

**Tourism and Hospitality Management
Master Thesis 2003:30**

Volvo 3P

The New Generation's Seat Project

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ISSN 1403-851X

Printed by Elanders Novum

Abstract

Truck seats are one of the most important components of the truck and the place where the drivers spend most of their time. Today there are an abundance of seats and the divisions within Volvo 3P use different suppliers and different seats with many different names and features. In the struggle for attracting customers and be the leading truck manufacturer on the market, Volvo 3P needs to be more efficient and united on the seat level.

The main problem of the thesis was to investigate “How to find synergies and still keep the brand distinction on product level within Volvo-, Renault-, and Mack Trucks”. The thesis is based on our case company Volvo 3P, which is one of the leading truck manufacturers in the world.

In order to solve our main problem, we developed a model comprising three areas of investigation. The purpose of the model is to provide the initiator/reader with the necessary information for choosing a strategy for how to most effectively deliver answers to finding synergies but keeping the brand distinction.

Our main conclusion is that there is a great opportunity for Volvo 3P to implement a common seat platform with removable seat cushions globally in Volvo, Renault, and Mack. However, we have found that the three brands need to be distinguished from each other in terms of different seat cushions and upholstery in order to stay appealing to their customer segment. Furthermore, we concluded with suggesting new seat families that can be used globally with the purpose of decreasing part numbers and costs and also with the purpose of being more united.

Acknowledgements

We would like to show our deepest gratitude to all people who have been involved in our thesis process. First, we would like to thank the Cab Purchasing Department at Volvo Trucks, our case company. A special thought we would like to give to Maria Larsson and Hans Rieck for giving us the opportunity to write this thesis. We would like to especially thank Maria Larsson for all the support and inputs we have received during the thesis process.

We also express our obligations to Ph.D. Jan E. Skaug for fruitful discussions and his sharing of knowledge. Moreover, we would like to dedicate our appreciation's to Charlotta Bergmark at the Construction Department at Volvo Trucks for sharing her experiences and nourishing our thoughts. Furthermore we are grateful to Sara Davidsson for her never lacking patience and valuable ideas and suggestions.

We would also take the opportunity to thank all participants in our interviews. At all interviews we have received a kind reception and everyone have seemed happy to help us.

Finally, we would like to thank our families and friends for their understanding and support during our work with this thesis.

Carin Björn

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Göteborg, 2004-01-15

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Chapter 1

1. Introduction

This first chapter describes the Volvo AB's background and its organisation chart. Next, definitions used in the thesis are identified, and the purpose of the thesis is presented followed by the problem background and problem definitions. The reference system chosen, as well as the delimitations, are also presented in this chapter. The chapter ends with the readers' directions.

1.1 Volvo AB's background

On the 2nd of January 2001, Volvo's acquisition of Renault Truck Corporation was accomplished. The acquisition involved that Volvo group acquired all shares of Renault Truck Corporation and Mack Trucks in exchange for 15% of the Volvo group's shares. The new organisation or business area was called Volvo Global Trucks (VGT). Through the acquisition of Mack (MT)- and Renault (RT) Trucks, the Volvo group from year 2000/2001 was strengthened. With the acquisition of two world famous truck brands, the Volvo Group gained many unique opportunities which would help it improve its competitive position. Each of the truck brands has a long and spectacular heritage as well as distinctive added value which stems from functional, emotional and social benefits. It is the responsibility of the Volvo Group to continue to encourage each truck brand to remain distinctive from each other, to ensure that their current customers stay devoted to them, and, at the same time, attract new customer segments. Due to the importance of each brand remaining unique and distinct from the other, Volvo Trucks (VT), RT and MT became at the end of 2001 three separate business areas. In relation to the acquisition, Volvo AB developed a business unit called Volvo 3P for the three truck brands. Volvo 3P includes VT's-, RT's- and MT's purchasing-, product planning-, product range

management- and product development departments. The aim of Volvo 3P is to “propose and develop profitable products to ensure a strong and competitive offer for each truck brand, based upon common vehicle architecture and shared technology” (www.volvo.com, 2003-10-02). The following figure, 1.1 – The Volvo AB Organisation Chart, illustrates the business organisation with the different areas within Volvo AB and the business unit Volvo 3P. Since the acquisition the volume of the trucks manufactured has almost doubled and Volvo AB is therefore the largest manufacturer of heavy trucks in Europe and the second largest in the world after Mercedes. The actual volume has not increased, but due to the acquisition, Volvo AB now has a larger share of the truck market. According to Leif Johansson, President and CEO at Volvo, Volvo expects in the future to have approximately 200 000 heavy trucks in Europe and 170 000 in North America on the market (Svenska Dagbladet, 2003-07-23). Volvo Trucks is the oldest division in the Volvo Group Corporation and started its business in 1928. At the present time, the Volvo Group is one of the largest manufacturers of buses, construction equipment, marine and industrial engines, aerospace components and trucks. Volvo Group is a world-wide organisation with production units in 33 countries (VT, Europe in 19 countries).

