

Since VCE doesn’t have any shipping contracts from South Korea towards region ME, Volvo Logistics isn’t involved in the shipping towards this destination. Moreover, VCE Korea is working through an exclusive shipping agent, B.G.S, towards region ME. Min Soo (080408), founder and president of the B.G.S, has been working with VCE for several years and says that the situation today is a disadvantage for VCE. Furthermore, he states that it is important to have a close dialogue with the shipping companies today. Since VCE alone can’t provide the amount of machines that the shipping industry
requires for a contract B.G.S has a consolidation strategy. In order to reach an acceptable volume B.G.S consolidates products from many customers into one volume. In some cases VCE is one part in a consolidated package consisting of other construction equipment exporters such as Doosan and Hitachi. The logic behind this is that it is easier to bargain for a contract with 30 machines instead of 10.

'We on B.G.S works with some of VCE competitors to gain bigger volumes when bargain for space on the vessels. This is mainly due to the fact that it is easier to bargain for vessel space when you have 30 instead of ten 10 bulky products.'

Min Soo (080408)

Moreover, Min Soo (080408) says that B.G.S together with VCE solved a shipping problem from South Korea towards Australia for a couple of years ago. VCE had problems to ship towards this region and BGS gathered bulky products from Doosan and Hitachi, and bargained for vessel space towards Australia. Due to the bigger volume of products from consolidation of three actors individual shipments VCE got their products to their dealer in Australia. Furthermore, Min Soo (080408) says that BGS is always working with consolidation and coordination of shipments with machines from more than one actor in order to secure vessel space towards smaller markets, such as many ME countries.

Min Soo (080408) says that it is important to build on the relationships with the shipping companies, because both of the actors are dependent on each other. Furthermore, he states that the relationship is both giving and taking, so it is something that BGS and VCE have to work continuously on, with incremental steps toward better shipping conditions. B.G.S presently works with many shipping companies and exporters in order to always have multiple
alternatives and solutions. Min Soo (080408) says that it is important to have a broad portfolio of shipping company relationships when shipping bulky products towards ‘smaller’ markets such as ME. Furthermore, Min Soo (080408) says that every VCE shipment is a piece of puzzle due to the irregularity of departures and volumes, which generates in a situation where shipping towards certain destinations differs from time to time.

Riccardo Bevilaqua (080227), shipping coordinator at the shipping department at VCEI, says that the relationship with Min Soo and B.G.S is good but still we need to continuously improve the situation in order to be more competitive and profitable.

VCE ships knocked-down excavators to their existing regional depots. These machines arrives with boom, arm and bucket separated from the base machine and gets assembled in the depot. By doing this VCE facilitates the convenience aspect of shipping excavators, which makes the shipping process and the vessel operations more comfortable. Kilwon Kim (080331) says that an excavator without boom, arm and bucket takes a lot less shipping space, in order shipping companies can ‘host’ more machines on their limited space for bulky products. Furthermore, Kilwon Kim (080331) says that finding containerships to ship the arm, bucket and boom in is no problem. Min Soo (080408) also states that it is no problem to find shipping space on container vessels towards the region ME.

5.4.2 Number of Ports
VCEI has forecasted an export volume for 2008, of around 4.200 excavators. In total VCE will ship excavators to over 40 ports. According to Ricardo Bevilaqua (080227) this is as a result of low inconsistent volumes and therefore VCE and B.G.S has to source for as many opportunities and available routs as possible.
Figure 5.10: Sales in ME 2008 (International RFQ forecast, 2008, from Korea)
6 Region Middle East

In this chapter we will present the empirical findings that we found out in South Korea, but mainly from our field study in Eskilstuna, Sweden. Our primary data is mainly collected from our interviews in VCEI headquarters, Eskilstuna, but also from our interviews in South Korea. The secondary data is based on company presentations, internal documents and Internet. We will in this chapter draw general conclusions for the most evident characteristics in the region Middle East and structure it in our adjusted institutional model with increased volume of excavators in the middle.

6.1 Sustained demand for excavators in Middle East

The excavator demand in region international is blooming. Moreover, ME is one of the regions where the demand have increased considerably over the past years. The sales for construction equipment nearly doubled between 2006 and 2007, and the prospected sales for 2008 are expected to have an additional increase by 50 percent.

Figure 6.1: Excavator sales by region international (Calibration meeting, CHW short)
Jan-Olof Wallqvist (080326) says that no one expected the great demand for construction equipment in the region and it have caused some problems for both the construction companies and the shipping companies.

‘Due to the situation with a low won, we want to export even more of our excavators from South Korea, but due to the increased car export in the region we don’t have enough vessel space. The commercial advantage with a low appreciated won can not be optimized due to the lack of shipping space.’

Erik Aase (080325)

Min Soo (080408) states that because no one expected the construction boom to have such an impact, shipping companies were poorly prepared for the big demand of shipping space. These facts have resulted in the present situation with an insufficient number of Ro-Ro vessels and tonnage capacity in the market. Further he says that the increased demand for vessels have lead to longer lead times of vessels since the vessel building industry was not prepared for such a sudden demand. Jan-Eric Ericsson (080320) states that the demand for construction equipment will develop in the same pace for at least some five years. He says that that even though there are many drivers and evidence for a continued excavators demand the main driver will be the diversification of the countries economies. Many of the ME countries are right now in a face trying to find alternative sources of income in a process of decreasing the oil dependency. Dragan Krzaric (080327) says that the demographical situation in the region is another driver for construction equipment demand. The extremely young population will need houses, schools, jobs and so on and this will be a great driver for the construction equipment demand.
‘The three main factors for the construction boom in the area are firstly that they have oil money to spend. Secondly, there are a genuine need for down to earth construction in the area like housing, schools and infrastructure. Thirdly, the blooming population demographic situation in the area’

Dragan Krzaric (080227)

Jan-Erik Eriksson (080320) states that the problems with the physical distribution are one major bottleneck for VCE growth. The lack of efficient logistics imposes a problem when it comes to the availability of machines. Since availability is a key success factor in the region this has an adequate impact on future growth and competitiveness.

‘Production capacity is one bottle neck, but one growing concern is logistics and particularly the shipping from South Korea’

Erik Aase (080325)

Figure 6.2: Market share goals by 2010 (excavator BL strategy dialogue 2007)
6.2 Societal sectors

Region Middle East is a diversified region and individual countries differ a lot from each other. However, there are some homogenous characteristics for the region. We will in the following parts of this chapter find out characteristics that could be generalized and considered as common for the ME region. We have focused on finding characteristic and factors in the societal and organisational institutions that might be affected or have impact on improved VCE logistics and machine availability.

There are five countries in the area that is prospected to stand for nearly 90% of the sales in 2008. Furthermore, our focus will be on the UAE, Oman, Qatar, Saudi Arabia and Iran markets.

6.2.1 Educational and training system

The general educational standard in the region is quite low compared to westernized standards. Today there are many projects that are focusing on improving the educational standard. Caterpillar is currently proceeding with a work related education to internally solve the problem with the low level of competent construction equipment know-how and competence in the region. In this project they are training young people from Saudi Arabia to become Caterpillar mechanics. (Jan-Olof Wallqvist 080326)

‘The labour force in Saudi Arabia is quite under-educated, and it is hard to find educated people for technically work.’

Jan-Olof Wallqvist (080326)

Due to the relatively low level of education there is a high unemployment among the native population. Almost all native workers are employed by the
state and this is an untenable situation for the future. Since the natives are employed by the state, there is a low degree of competition amongst the stately governed vacancies, which decrease the incentives for higher education. (Dragan Krzaric 080227)

6.2.2 Business mores
It is important to build personal relationships in order to gain the trust that many business partners often require. This means that it is important to be close physically in the area. Arabs prefers to meet people physically furthermore they prefer to see the products in action before they decide to give sign a contract. It is important to try, touch and feel the product since a lot of deals are decided by hart, intuition and trust in the relationship rather than western rationality. (Min Soo 080408)

6.2.3 Demography
The demographical situation in the region differs much from the western countries. The Arabic countries have a very low average age in the population. The demographic situation is one driver for the demand of construction equipment. The young population will need schools, houses and work. (Dragan Krzaric 080227) The demographic situation will not decrease due to the population growth rate, which is much higher than in western countries. (www.cia.gov)

‘Fifty percent of the population in Saudi Arabia is under 20 years old and the demographic situation in Iran is similar with fifty percent under 25 years of age. This is a big difference from the situation in west where the average population age is getting higher.’
6.3 Organisational field

In this subchapter we will describe the institutions in the second layer of the basic institutional model, Government, Labour market and Product and service market.

6.3.1 Government

The governmental structures in the region differ from country to country but also from the democratic systems and governmental structures in western economies. The five countries mentioned before have different government structures, from theocratic republic in Iran, monarchy in SA and Oman to Emirates in UAE and Qatar. (www.cia.gov)

The governments have in many cases begun to diversify the economies from oil based economies into financial and service based economies. This has a significant driver for the construction boom in the region. This mobilisation, away from the oil dependency, changes the focus of the economy to finance, tourism and trade. Furthermore, this diversification also includes heavy investments in infrastructure improvements and development in order to support the diversification process. Dubai is emerging as one of the world’s most important hubs for communications. The Dubai international airport are under constant development and will soon become one of the worlds biggest, another result of the heavy infrastructure investments are the development of ports in order to make UAE an logistical centre for ocean shipping. One example is the port of Jabbel ali in Dubai, a free trade zone that attracts many international investors to establish business in the region. VCE depends heavily on the infrastructure in these countries in order to facilitate the
delivery of our machines to dealers and end customers and the development is definitely speaking for Volvo’s advantage (Jan-Erik Eriksson 080320).

‘Instead of oil the mining industry is the next big income source for Saudi Arabia seen from a short-term point of view. Saudi Arabia is also investing allot in future Muslim tourism I order to preserve the religious history of the country.’

Jan-Olof Wallqvist (080326)

There is also a difference in how fast the diversification of the economy develops between individual countries. In UAE decisions concerning major investments and construction projects could be taken over one night due to the hierarchical system were one person, the Sheik, takes all decisions, contradictory to the more political set up in Kuwait were ‘to much democracy’ often slows down the decisions making. Other factor that affects the speed of the diversification is the sanctions towards some countries in the region. (Erik Aase 080325)

6.3.2 Labour market
The labour force in the region is dominated by expatriates. Most of the expatriates work for low wages in projects that doesn’t require explicit knowledge or education. Moreover, the working conditions are quite poor and the labour force is flexible in terms of changing employer for a rise in payment, therefore the level of loyalty is quite low (Dragan Krzaric 080326).

‘We can see that the labour force in Middle East ports in general are quite unskilled, this results in machine damages during on and off loading of vessels.’

Yunsik Kim (080408)
'In Saudi Arabia the government is the biggest employer.’

Jan-Olof Wallqvist (080326)

Another big concern for the region is the high level of illegal workers. Between 300,000 and 400,000 illegal workers constantly flourish in the UAE region. However, labour laws and regulations are under development and the conditions will be firmer regarding illegal work force in the future.

6.3.3 Product and Service market

The product and service market is continuously under development as a result of the economy diversification. VCEI customer portfolio in ME reflects the conditions in the rest of the world, however all markets are unique in its own. Each ME market has their own customer structure were the majority of the customers are locally based but new conditions allows more international actors to establish their business in the area and therefore international costumers is a big potential for the future. The customer portfolio goes from a number of big contract customers, small and medium sized customer and down to individual single machine owners. (Dragan Krzaric 080227) Furthermore, VCEI are currently in the process of implementing a Key Account Management system (KAM). The KAM system will enable VCE to match the customer’s needs, more precise forecasting due to key accounts will facilitate VCEI to adopt and correspond easier to the dynamic changes in costumer’s needs and structures (Jan-Erik Eriksson 080320).

During the past couple of years several global players have entered the ME market. Today almost all global entrepreneurial contractors are present in the region. This has forced many local companies to manage their organizations in a more modern and westernised way, which is an advantage for VCE. Another
dimension of competitions that have emerged recently is different type of joint ventures that develops between foreign and local actors (Dragan Krzaric 080227)
7 Analysis

In this chapter, our empirical findings gathered to answer our research problems are analysed. Furthermore, our findings are identified and discussed based on the Theoretical framework. The chapter contains our analysis of the findings of the shipping industry, case company and the external environment in region Middle East.

The structure of this chapter is based on our research model. The first four sub chapters will contain our analysis of the South Korean shipping industry and VCE excavator business line. In the last subchapter we will discuss the customer market Middle East, and how improved logistics and increased availability of excavators could affect VCE in the region.

In the first sub chapter will we identify and analyse the key success factors in the South Korean shipping industry. What preferences do the shipping companies have and how are the competitors organized in the market. In the second sub chapter will we identify and analyse the different resources of VCE Business Line Excavators with focus on the production plant in Changwon. In the third subchapter we will analyse how VCE can organise and comply their tangible, intangible and human resources with the key success factors of the shipping industry in order to create organisational capabilities. In the last subchapter of our analysis we will analyse the strength and weaknesses of the VCE logistic strategy towards the Middle East.

In the fifth and final subchapter we will analyse the customer market Middle East, and how improved logistics and increased availability of excavators in the region could affect VCE.
7.1 Industry analysis

In this sub chapter we will identify and analyse the key success factors of the shipping industry in South Korea. Furthermore, the focus of the identification of the key success factors will be towards the region ME, with the theoretical framework as a foundation.

To identify the key success factors of the shipping industry we based our analysis on two questions. What do customers want? How does the firm survive the competition? The analysis will firstly focus on what preferences do the shipping companies have and secondly what differ between VCE efforts and its competitors. The analysis is founded on the figure shown below.
Prerequisites for success

What do customers want?

How does the firm survive competition?

Analysis of demand
Who are our customers?
What do they want?

Analysis of competition
What drives competition?
What are the main dimensions of competition?
How intense is competition?
How can we obtain a superior competitive position?

Key Success Factors

Figure 7.2: Identifying key success factors (Grant, 2008, pp 90)

7.1.1 The shipping industry in practice

The ocean shipping industry is in a phase where the existing capacity is insufficient. The new geographical global industrial footprint, with export industries arising in new emerging markets, has imposed dilemmas for the shipping companies as well as difficulties for many exporters. The competition for available shipping space is tenser then ever before, resulting from a major mismatch between forecasted demand and actual market demand. Hence, the number of operative Ro-Ro vessels is far from enough to meet the demand for export volumes.

Historically, the boom in the construction equipment industry is unprecedented. With such incredible increase in demand, for construction equipment, trucks, busses and to some extent cars, a vicious circle has been created, a vicious circle where growth prosperity can’t be fully achieved due to insufficient production and shipping capacities. A major reason for this situation is the capacity planning system that co-exists between exporters and shipping companies. Shipping companies have historically been heavily affected by the global business cycles. Therefore, the new production vessels
have been more conservative over the past years, which have lead to a significant capacity shortage.

A major reason for the conservativeness is that during negative business cycles the shipping companies face a surplus in capacity, which decreases the bargain power against the exporters. In the beginning of the 21st century the shipping industry was squeezed by its customer into unprofitable contracts and agreements. However, today the picture is quite the opposite and for many customers, such as VCE, the competition for physical distribution by sea has turned into a great concern. Due to several reasons such as the bulkiness of the machines, resulting in very inconvenient shipping circumstances, as well as the inconsistent shipping volumes physical distribution of machines has turned into a bottleneck for VCE.

This situation is valid for most of the VCE markets and business lines but has increased significantly in the case of the excavator business line with crawler excavators exported from South Korea. In the case of Korea the competition has increased rapidly, a major reason for this is the fastly growing Chinese export industry and the large amount of industry competitors, car and construction equipment manufacturers, that are represented in the North East Asian region.

Since the shipping industry is in such an intense phase certain conditions must be fulfilled by exporting companies in order to acquire the necessary shipping space. An adequate forecasting system linked with high consistency in volumes is an important feature for success. Furthermore, a car is more convenient to ship, due to weight and size, which in turn leads to an increase in total space efficiency in vessels operations, car companies becoming more lucrative customers.
Moreover, in the case of the North East Asian situation, with major automobile manufacturers such as Hyundai, Kia, Toyota, Mitsubishi and Honda, the shipping industry is defined by tenser competition in comparison with Europe and North America. Furthermore, the export volumes of the automotive industry in Europe and North America are on a down turn and far from the volumes in Asia.

7.1.2 Industry Key Success Factors
The most important aspect concerning the shipping industry’s preferences is the cost aspect, which is crucial to control in order to improve profitability and reach optimization. Optimization is reached through capacity maximization meaning that the vessels always are fully loaded with vehicles. By efficiency maximization is meant that the durability of the vessels is as high as possible to the lowest possible cost. Durability is reached by fewer port stops, shorter on and off loading time and route planning. The total operational cost for vessels has increased significantly over the past few years due to increased raw-material prices, oil prices and maintenance costs. Therefore, the shipping companies prefer those customers who in a collaborative way can help them to take ‘cost out of the system’. To take ‘cost out of the system’ is a commonly used phrase among shipping companies and it means that the customers of a shipping company must help to reduce additional costs by themselves. Such additional costs could be machines that don’t arrive on time, volumes that differ from initial agreements etc.

Since the shipping industry lacks in capacity it becomes extremely important to optimize the existing fleet and its operations which in turn will help to take cost out of the system. However, regarding the diversity among customers, construction equipment, cars, busses, trucks, trains, the preferences differs in nature.
7.1.3 Customers in practise, a comparison between the car industry and Volvo CE.

In order to analyse how different actors do to survive competition it is important to identify how they approach the shipping industry in practise. On a general basis the main competition is about shipping space. Car exporters and construction equipment exporters have different strategies in order to gain competitive advantage in the shipping industry. The different strategies are a result of the different resources and capabilities that the companies possess. Therefore, we find it interesting to do a comparative analysis between how the car industry and VCE competes for shipping space due to different conditions.

7.1.4 Collaboration

Long-term solutions through in-depth collaboration between exporters and shipping companies have become a great success factor for many car companies. The most obvious case of collaboration could be seen in the ownership structure where car companies are significant shareholders in shipping companies. This type of collaboration is a symbiosis, where optimization can be reached through a mutual orientation and common interests. E.g. we can see how KIA and Hyundai are integrated vertically and part of the EUKOR ownership structure. Individually they have a 10 percent share of the total ownership, which is an important first for improvement of logistical activities. This condition enables the car companies and the shipping companies to constantly develop and improve the shipping activities, smaller short-term adjustments and improvements become long-term success factors.

In the case of VCE the ownership strategy would be too costly considering the relative low export volume in comparison with the car industry. The inconsistency of exports volumes and the multiple destinations for transportation could be seen as an initial bottleneck for VCE. In sales region international the market is diversified, both in terms of sales regions and sales
volumes, which generates fluctuations in export volume. Due to this fluctuation, where no shipment is the other like, the shipping agency B.G.S and VCE shipping department work with inconsistent flows and therefore find it problematic to efficiently collaborate with the shipping companies. The situation resembles a spot market with single transactions and unlike the car companies VCE cannot make use of scale economies due to the low volumes. This situation makes it difficult for VCE to secure long-term contracts.