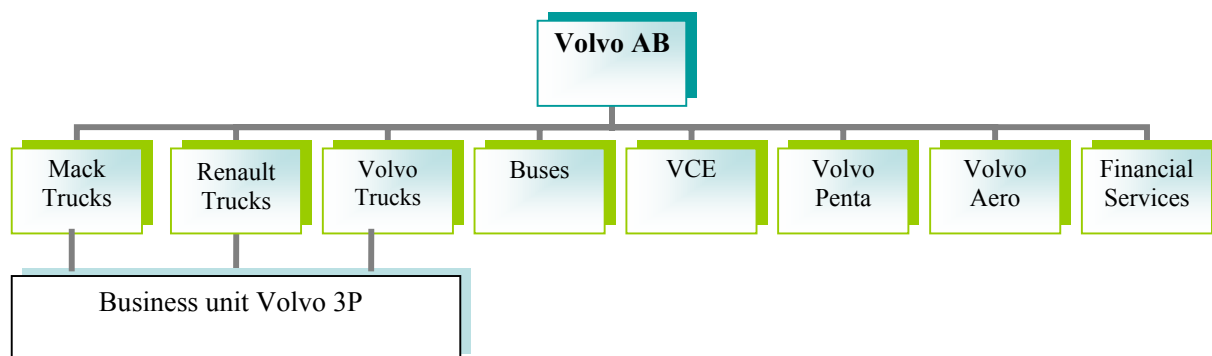


Figure 1.1 – The Volvo AB Organisation Chart
 Source: www.volvo.com, 2003-10-02.

Renault Truck brand offers everything from light trucks specialized in rapid or urban distribution to high tonnage for long distance and military vehicles. For the year 2002 Renault held 13.2% of the western European heavy-duty market (trucks over 16 tons) and 11% of the market for trucks from 6 to 15 tons. Renault has six production sites in Europe with its main office in Lyon. (www.renault-trucks.com, 2003-09-26) Mack Trucks was founded in 1900 by Jack and Gus Mack, and is today one of North America's largest producer of heavy-duty trucks. Jack and Gus Mack bought Fallesen and Barry carriage company seven years earlier (1893) and adopted its present name, Mack Trucks Inc., in 1922. The brand is especially strong in Latin America and Australia with a bulldog as its trademark. In Europe Mack Trucks was first recognized through the Mack AC model, which was used during World War 1. At this time British soldiers named Mack Truck "Bulldog Mack" and ever since this is what the truck brand has been using as their trademark. (www.macktrucks.com, 2003-09-30)

1.1.2 Definitions and Occurring Conceptions

Our thesis consists of various abbreviations, see table 1.1. As a guide, we have chosen to describe these below in order to allow the reader to grasp the textual context.

GSP	Global Sourcing Process
MT	Mack Trucks
RT	Renault Trucks
VDB	Volvo do Brazil
VOLVO 3P	Volvo-, Renault-, and Mack Trucks
VT	Volvo Trucks (global)
VTC	Volvo Trucks Europe
VTNA	Volvo Trucks North America

Table 1.1 – Definitions and Conceptions

For explanations of seat features and functions, see appendix 1. In order to gain a greater understanding of the content in this report it is important that the reader reads this appendix carefully.

1.2 Purpose

Due to the acquisition with RT and MT in 2001 the number of different type of seats and seat names has increased. Since the business unit Volvo 3P was developed, the three brands within the organisation have had the opportunity to share experiences and knowledge in order to gain competitive advantages.

The overall purpose of this thesis is to investigate the possibilities and attitudes towards having a global “seat family” for Volvo, Renault and Mack Trucks.

The thesis purpose is to investigate if it is possible to have a common seat platform for all seats within Volvo 3P. It is of great importance for VT, RT, and MT to obtain knowledge about this in order to continue with their development work within this area. With a common seat platform the seat cushions will be exchangeable and each brand will have its own brand specific

cushions in order to maintain their uniqueness and continue to appeal to their customer segment. When VT, RT, and MT succeed in the work with developing a common seat platform, common seat families can be created and more activities can be shared between the truck brands. With the thesis purpose we want to find the responses to four statements:

1. Attitudes to common seat families among the truck brands.
2. Seats suppliers' attitudes toward producing similar seat platforms to VT, RT, and MT.
3. If or how each truck brand's uniqueness and distinctiveness will be affected.
4. End-customers' opinion about seats.