In comparison with a car, a VCE excavator has a higher freight cost. This is something that has been to Volvo’s advantage previously. However, today the shipping industry doesn’t focus on freight costs in the same way a before, since the preferences are long-term agreements based on total cost reduction. With long-terms agreements customers with high consistent volumes can by achieving economies of scale help the shipping companies to take out additional costs that occur from shipping single or low volumes of machines. This situation has affected Volvo negatively since the high freight costs in shipping an excavator historically has been a competitive advantage for VCE. In order to improve the international logistics VCE must use the same approach as the car industry in order to improve the situation on a long-term basis.

7.1.5 Consolidation
Consolidation could in logistical terms be seen as concentration of export and import volumes to certain hubs. In more logical terms an export company could facilitate the shipping conditions by organizing its exports according to the preferences of the shipping industry. Such centralized distribution is both time and cost saving at the same time as the shipping volumes increase and become more consistent. In the case of KIA, South Korea, this has been achieved through exclusive KIA export terminals. All the exports, 600,000 cars, from one production unit are gathered in a KIA terminal in Pyountaek.
This reduces the cost for the shipping companies, since they can utilize all the space of a vessel by making only one port visit. This is very efficient since the total time to fill one vessel decreases significantly if the total export volume is consolidated into one port. As a result of this strategy, the total lead-time decreases significantly due to fewer on and off loading ports and shorter time spent in ports. Consolidation is a key success factor that enables the shipping companies to run its operations more efficiently and optimize its limited fleet capacity. The terminal strategy is a concept that has helped the shipping companies to reduce cost. Car industry is therefore a more competitive business in comparison with VCE and other exporters with less developed logistical systems.

For VCE an own terminal in South Korea is too costly, since the volumes are too low for efficient operation. However, there is a similar idea through the aggregation of export volumes in the market, where B.G.S as an intermediary works with several exporters. Gathering machines from many exporters in order to reach the high volumes that make the shipping more profitable for the shipping company is a short-term solution that makes it easier for VCE to get the machines to the market. Furthermore, some attempts have been made by VCE to concentrate larger shipments to fewer ports instead of shipping single machines directly the dealerships. The Volvo depot concept is implemented in a few markets, where volumes are shipped to a regional or local depot. The existing VCE depots are found in the Netherlands, Panama, Brazil, China, India and Korea. In some cases the depots are combined as mini RAMs, meaning that more advanced knocked down shipping could be done due to regional assembly facilities. Additional depots are under establishment in Dubai, Japan and USA. This concept will create better conditions for VCE in terms of shipping contracts because larger volumes can be shipped into regional depot centres.
7.1.6 Relationships

The car industry is the main customer to the shipping companies. The core competence of the shipping companies is to transport cars between ports. Furthermore, the relationships build upon interdependency and mutual development of joint activities such as integrated shipping schemes and systems. Under such conditions car companies depend on the shipping companies and vice versa in order to gain competitive advantage and increase profitability. Furthermore, this condition makes investments easier since improvements will favour both sides. The car companies have an advantage over VCE since their products are directly linked and integrated with the shipping companies’ core competence and survival. VCE can never replace the car industry as the main customer of the shipping companies due to two major reasons.

1. Low export volumes

2. The vessels are mainly built to accommodate passenger cars

For VCE the relationships established are different. There is no direct relation to the shipping companies. Instead there is an indirect linkage via B.G.S shipping agency, which handles all the relations for VCE. This makes VCE’s relationship towards the shipping industry a triad in comparison with the dyadic relations that exists between the car companies and the shipping companies. The excavator business line within the Sales division international is therefore entirely dependent on B.G.S except for rare cases, where routes are covered by Volvo Logistics contracts. Therefore with this relationship structure VCE has little or no influence on the decision makers within the shipping industry. Considering the fact that VCE has no written contracts towards the Middle East region, no explicit systems have been implemented in order to facilitate the activities towards the shipping companies. The
contemporary strategy is to handle all ocean shipping through the B.G.S network. Furthermore, this condition defines the logistical activities as mainly operational and tactical from VCE’s perspective. The present situation is spot-market like and focused on the freight cost for individual shipments.

7.1.7 Summary
As identified in this subchapter, the preferences of the shipping companies are to have high volumes of products with regular departures, features that enable shipping companies to have fully loaded operating vessels. Another feature highly appreciated by the shipping industry is a close collaboration. Close collaboration has shown to be very successful in the case of the car-shipping industry relationship.

The close collaboration between the car industry and the shipping industry has consequently developed a win-win situation where common interests and mutual orientation have achieved high efficiency and improved shipping operations.
7.2 **Analysis of Volvo CE**

In this sub chapter we will identify and analyse the tangible, intangible and human resources of Volvo CE BL excavators. Furthermore, the focus of the identification will be on the resources that contains substance within shipping towards Middle East, with the theoretical framework as our foundation.

7.2.1 **Identifying Key Resources and Capabilities of Volvo CE**

The resources are the productivity assets that an organisation possesses. Furthermore, Grant (2008) divides the resources of an organisation into tangible, intangible and human resources.
### 7.2.2 Tangible resources of Volvo CE

The tangible resources of an organisation are the physical and financial possessions that are identified and valued in a company’s financial statement. Furthermore, in our problem definition the focus is not the financial value of the resources, but to understand the potential of the resource in order to organise them to organisational capabilities. Such capabilities are perceived as something that VCE is doing well in the eyes of the shipping companies, thereby creating competitive advantage by improving the international logistics.

VCE’s industrial set up of production and assembly plants could be seen as a physical resource. The production plants are stated in VCE financial statement and are an asset that they can organise to facilitate the distribution of excavators to its final destination. Furthermore, the closer a production plant is to the marketplace the more convenient physical distribution to the end customer will be.

VCE’s industrial set up is under development with additional production plants that will cover big geographical areas. The three-step development of RAMs worldwide is a strategic effort to spread the production of excavators and to decrease the production pressure that currently exits in single production units. The high volume machines could be produced close to the market and
cover the demand of local regions. The development of the industrial set up will make VCE more flexible in terms of efficient production allocation and capacity between more production plants.

The development of regional depots is another physical tangible resource that VCE possesses. The strategy is that the depots should function as a smaller assembly facility and as a warehouse for machines in order to meet the regional demand more efficiently. By having depots VCEI can arrange the shipment to the regional depot and from there establish a distribution network that supplies the end customers. Furthermore, by having a depot as a strategic tool to organize centralized distribution and higher volumes of machines VCE will improve its competitiveness in the area.

VCE are right now in the developing phase of a regional depot in the ME region. The depot is under establishment in the port of Jabbel Ali in Dubai, UAE. The geographic position of the depot is strategically based, since Dubai is emerging as a crucial hub for logistical activities.

The strategic position of Dubai enables possibilities for further transport of machines to other ME countries. The infrastructure is under constant development and we can see how competitors already have began to operate with Jabbel Ali as a strategic logistical hub’

Ulla Sjöstedt (080326)

The infrastructure in UAE and to neighbouring countries is of high standard and constantly developed. Furthermore, the in-land distribution could be a great complement to the regional ocean shipping. The pressure on shipping transportation in the region increases the prices and makes it hard to get low volumes of machines to smaller destinations. Jabbel Ali is the main port in UAE, where shipping companies are unloading big parts of their shipments.
Moreover, the fact that many shipping companies arrive and departure from Jabbel Ali could be an opportunity for additional ocean transportation to the smaller ports in the gulf. With a warehousing system that keeps stock, VCE can contact shipping companies in advance and arrange vessel space from Jabbel Ali to other ports in the Gulf. This is a strategy that will enable the shipping companies to increase their efficiency by keeping and having full vessels during their route which is one way to take cost out of the system. This could in a long term improve the relationship between shipping companies and VCE and create a competitive advantage for the future.

‘We unload parts of our cargo in Jabbel Ali before we continue our route further up in the Gulf. With a good relationship and early knowledge about how many machines that should be shipped from Jabbel Ali to other ports in the Gulf we could utilize our vessel operations which is something that improves our profitability.’

Yunsik Kim (080408)

7.2.3 Intangible resources of Volvo CE

The intangible resources of an organisation are often hard to grasp. They deal with more soft values related to technology, reputation and culture. Furthermore, even though they are hard to grasp, they are often considered as more valuable than the tangible resources.

The VCE production plant in Changwon is the biggest and most important production unit for excavators considering both production capacity and exports. In Changwon, VCE produces crawler excavators up to 70 ton and the plant is divided into four assembly lines, which are defined by the size of the machines, one line for smaller sizes, one for medium machines one for large
machines and extra large machines. The assembly lines are all supervised under the ALC system, which facilitates the workflow and supervises the process of machines in the assembly line. This system could be seen as a technology based resource within the VCE Business Line Excavators. Furthermore, the ALC system renders possible a production pace or tech time of 19 minutes per machine, which enables VCE to monitor exactly, where in the assembly line process a certain machine or order could be finished, and when it will be ready for delivery. In this way the amount of tied up capital from not yet distributed excavators could be controlled better.

VCE has a long experience of shipping knocked-down excavators, where boom, arm and bucket are separated from the machine and shipped by container to regional assembly depots. This knowledge or experience could be seen as a technology based intangible resource for VCE as it facilitates the distribution of the machines. By knocked-down shipping, the machines are more convenient to ship since both the physical size and the total weight decrease significantly. This technology is a resource that saves vessel space and therefore improves the process of shipping excavators. The long experience of organizing knocked down shipping is an advantage for VCE when developing regional assembly depots.

Volvo as a brand is well known and the relationships that Volvo group possesses can be seen as intangible resource for VCE. The group has a long history in the business and it instils confidence in the customers as well as for the shipping companies. The brand of Volvo makes it easier for VCE to establish new relations since it is recognized worldwide. The profile and the image of the Volvo brand instil confidence in potential partners throughout the whole supply chain.

7.2.4 Human resources of Volvo CE
The human resources are often hard and complex to identify and measure. Furthermore, these resources do not appear in the balance sheet because due to the fact that people cannot be owned. Human resources will be human resources for as long as they are employed by the company. Furthermore, human resources are valuated after the ability to solve the problems that occur within their line of work or profession.

In this particularly case, about shipping excavators towards ME, the shipping agency B.G.S could be considered as a VCE main external human resource. VCE doesn’t have a shipping contract towards the region ME and therefore they use a shipping agency. B.G.S is the intermediary and the link between VCE and the shipping companies for most of the sales division international sales regions. The competence, business intelligence and the relationship portfolio that BGS possesses are in this case to VCE advantage and therefore B.G.S is extremely valuable human resource for VCE. Misinterpretation

The figure 7.5 below shows VCE relationship with the shipping companies when it comes to shipping towards ME.
The relationship between B.G.S and VCE should be considered as very strong and as crucial resource tie. Furthermore, the VCE relations towards the shipping companies are considered as arm length relations, and as relatively weak ties since all activities are run through the intermediary B.G.S. Furthermore, we can distinguish that this triadic relationship is in imbalance and dominated by B.G.S. All the connections and information runs through the intermediary which is seen as the strongest part in the network. The network approach by VCE has the characteristics of transactional selling, where Volvo supplies B.G.S. with volumes of excavators. Hence, B.G.S has the responsibility to, spot market like, sell VCE’s machines to available shipping companies. The success in this approach is to facilitate short term shipping solutions. However, the approach restricts VCE’s opportunities to establish direct relationship towards the suppliers. A relationship required for long-term solutions. This condition is profitable to a certain extent though it would take time for VCE to establish the same relation as the one with B.G.S. As long as the shipping situation could be controlled through this strategy B.G.S, will be one of VCE’s most crucial success factors for international logistics.

7.2.5 Summary
In this subchapter we have identified the relevant resources of VCE BL excavators concerning shipping of excavators towards region Middle East. We identified that the development and the expansion of international RAMs and regional depots is a tangible resource that benefits VCE in the challenge of improving international logistics.

Moreover, VCEs intangible resources were identified as the experience of shipping knocked-down machines towards other destinations. Furthermore, the
Volvo brand and the production surveillance system (ALC) are considered as intangible resources.

The human resources of VCE could be found both internally and externally. Considering external human resources we have discussed the importance of B.G.S and its ability to arrange and organize shipping solutions for VCE.

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<thead>
<tr>
<th>Tangible</th>
<th>Intangible</th>
<th>Human</th>
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<tbody>
<tr>
<td>Industrial set up</td>
<td>Experience in shipping knock down machines</td>
<td>B.G.S as their shipping agent</td>
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<tr>
<td>Depots</td>
<td>Volvo Brand</td>
<td>B.G.S network</td>
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<td></td>
<td>ALC system</td>
<td>B.G.S collaboration ability</td>
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Figure 7.6: VCE resources (Florby Justad, 2008)

7.3 Organisational capabilities of Volvo CE

_In this sub chapter we will analyse how Volvo CE can organise and match their internal resources in order to comply with the key success factors of the shipping industry. The challenges of shipping excavators to the region Middle East have an essential role in this chapter._

An organisational capability is something that an organisation is doing well in the eyes of its customer or supplier. In this particularly case, when the service supplier is a shipping company supplying vessel space and transportation, VCE has to organize the internal resources strategically in order to comply with preferences set by the shipping industry. The internal resources of VCE is not productive on its own, they have to work together to create an organisational capability that is perceived as valuable for the shipping industry. A capability
can further provide a foundation for a competitive resource based strategy that improves VCE’s attractiveness as a shipping company customer.

The linkage between the resources and the capabilities is vital when developing capabilities. An organisation can have the greatest resource endowments and still not be able to manage competitive organizational capabilities. Hence, it is important to identify the industry key success factors in order to find a way to combine internal resources into comprehensive capabilities.

In this particularly case study where VCE must comply with external factors in order to seek improvements, an analysis must be done from an outside-in perspective. Since VCE currently faces a non-favourable shipping situation it is important to find a way to organize and develop internal resources in order to comply with the external context. With the industry key success factors as a point of departure we have analysed how the overall strategy of VCE Business Line excavator complies with the external conditions set by the shipping industry.

### 7.3.1 Appraising Resources and Capabilities

As we have identified that the industry key success factor for improved international logistics is helping shipping companies to take costs out of the system. VCE and other exporting companies must understand how their products or machines impose additional costs on the shipping companies. Additional costs occur when the shipping companies suffers from inefficiency with a limited operative vessel fleet. In the case of VCE several factors cause this inefficiency, e.g. considerably low volumes, inconsistent shipments – fragmented quantities, shipping directly to dealers, short notice for upcoming shipments and the bulkiness of the machines. In order to take this additional cost out of the system and to increase efficiency and profitability for both shipping companies and exporters, a closer collaboration is a necessity. The
mission with a close collaboration is to mutually develop and improve routines for more efficient shipping. Considering shipping companies aim for optimization through efficiency maximization and cost reduction the question is what VCE is doing right now and what they could do in the future in order to become a more attractive customer. In order to analyse how VCE should organize and appraise its resources and capabilities we have divided them into two genres, ‘facilitative capabilities’ and ‘intelligence capabilities’.

7.3.2 Facilitative capabilities
Facilitative capabilities de note how VCE is organized in terms of tangible resources such as production set up and international depots. Basically, facilitative is about how VCE through internal resources complies with the external environment in order to improve international logistics.

- The three-step process of global industrial footprint.
  VCE’s Business strategy of developing international RAMs (assembly and fabrication) has entered the second step.

  The three-step process will increase the production capacity significantly. Furthermore, this will generate higher volumes close to market, which will enable VCE to move from short-term spot market shipments to long-term contract based on economies of scale. The development of the RAMs will also help to decrease the total lead-time for an order to be delivered. A reallocation process that optimizes the facility utilization will be an enabler for this goal. This reallocation process will take some workload off the Changwon plant as well as it will increase the regional market coverage. The supply strategy is that the regional production will cover 52 percent of the total requirements by 2010. Furthermore the reallocation processes that will follow the Ram expansion have the
potential to significantly decrease the total lead-time and enable faster machine deliveries.

- **Development of regional depots.**

VCE has implemented a strategy of world wide scalable depots. Currently VCE operates six depots located in EU, Korea, China, Panama, India and Brazil.

The depot strategy will enable more streamlined and centralized distribution in these regions, since a regional depot will replace the present system with delivery directly to the dealer. In order to facilitate shipping operations centralized distribution is something that complies with the preferences of the shipping industry. Reduction of ports for loading and unloading will make it easier for shipping companies to help VCE with excavator shipments, since it is time efficient in comparison with using several ports for one region. Moreover, the depot strategy enables VCE to ship higher volumes more consistently, which will make it easier for VCE to have long-term collaboration with the shipping industry.

The depot strategy has been successful for VCE so far and a result is that the depots in Brazil, Panama and Netherland are all covered by long-term shipping contracts.

### 7.3.3 Intelligence capabilities

The intelligence type of capability focuses on the more intangible assets of VCE, e.g. the intelligence and the knowledge that exist within the organizational network. That could be used in order to improve the strategic aspect of international logistics. Logistics today have become more strategically important rather than more operational and tactical. Since the
shipping industry is also considerably more dynamic, it is important for an actor like VCE to use intelligence based on previous experience. As discussed above, VCE has historically been struggling with an unfavourable logistics situation it is vital to use the knowledge that exists in the network in order to strategically comply with the external shipping environment and dynamic changes that might appear in the future.

• **Volvo**  
The Volvo brand is recognized worldwide. The Volvo group has a long history, which instills confidence in customers and partners. The Volvo brand is an opportunity for VCE to exploit in order to collaborate more closely with the shipping industry.

• **Internal network intelligence**  
The division Volvo Logistics handles the majority of the Volvo group’s international shipping contracts. This is an advantage for Volvo, since the logistics division has superior knowledge about international shipping. In the case of VCE sales division International, shipping towards the ME region is handled through the B.G.S network, a situation which is hard to control for Volvo. However, in order to improve the preset situation with short-term spot market shipping agreements it is important for VCEI to take advantage of the knowledge and intelligence that Volvo Logistics possesses. Even though the logistics division has nothing, or little, to do with the sales division international shipments, they have valuable knowledge and information about the shipping industry in general. As a summary, it is important for VCE to use all available knowledge that exists within the organization and take advantage of the strong brand that co-exists throughout the whole Volvo group.

• **External network intelligence**
As explained above, VCE sales division international has outsourced all operational shipping activities to B.G.S, except for routes covered by contracts. B.G.S is the intermediary between the shipping industry and VCEI. With this relationship structure VCE possesses intelligence and knowledge through an external network.

The advantage with B.G.S is that its customer portfolio consists of several companies with a logistical situation similar to VCE’s. This enables B.G.S to aggregate smaller volumes from Volvo and other companies into the larger volumes more profitable for shipping companies. Furthermore, B.G.S as a shipping agency has many shipping company relations and as a result several options that facilitate VCE’s shipments. However, the relationship structure could be a drawback for VCE, since the company depends heavily on the activities and relationships of B.G.S. For the present situation this is an important asset for VCE, since B.G.S has the adequate knowledge, intelligence and relationships to help VCE. But on the other hand, B.G.S as an external organization can never take full advantage of the internal resources and assets of VCE as a whole. To improve the shipping conditions in a long-term VCE internally must organize their resources, create capabilities and formulate a logistical strategy. B.G.S as an external intermediary with no strategic or organizational function within VCE can not be the source behind these changes. Since, B.G.S neither has the internal competence or authority to organize VCE’s resources.

7.3.4 Summary
In this subchapter we have analysed how VCE organises and match their internal resources in order to better comply with the shipping industry key success factors.
We found out that VCE has two main capabilities for shipping excavators towards region Middle East, facilitative and intelligence capabilities. The facilitative capabilities contain the development of international RAMs and regional depots.

Moreover, the intelligence capabilities contain the Volvo brand, internal and external networks. The Volvo brand is a capability that instils confidence in costumers and enables Volvo to approach shipping companies’ with a solid and good reputation. Furthermore, the knowledge about the shipping industry and contract negotiation that Volvo Logistics possess is an intelligence capability. The knowledge that B.G.S possesses about the shipping conditions towards region Middle East is also an intelligence capability for VCE, a capability that helps VCE solving shipping arrangements.

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<thead>
<tr>
<th>Facilitative</th>
<th>Intelligence</th>
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<tr>
<td>Industrial set up</td>
<td>Volvo brand</td>
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<td>Depots</td>
<td>Internal network</td>
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<td>External network</td>
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Figure 7.7: VCE organisational capabilities (Florby and Justad, 2008)

7.4 **Strategy analysis**

*In this sub chapter we will evaluate the strength and weaknesses of the Volvo CE logistics strategy. Furthermore, the focus of the evaluation will be set on the logistic strategy towards the region Middle East.*

The existing functional logistics strategy of VCE, based on the internal resources and organizational capabilities, has both strengths and weaknesses.
For a MNC like VCE it is important to exploit the organizational strengths and manage the organizational weaknesses in order to sustain competitive advantage. It is important for the organization to find a strategic balance between exploitation of strengths and management of weaknesses.

7.4.1 Facilitative capabilities

Earlier we have analysed that the key success factor for improved logistics is to help the shipping companies to take cost out of the system. There are many ways to cooperate with the shipping industry in order to achieve this. The most emphasised features are high volumes, consistent departures, centralized distribution and production planning integrated with vessel operations. In order to analyse how VCE cooperates along these features we will address the strengths and weaknesses of the existing strategy of VCE Business Line Excavator strategy towards the ME region.

*Strategy strengths of Volvo CE business Line Excavator.*

- The RAM development will increase the capacity, which enables more efficient production allocation with fabrication and assembly closer to the market. In the case of Changwon, Korea the total capacity will increase in incremental steps reaching almost X.X units by X.X. The increased demand in region ME is one factor that will result in higher export volumes and more consistent departures and by 2015 the new industrial footprint will enable a better allocation process of production that is a potential for efficient shipping planning. This RAM development will be a strength if it is exploited strategically in order to match production and to comply with the external shipping conditions.

- The development of international depots is a strength, since it will enable higher and more concentrated export volumes to regional depots instead
of the lower and fragmented volumes being shipped directly to dealers. In the region ME, a depot in Dubai, UAE, will facilitate this. The centralized distribution will simplify the logistical activities for VCE. Furthermore, Dubai is developing as a major logistical hub where the majority of the international shipping lines operates. The regional infrastructure is well developed, which enables VCE to run efficient inland distribution from Dubai to dealers. VCE can exploit this as a strength.

Since many shipping companies’ turns from ocean transportation based operations into total solutions based operations, with ‘door-to-door’ transportation, there are several opportunities for improvements of the total logistics situation. Many car companies have outsourced all physical distribution to shipping companies that offer total solutions this have lead to more cost effective operations both for the exporting company as well as for the shipping company reducing the amount of intermediaries in the supply chain.

**Strategy weaknesses of Volvo CE Business Line excavator.**

- The RAM and depot development strategy clearly complies with the preferences of the shipping industry. Firstly, it takes production closer to the market and, secondly, it increases the volumes and makes the shipments more consistent. Both the above mentioned facts would be a result of reallocation of production and high regional market coverage. However, this could only be exploited as a strength if it is managed adequately. The mini RAM and depot development must take the shipping industry into consideration and production the schemes must comply with vessel operations. Unless VCE find a way to integrate the shipping industry operations with its production planning schemes VCE will continue to face the situation with tied up capital due to undistributed machines. The RAM and depot strategy must be evaluated from a two-side perspective; VCE resources and
capabilities on the one hand side and the shipping industry preferences on the other hand side. Finding the right balance between the external and internal environment will generate in competitive advantage.

- Considering the development of regional depots we can theoretically see how logistics will be more streamlined. The depots functions as a port for centralized distribution, a feature highly appreciated by the shipping industry, which facilities lower fixed distribution costs since one regional depot is demands fewer resources than several smaller ports. Moreover, the organizational learning cost decreases since all machines are localized to one depot it is easier to adapt faster to fluctuations in volume. Additionally, a depot enables service advantages such as shorter and more secure lead-times. Furthermore, a depot facilities the flow of information. It is easier to manage inventory levels with products being centralized and consequently VCE can supply its customers with more précis and accurate information about expected delivery times.

7.4.2 Intelligence capabilities

To exploit the strengths identified and mentioned above to its full potential, it is crucial matter to understand the interface between the shipping industry preferences and the internal organizational activities. We will analyse the substance of the relationships within and between VCE, B.G.S and the shipping industry; how information and knowledge are transferred in the network, and what strengths and weaknesses that occur in this relationship structure. Furthermore we analyse the role of logistics on an organizational level and the how logistics management are organized in VCE.
Strengths of the existing relationship and organizational structure

- The main strength of the B.G.S and VCE relationship is that the tie is very strong due to many years of cooperation. Hence, B.G.S has knowledge about how to manage VCE shipments and how to approach the shipping industry. B.G.S has the adequate business intelligence to coordinate short-term shipping solutions for VCE and how to comply with the preferences of the shipping industry.

Weaknesses of the existing relationship and organizational structure

- Thus, this is only a strength for VCE when it comes to transactional short term solutions, spot market based, operational and tactical logistics. As argued before, Volvo must organize all its internal strengths and resources in order to solve the shipping problems in a long-term perspective. The same time as B.G.S is a strength for VCE as an intermediary between VCE and the shipping industry it could be seen as a weakness. The existing relationship structure requires accuracy in the information transfer from the shipping industry through B.G.S to Volvo and vice versa. This system relies heavily on B.G.S ability to understand the requirements, preferences, systems and needs of VCE as well as of the shipping companies. This is hard to achieve, if you not are a naturally integrated part of the Volvo group.

- Since B.G.S works autonomous as a shipping agency and not as an integrated function in the Volvo group, such as Volvo Logistics, internal intelligence and power are lost. B.G.S is not in the position to strategically organize, combine and developed the internal resources of VCE in order to better comply with the industry key success factors. This is vital in order to secure long-term shipping contracts for improved international logistics.
We have found out that VCE have an organizational structure existing of both internal and external functions. The internal functions are the excavator business line, with production responsibility, plant operations and overall strategy responsibility. Furthermore, we have the VCEI sales division responsible for all sales and marketing activities in the customer market. As an external function, embedded in the supply chain of VCE excavators, we have the B.G.S shipping agency. B.G.S has the responsibility of organizing and scheduling for vessels operations and physical distribution of the machines. The three above mentioned functions have explicit knowledge concerning production, shipping conditions and shipments of machines and sales and marketing activities.

We know that the perspective of logistics have been shaped by three forces during the last couple of years: the concept of supply chain, the movement towards globalization and the process of deintegrated industry – the ‘hollowing out’ of the industrial corporation. It’s obvious that VCE have become a more globalized corporation through acquisitions and industrial set-up expansion. The core business is to produce excellent machines for the construction equipment market a mission that VCE have fulfilled through ‘state of the art’ machines. We can also see how many activities have been outsourced to suppliers or service organizations, such as the B.G.S shipping agency. However, the role of logistics management lacks in precision.

The supply chain management is the part of the logistics management that provides a monitoring dimension to the logistics process, a function that enables coordination of information and know-how across organizational boundaries but also in a vertical perspective between top management and operational functions. The lack of
explicit logistics management is a weakness for VCE since the organization consists of many independent functions and divisions. For an MNC it is important to interlink and coordinate activities between the above-mentioned functions in order to achieve an efficient flow of logistics and reach the corporate goals. Today the role of logistics management is divided between the operational and service functions that exists within the VCE organization and network which imposes difficulties in order to interlink the corporate strategies and goals with logistics. Furthermore, the division of responsibilities between organizational and external functions causes problem while formulating a competitive logistics strategy that aligns with the corporate overall strategy.

7.4.3 Summary
In this subchapter we have identified and analysed the strengths and weaknesses of the VCE logistic strategy towards region Middle East.

The facilitative strengths are the development and expansion of international RAMs and regional depots. These two features comply with the preferences of the shipping industry, but could only be exploited as strength if it is managed adequately. Furthermore, the intelligence strength is VCE’s close relationship with B.G.S. B.G.S possesses intelligence that facilitates short-term shipping solutions for VCE. However, this relationship also restricts Volvo from getting a closer more collaborative relationship with the shipping industry. Collaboration that is required for long-term solutions and improvements of international logistics.
7.5 Analysis of Middle East

In this subchapter we will analyse what effects improved logistics and increased availability of excavators will have on Volvo CE operations in region Middle East. Moreover, focus of the analysis will be on the empirically examined institutions and how they will respond to improved logistics and increased machine availability.

Improved logistics will enable VCE to have more machines available in the Middle East market. However, an increased availability of machines must be organised differently in such a fast moving dynamic region as the Middle East especially in comparison with more stable and mature markets such as North America and Europe. We will in the following part analyse the difference of increased machine availability in region Middle East compared to mature markets based on the institutional model.
7.5.1 Societal Institutions

Educational and training situation
The educational system in the region differs a lot from the westernised standards. Furthermore, the level of education differs a lot from country to country and even among the population. Even though there are some recognised higher education schools, the general education level is low compared to westernised standards. Moreover, there are projects under development that focus on improving the educational standard all over Middle East. Most of the native workers are presently employed by the state and this situation is untenable for the future. Therefore the main objective behind these projects is to make the native workers more compatible and competitive in the private sectors.
The low level of education will be a challenge for VCE. With improved logistics, more available machines and increased sales the need for competent employees, engineers, technicians and service people will increase.

Caterpillar has approached the lack of component work force internally with a trainee program. This trainee program educates future employees from a grass root level in order to make them a future human resource. By this approach Caterpillar solves the problem with lack of educated technicians and at the same time as it creates legitimacy for Caterpillar in the region. Furthermore, a well-trained workforce is very important in order secure future customer satisfaction.

Business mores
The business mores in Middle East is mainly influenced by the country culture. The people in the region is characterised by their high valuation of relationship. Personal relationships are important for business.

Improved logistics along with increased production capacity will enable VCE to have more products available in the markets and simultaneously come closer to the en customers. Today most of the machines are delivered directly to the distributors and dealers. Furthermore, a warehouse in Dubai will decrease the lead times of the machines and enable bigger clients to physically see the products before purchase, which will enable Volvo to build important relations for the future and extend the customer portfolio. A regional warehouse also complies with the way business is done in the region. Many customers act very rapidly in many cases, and the supplier that have available products in the market have a great advantage when a customer decides what kind of products they will purchase. So with a stock of machines in the region Volvo can respond quickly to the requirements of potential customers. If we add a well-educated work force Volvo can also maintain a reputation of superior
service solutions. The combination of the two above-mentioned features will improve Volvo’s brand reputation in the region, something that is important because the word by moth method is commonly used in the ME markets.

**Demographical situation**

The young population in the region is one driver behind increased demand of construction equipment. The young population in many of the countries in the region will in the near future need a place to live and employment. Even though the educational level is rather low at the moment the development projects imply for future improvements leading to economical diversification. This is going to give people opportunities for new employment and to establish a modern life of new houses, schools, factories and even new cities, creating an advantage for future VCE success in the region.

**7.5.2 Organizational field**

**Government**

Since the government is the superior force behind decisions favouring capitalization and diversification of the UAE region it is important for international actors to develop a good relationship towards stately governed institutions. VCE is considered as a neutral actor in the UAE, which is preferable in order to run operations and business activities smoothly.

The diversification of the regional economies is definitely an advantage for VCE, Volvo have the competence to facilitate the development with its machines and technologies. The governmental investments in infrastructure also favour VCE from two perspectives. Firstly, the possibilities for improved inland distribution and transportation increase. Secondly, infrastructure projects increase the demand for construction equipment. The development of Dubai as an important international logistical hub will increase the logistical
solutions for VCE in the ME region. In this case VCE can adept its activities in order to build there own success though many of Volvo’s total solutions enables more efficient infrastructure development.

Labour market
Due to the high number of expatriates and illegal workers in the region it is important for VCE to be careful while expanding its regional and local workforce. A scenario with a significant sales increase might require VCE to extend its work force and therefore it is important to search for legal and educated workers in order to maintain legitimacy and a good relation towards governments. The labour market must reach a higher level of education and competence in order to fulfil the potential of the infrastructure investments and development.

To develop Dubai into a major international logistical hub is only to an advantage for international MNCs like VCE, with business based on machine import, if there is an existing well-educated workforce. The drawback of the diversification of the economies is that sometimes the labour force is insufficient educated in significant areas such as port operations. Moreover, countries such as Saudi Arabia have a shortage of well-educated technicians and maintenance workers, which is a major disadvantage for VCE with the vision to be recognized as the company with the highest customer satisfaction.

Product and Service market
As stated before the economies in the ME region are moving away from oil dependency into a more diversified economy with a broader business portfolio. As a result of the diversification many international actors penetrate the market, which makes the business environment more and more westernized. However, the state owned businesses and the local family business are still the most influential in the region.
For VCE, implementation of a KAM system in the region will help to organize the internal customer portfolio in order to take full advantage of the opportunities that comes with improved logistics. Competitors all around the world have recognized the ME region as one of the future success markets and therefore many construction equipment manufacturers are starting to explore the region more intensively.

It is important for VCE to always analyse the environment and the activities of the competitors in order to maintain a high status and defend the considerably high price they have in comparison with many Chinese low cost manufacturers for example. The KAM system together with available stocks and showrooms will help VCE to exploit growth opportunities and work towards the goal as becoming top three among actors in the region.

**7.5.3 Summary**

In this sub chapter we have analysed how the societal sectors and organisational fields, from an institutional point of view might respond to and be affected by improved logistics and increase machine availability.

It is important to understand whether the institutional set up of the ME region complies with, or cause difficulties for, VCE to reach its corporate goals. Furthermore it is of relevance for VCE to investigate how a new more efficient logistics strategy supports the overall ME strategy and if there could be any complications implementing a new logistics strategy. We have in figure 7.10 identified relevant institutional characteristics that could be an issue for VCE implementing a new logistics strategy.
**Societal institutions**
Education and training situation

*Low level of education*
*Trainee program*

**Organizational fields**

Government
*Controls business*

Labour market
*Expatriates*
*Lack of educated workforce*

Product market
*Economical diversification*
*Continuously demand for machines*

Business mores
*High valuation of relationship*
*Fast business decisions*
*Word by mouth*

Demographical situation
*Young population*
*Young workforce*

**Figure 7.10: The external institutional settings of VCE Middle East (Florby and Justad, 2008)**
Conclusions and recommendations

In this chapter our findings and results from the analysis are summarised and viewed upon based on our research questions. The chapter first presents our academic findings, which relates to how an MNC in general can improve its global logistics. Secondly, we present the strategic conclusions of the case study. Closing the chapter we present our case company specific recommendations and guidelines for formulating a new logistics strategy.

8.1 Academic conclusions

In this part of the chapter we will present our academic findings as conclusions of our research problems. Firstly, the findings for our three sub problems will be presented and as a summary we will present our conclusions on the main research problem.

8.1.1 Research problem 1

What does the present physical distribution situation look like?

Today the global RoRo shipping industry suffers from a capacity shortage. Hence, the competition for RoRo vessel space is getting tenser among the exporters. The shortage of shipping capacity has its origin in a major mismatch between forecasted demand and actual demand. One major factor behind this mismatch is that no one predicted the rapid development of global export business. Furthermore, the shipping industry has historically been heavily affected by business cycles. In the beginning of the 21st century, when the business cycle was negative, the industry had a surplus of vessel space and was squeezed into unprofitable contracts. This is reflected by a more conservative attitude considering investment and extensions of shipping fleets.
Shipping companies’ preferences
The tense competition for vessel space has developed into a situation where a customer who actively complies with the preferences of the shipping industry is favoured and prioritized as customers. Therefore it is important for exporting companies to strategically organize its internal resources to better match the industry preferences and facilitate the overall shipping conditions. The more a company takes the shipping industry preferences into consideration while organizing business activities the more attractive they become as a customer.

The main preference of the shipping industry is identified as ‘taking cost out of the system’, that is a total cost reduction of shipping operations or efficiency maximization that increases the durability of a RoRo vessel. Such durability enables optimization of the limited capacity of the shipping fleet. In practical terms this equals high cargo volumes and regular departures, enabling shipping companies to schedule shipping routes and operations in advance, and to always have fully loaded vessels. This cannot be achieved through short-term and temporary spot market solutions. Rather more efficient solutions are developed through B2B relationships. A close relationship between suppliers and customers facilitates the process of developing a more profitable and efficient export industry. Working in a close collaboration is the foundation for long-term success.

As we have found out during our research the collaboration between suppliers and customers differs in nature. The main customer of the shipping industry, the car industry, has developed explicit logistics strategies in order to better comply with the industry preferences.

Car industry
The car industry has a major competitive advantage over Construction Equipment industry. The advantage is that only the lower decks of a vessel can
facilitate construction equipment. The other decks are designed for passenger cars. This situation puts the car industry in a position as main customer, whereas the shipping industry’s core competence is to handle such customers. The car industry is more important than the construction equipment for a shipping company’s survival and profitability. A RoRo vessel has an average capacity of around 4000 units. This creates an opportunity for the car industry to achieve economies of scale through high and constant volumes, which requires and in-depth collaboration through contractual relations. This interdependency and achievement of economies of scale takes costs out of the system.

There is even a trend in the car industry to integrate vertically into the shipping industry. There are some car companies that today are significant shareholders in shipping companies. These contractual relations and forward vertical integration create a mutual orientation and a common interest to achieve efficient and profitable logistics.

Another result of this long-term cooperation is that many car companies have established exclusive port terminals in collaboration with the shipping industry. The purpose with the terminals is to consolidate export volumes into fewer ports in order decrease the total time spent for on and off loading. This initiative enables the shipping companies to have higher durability on their vessel fleet.

Along with the port terminals the car industry and the shipping industry have together developed workflow schemes that take into account all the activities embedded in the export process. These schemes enable precise information flow about scheduled and future shipments, containing information about stock conditions, monthly vessel allocation plans, loading plan and terminal operating plan. This information facilitates the total shipping process.
Construction equipment industry

The main disadvantage for the construction equipment industry, concerning ocean shipping, is that the car industry is the main customer of the shipping industry. This situation will prevail, which leaves the construction equipment in an unfavourable bargain position.

Many construction equipment companies are outsourcing all shipping activities, to destinations without contracts to a shipping agency. In such case the shipping agency functions as an intermediary between the construction equipment companies and the shipping companies, handling arrangements and the booking of shipments. Since the construction equipment industry has significantly lower and more fragmented export volumes compared with the car industry it is not possible to arrange favourable long-term contracts directly with the shipping companies. Instead the shipping agency, as an intermediary in the market, can consolidate products from many manufactures and aggregate volumes that are beneficial for the shipping companies. This situation is spot market like with short-term solutions. So in comparison with the vertically integrated car industry, many construction equipment companies have no direct relations with the shipping industry. In such a triad like situation all the connections run through the intermediary shipping agency.

8.1.2 Research problem 2

How can the MNC organize its internal resources to improve the logistics strategy?

We have found out that the resources of an MNC can be divided into three categories; tangible, intangible and human resources. The tangible or physical resources of relevance are the industrial set up of production plants, regional depots and regional warehouses. These resources enable the exporting company to aggregate machines into higher volumes and less frequent
departures closer to the end market. The relevant intangible resources are identified as the brand of the exporter and the know-how behind innovative transportation solutions, e.g. about how to knock-down machines like excavators into arm, boom and bucket separated and shipped by container. The critical human resources are found to be internal and external network relationships, which are fundamental for the in-depth long-term collaboration with the shipping industry.

These resources are not productive on their own. They have to be organised in order to become key success factors in the shipping industry. Such organizational capabilities are then perceived as something that the company is doing well in the eyes of the shipping companies. Since transporting construction equipment is characterized by extreme height and weight as well as low and fragmented volumes, it is important to organise the resources so that they comply with the external conditions and preferences set by the shipping industry. If the resources are combined and developed in a way that the shipping industry experiences as something that the construction equipment producer is doing well a foundation for competitive advantage has been laid. If these organizational capabilities are not possible to imitate by the competitors a sustainable strategy that increases the attractiveness of the construction equipment producer has been created in the shipping industry.

We have identified how a producer of construction equipment can organise its resources so that two main capabilities are formed; facilitative and intelligence capabilities. A facilitative capability concerns how an exporting company can organize its industrial set up of production plants, depots and warehouses so to improve the logistics situation. The intelligence capability concerns intangible resources such as the brand and know-how in internal and external networks, and how a company can exploit these resources through organizing them in a way that improves the logistics situation. Such a functional strategy (logistics
strategy) needs to support the overall business and corporate strategy of the firm and vice versa.

The competitiveness of the organizational capabilities is evaluated based on their strengths and weaknesses in relation to the impact on the efficiency of logistics. In order to sustain a competitive advantage and improve the efficiency of international logistics based on the strengths it is important that the competitors cannot imitate the capabilities.

8.1.3 Research problem 3
What will a more efficient logistics strategy mean for the activities of an MNC in the Middle East?

A more efficient logistic will facilitate an MNC to have more of its products available in the market place. In fast moving dynamic markets with high demand for construction equipment, such as the Middle East region, increased availability of products can have a significant impact on sales and business activities. Therefore it is important to understand how the external environment, defined by institutional settings and structures, will influence or be influenced by these activities.

The construction equipment industry differs a lot between mature western markets such as Europe and North America, and emerging markets such as the dynamic Middle East region. Therefore it is important to understand the nature of the external business context here defined as the societal sectors and organizational fields.

In the case of the Middle East region we have found out that several institutions have an impact on the MNCs’ business strategies and goals. For instance we have identified that the fast economical diversification of many ME
markets is a potential for the construction equipment industry to grow, since it speaks for an increased demand of construction equipment. The economical diversification requires infrastructure development, expansion of industry facilities, property development etc. Along with this, we can see how many western MNCs have started to expand their business activities in the region more intensively, something that increases competition. Therefore it becomes vital to consider the external environment in order to sustain overall competitive advantage of the MNC. As stated before a more efficient logistics strategy will enable more available products in the market place and possibilities to increase customer value and fulfil the growth potential generated by the economical growth.

The MNC analyses how its regional goals and vision complies with the nature of the institutions. E.g. if the vision is to become number one in customer satisfaction it is important to analyse how institutions such as labour market, education and training systems, product and service market are structured and how an MNC can influence or are influenced by these structures in order to reach business goals.

8.1.4 Main Problem

How can an MNC change its global logistics strategy to become more competitive in the dynamic Middle East market?

First of all the research has revealed the importance of logistics as a critical strategic issue for business. In order to reach business goals it is vital to take functional strategy, such as the logistics, into consideration when the overall business strategy is formulated. Hence, so the functional strategy could support the business and corporate strategy. As we have found an efficient logistics strategy enables MNCs to grow globally. Different industries face different challenges when it comes to international logistics. Therefore it is
important to understand the key success factors of a particular industry, which an MNC must comply with in order to create a competitive advantage.

As a result of these conclusions we have identified and developed a process of how to evaluate and reformulate a successful strategy for international logistics. The first and most crucial part of the process is to understand the external context of the MNC operations and to identify the key success factors, of the shipping industry found in its preferences. In the next step the MNC analyses how the internal resources should be organized in order to live up to the industry key success factors. If the MNC realizes such opportunities by adequately managing the resources, efficiency creating organizational capabilities has been established. With the knowledge inherent in the organizational capabilities a new logistics strategy is generated. This logistics strategy is to be supportive to the MNC overall strategy.

Hence, a critical issue is to understand how the end customer is influenced by the increased availability of machines. If the structures of this analysed as organizational fields and societal sectors fits with the new logistics strategy the foundation for an overall sustainable competitive advantage is created.

8.2 Strategic conclusions

The following strategic conclusions are based on the specific business context of our case company, VCE. Furthermore, we conclude that VCE must organise and develop organizational capabilities that support a new more efficient logistics strategy generating competitive advantage concerning logistics of excavators from their South Korean production plant towards region Middle East.
Today VCE Business line excavator has a vision to be recognized as one of the top three providers of excavator-based solutions in the markets they participate in. Furthermore, concerning the Middle East sales region the vision is to be recognized as number one in customer satisfaction. These visions are all backed up by several key strategies that will fulfil these visions by 2015. However, considering the role of international logistics in these key strategies we can see how the present logistics strategy have potential to be improved and more supportive.

The present VCE logistics strategy contains both strengths and weaknesses that must be exploited and managed adequately by VCE in order to improve the logistics situation and increase global competitiveness. A new VCE logistics strategy must take three perspectives into consideration; the supplier perspective – the shipping industry, the internal perspective – resources and capabilities and the customer perspective – the external environment, the customer market.

### 8.3 Case company recommendations

In order for VCE to reach the goal of being recognised as one of the top three providers of excavators in region Middle East a new efficient logistics strategy will be a critical issue. On the behalf of our research we recommend VCE to look more strategically on logistics as a tool for competitive advantage. The present logistics situation does not favour VCE in its ambition of achieving global growth. In order to reach the potential growth that the global construction equipment market offers, VCE must exploit existing organizational strengths and manage organizational weaknesses. Based on these statements we will recommend how exploitation of strengths and management of weaknesses that are critical for logistics could be organised in order to create a sustainable competitive advantage.
8.3.1  Facilitative capabilities

RAM expansion
The expansion of international RAMs will increase the total production capacity. In order to exploit this capacity increase as a strength the reallocation and balance of production must take the shipping industry into consideration. Production schemes and production planning should be organised strategically after the shipping opportunities that are specific for the geographical regions – production location and intended customer market. With production reallocation and strategic production planning higher and more concentrated shipping volumes will enable VCE to achieve economies of scale, a condition appreciated by the shipping industry.

Depot development
In comparison with the present situation of shipping machines directly to dealers the development of regional depots will enable VCE to ship higher quantities of machines to fewer centralized hubs. To exploit this as a strength VCE must find a way to strategically reorganise in-land transportation in order get the machines to the end market. We have during our research found out that several international shipping companies have started to offer total shipping solutions, meaning that the shipping company handles all transportation from door to door.

8.3.2  Intelligence capabilities

Change of relationship structures
We recommend VCE to go from a transactional selling based dominated triadic relationship, with B.G.S as an intermediary, towards a relationship marketing
based, balanced triadic relationship. By doing this VCE could explore the opportunities of using the power behind the Volvo Group.

We recommend Volvo to take a more active position in the present relationship structures. Shipping arrangements and transactional selling of low fragmented volumes towards smaller Middle East markets should be kept under B.G.S responsibility. However, considering shipping higher volumes to regional depots VCE should in collaboration with B.G.S source for a key account supplier. A shipping company that provides the necessary shipping space for consistent high volumes with focus on a long-term agreement/contract. B.G.S will maintain as the intermediary, with responsibility for transactions, but in a more balanced triadic structure where VCE through relationship marketing approach could establish an in-depth collaboration with the key account supplier. This approach will enable Volvo to consequently develop and explore the opportunities of a long-term relationship with one single shipping company. This relationship structure emphasises a more sophisticated exchange of know-how and information between the shipping industry and VCE. This approach has been a success factor for the Korean car industry and if VCE could manage to adapt a similar strategy concept future logistics implications could be avoided.
CONCLUSIONS AND RECOMMENDATIONS

Figure 8.1: VCE triadic network setup (Florby and Justad, 2008)

Change of organizational structure
The present organizational structure of VCE divides the logistics responsibilities into several functions. The VCE business line excavators is responsible for the production planning and the production process, B.G.S is responsible for vessel allocation and shipping arrangements while VCEI is responsible for the customer market activities. This organizational structure requires an extensive flow of information between many individual functions, a process that is time-consuming and contains a risk of vital information being lost or misinterpreted while crossing through several organizational functions.

We recommend VCE to implement a new organizational function that exclusively manages the logistics. A supply chain management/logistics management function could monitor the total logistics flow and support the individual organizational functions. The purpose of a supply chain management/logistics management should be to facilitate the flow of information across organizational boundaries in a horizontal perspective. However, the implementation of a supply chain management/logistics management functions could also be a vertical link between top management
and lower organizational functions. With a supply chain/logistics management function VCE have opportunity to coordinate strategic activities in order avoid logistics obstacles and barriers occurring in individual organizational functions. The supply chain/logistics management function could also be a supportive function for top management in the process of formulating corporate strategies that complies with the logistics strategies and vice versa.

Figure 8.2: Organizing supply chain/ logistics management (Florby and Justad, 2008)
9 Suggestions for further research

In this chapter we will give suggestions for further research in the area of global logistics. During our research we have found out some areas that are interesting for Volvo CE to follow up and pursue to gain and sustain a competitive advantage in the areas of shipping excavators from Korea to the Middle East region. Furthermore, these suggestions for further research are integrated with the long term strategy and vision of our case company, Volvo CE.

9.1 In the area of global logistics

The first suggestion for further research considers how VCE should find a key account supplier in the shipping industry. What characteristics are required in a potential key account supplier and how a relationship process could be managed and structured?

How could VCE implement a supply chain/logistics management function in its present organizational structure? In order to implement a new function with ease it is important to formulate areas of responsibility and where in the organizational structure such a new function strategically fits.

As we have found out during our research logistics plays a more strategic role in MNCs overall strategies. We have analysed how a logistics strategy could be formulated in order to support and comply with corporate goals and strategies. Since logistics is a key factor for international growth we suggest further research on how a logistics strategy could be managed into strategic logistics becoming an MNCs unique selling proposition.
9.2 *In the area of international growth – the Middle East region*

As we have found out during our research several factors influence growth for VCE in the Middle East region. One of the main factors is the lack of well-educated labour force. For VCE it is important to have competent engineers and technicians in order to achieve the vision as being recognized as number one in customer satisfaction. We therefore suggest further research on how to acquire or support local competence.
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Wardi, Weal, Area Customer Support Manager Middle East, VCEI, interviewed in Eskilstuna 25th of March 2008.

Yo, Juhyung, Outbound Coordinator, Volvo Logistics Korea, Interviewed in Changwon 31st of March 2008.

10.5 Observations:

- Plant tour of the Volvo CE excavator production plant, Changwon, 1st of April 2008.
- Port tour of the Pyungtaek International Ro-Ro (Roll on-Roll off) Terminal, Pyungtaek, 10th of April.
10.6 **Presentations:**

- Presentation of the development of new port terminals of Pyungtaek International port, Kim, Hark Soo, Managing Director in Pyungteak International Roll on Roll off Terminal (PIRT), Introduced in Pyungteak the 10th of April 2008.

- Presentation of the Pyungteak International Roll on Roll off Terminal (PIRT), by J.H. Lee, Head of EUKOR Pyungtaek, Introduced in Pyungtaek the 10th of April 2008.
11 Appendix

11.1 Case study protocol illustration
11.2 Pyungteak workflow

11.3 Caterpillar industrial setup
11.4 Komatsu industrial setup

11.5 Hitachi industrial setup
11.6 Questions Shipping coordinators:

- How many different shipping possibilities do you have for excavators produced in Changwon with the purpose to supply region international?
- How many different shipping possibilities do you have for the supply of the ME?
- Explain in detail the process of shipping excavators from Changwon to ME.
- Which ports in ME do you ship to (explain for individual countries)?
- How do you ship the products to the dealer/customer from the port?

Shipping companies

- Which shipping companies do you contact explicitly for the ME?
- Do you have any explicit strategy for bargaining long-term contracts?
- Do you have any explicit strategy for bargaining inconsistent low volume shipping?
- Do you always use intermediaries like shipping agents for managing the relationship between VCE and the shipping lines when logistics concerns the ME?

Volvo Logistics

- How would you explain the relationship between VCE and Volvo logistics?
- In general, do Volvo logistics have an advantage over VCE while bargaining shipping contracts?

Future scenarios

- How do you source the market for future shipping opportunities?
- What would you address as the most important while establishing new contracts (if possible)?
- Due to the lack of vessel space would you consider container shipping as a convenient solution for the future?
- What signals/trends do you percept regarding shipping situations towards ME for the future?
- Will the car industry impede a fierce competition in the future while bargaining for shipping contracts in ME?
- Would you consider a fewer number of ports as an opportunity if the inland distribution flows efficient?
- Will the present infrastructure in the region impose difficulties for fewer ports?
- Which country would you consider as the most strategic one for a major HUB/Depot in terms of logistical efficiency?
- How will an armed conflict in the region affect the logistics?
- How would VCE respond in order to keep up activities?
11.7 Questionary ASM and ACSM:

- What is the strategy for excavators in your area?
- Your goal is to gain 15% market share during 2008 what is your expected increase in sale? (are you increasing in sales or are competition getting weaker)
- Do you think that your strategy of development of the Key account management approach in ME will affect the demand significant?
- Which companies are your key accounts in your area?(international or local)
- How big percentage of the sale do they have?
- Does the logistical problem in the area affect the growth potential for VCE?
- Do you think that the construction boom will continue in your area?
- Which segment will represent the strongest growth prosperity for excavators?
- Will diversification or concentration be the best way for VCE to reach full potential in your area?
- How do you think that Komatsu and Hitachi will act in the next couple of years, due to the fact that the dollar is decreasing in value, meaning that the yen will increase in value?
- How do you think that caterpillar will act in the next couple of years?
- How do you think this will affect the demand for VCE excavators?
- Is there any direct competition from smaller local, Japanese or Chinese Excavator producers in your area?
- How do VCE stand the competition when the construction industry gets more international companies? (Are they favoured by this or not)
- Do you have any explicit strategy if the future demand for excavators outpaces forecasting?
- What will be the main drivers for development within the construction equipment industry?
- Will the economic diversification of many ME countries influence excavator demand?
- Does the political setup in the region favour an increased demand for excavators?
- What influence has the governmental activities on the demand for excavators?
- Will the young population (which represents a majority of the population) have a causal relevance for future VCE strategies?
- What kind of governmental activities could improve the VCE situation in your area?
- What kind of governmental activities could harm the VCE situation in your area?
11.8 Questionary shipping industry

Shipping companies
- Describe the present shipping situation?
- What are the most important issues for you choosing customers?
- What is the main difference between car industry and construction equipment industry as customers?
- How has the shipping industry developed the last years?
- What have been the main reasons for the development?
- What do you see as the major challenges for the shipping industry in order to become more efficient?
- Will the capacity situation, with a shortage of RoRo vessels be improved in a close future?
- How do you think your customers should organize in order to become more compatible and profitable for you?
- How is the Korean shipping industry different from other global industries?
- How will the Korean shipping industry develop, short-term and long-term scenarios.
- How do you organize shipping activities towards the Middle East?
- Are there any major international trends that will be seen in the shipping industry in a close future?

Shipping agent
- For how long have you been working as a shipping agent?
- How do you explain your responsibilities as a VCE shipping agent?
- How would you explain the relationship between VCE, you as an agent and the shipping industry?
- How do you usually work when you arrange shipments for VCE?
- How do you think the shipping situation for VCE excavators will develop in the future?
- What do you see as the most important for VCE to do in order to become a more attractive shipping customer?
- How do you think your customers should organize in order to become more compatible and profitable for the shipping companies?
- How is the Korean shipping industry different from other global industries?
- How will the Korean shipping industry develop, short-term and long-term scenarios.
- How do you organize shipping activities towards the Middle East?
- Are there any major international trends that will be seen in the shipping industry in a close future?

Pyuntaek international RoRo terminal
- Could you explain the process of ocean shipping?
- How is the current terminal situation and capacity in Korea?
- APPENDIX -

- How will the terminals develop in the future?
- How will this affect the shipping industry?
- How would you explain your relationship with KIA and Hyundai?
- Could you explain the work flow of the KIA and Hyundai terminals and how they as car companies are integrated in the process?
- Have the development of exclusive KIA and Hyundai terminals made your work process and shipping situation more efficient?

11.9 Questionary Volvo CE Business Line

Excavators, South Korea

OTD strategy
- Can you explain the OTD process of VCE BL excavators?
- Can you explain the inbound logistics and more in detail?
- How has the Changwon production plant changed/developed since the start?
  - What does the future look like for the Changwon production plant?
  - What does the VCE BL excavator global industrial set-up look like?
- Can you explain the strategy of the development of RAMs?
- How will the development of RAMs improve the production conditions for VCE BL excavators?
- How will the production allocation of excavators’ be after the RAM expansion and how will it increase the present market coverage?
- What do you see as the main challenges for VCE BL excavators in order to become more competitive in the market?
- What do you see as the main challenges for VCE BL excavators in order to improve the situation of unfavourable international logistics?
- How will the development of regional depots improve the present shipping situation?
- How will the organization look like and how will the responsibilities be divided among different VCE functions considering the regional depot in the Middle East?

Volvo Logistics
- How do you arrange and organize shipping of VCE excavators?
- What are the main differences between shipping towards other markets then sales region international?
- What do you consider as the main challenges of shipping excavators from Korea?
- How do you think VCE can improve the attractiveness as a shipping customer?
- What are the main strategies for improved international logistics?