1.3 Problem Background

One of the most important and valuable parts in the cab is by all means the seat. It is a comparatively expensive product compared to other parts in the cab and it is of great importance and value for the driver. Where do the truck drivers spend most of their time? The answer is obvious: sitting in the cab. They sit while they are driving their 70 hours in eight days. Assuming four weeks vacation and one more for holidays, which is about 3 000 hours driving time. Add in time to do paper work and waiting to load or unload, and soon you are up to more than 4 000 hours. This is why the driver's seat can be the most important truck component. (Abelson, 2003)

After VT's acquisition of RT and MT, the seat variance of names and features has increased and created confusion. The seat families for each truck brand have different seat names and some of them also have different suppliers which gives a greater range of different types of seats. Supplier 1 is the largest seat supplier in Europe that has 80 per cent of the market in Europe, has for 27 years made all the seats for VTC. Supplier 1 has recently been introduced in the

USA and VTNA is now uses the Supplier 1's seats in their trucks. VT is looking for other seat suppliers who can compete against Supplier 1 especially on the European market in terms of decreasing the high seat prices of Supplier 1. But to be able to introduce a competitor on the market, VT needs to find a supplier that is able to produce the same high standard seats as Supplier 1 does. There is a continuous product development with new features, upholstery, et cetera, on the seats and it important to investigate the end- customer demands and requirements. There is a little research done on the seat level in terms of surveys regarding the end-customers' opinion and knowledge of the seat.

1.4 Problem Description and Main Problem

The new organisation that was established in connection with the acquisition is designed to develop and strengthen the three truck brands, VT, RT, and MT. Accordingly, VT, RT, and MT are competing brands on the market, as they were before, while purchasing, product planning and product development are being co-ordinated in a common structure. However, VT specialises in long haul trucks, RT in distribution, and MT in construction. They do not have the same market positions.

By the given background, our main problem comprises “how to find synergies and still keep the brand distinction on product level within Volvo 3P”. The problem focuses on Volvo 3P in the USA, in Europe and in Brazil. Moreover, our main problem will provide an in-depth answer which will be shown in the results of the three research problems. In other words, the main problem requires many complex questions and answers; therefore in order to more easily answer it, we will use sub-questions at different levels. Even if our specific study involves Volvo 3P as the case company, we have chosen a rather general main problem in order to make our study valid as well as applicable to other organisations operating in other markets. In order to answer our main problem, “How to find synergies and still keep the “brand distinction” on

product level within VT, RT, MT it is a necessary to first answer our three research questions. First the reader gets an idea about the main research area and in order to get a greater understanding of this and in the end to solve it, the reader need to follow our three step research model.

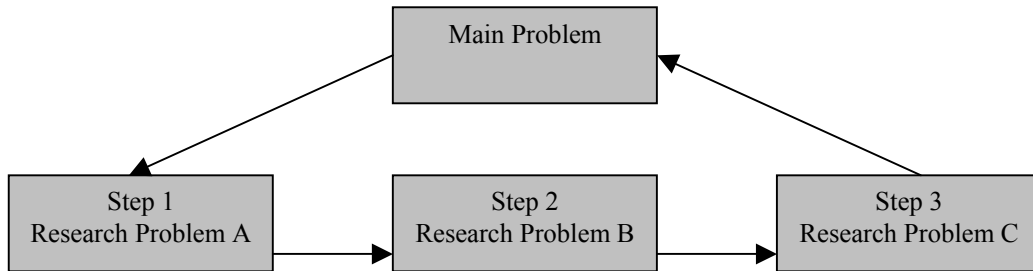


Figure 1.2 - Research Problem Model
Source: The authors

Below is our main problem, followed by our three sub problems – research problems A, B and C.

Main Problem

How to find synergies and still keep the “brand distinction” on product level within VT, RT, and MT.

1.4.1 Research Problem A

In order to get a well-documented overview, we will begin by investigating what different suppliers the three brands use within Volvo 3P. At present the three truck brands have a wide range of different seats and features which leads to a complicated system with many part numbers and different seat names. Our goal is to map and describe what different seats the suppliers deliver and whether or not these are comparable. Is it possible to find synergies and create global “seat families” within this large variation of seats Volvo 3P offers? Our main problem is focused around finding synergies while still keeping brand distinction. In our identification step in research problem A, we investigate whether or not it is possible to introduce one common seat base. We have

chosen to observe the whole market in order to find the most interesting suppliers in terms of seat features, prices and sales volumes. What will happen with all brand unique regulations when the common seat platform is implemented? Can VT maintain their specific tests, can RT and MT keep theirs or do they have to be more standardised. We believe that in order for us to answer the main problem concerning synergies, we also need to know what kind of seats exists today and what can be interesting in the future, both in terms of seat features and suppliers. Research Problem A focuses around: *Investigate the possibilities of whether or not it is possible to create one common seat platform?*

1.4.2 Research Problem B

When we have answered problem “A” concerning the common seat platform, we will in Research Problem “B” analyse how a different and less favourable customer view of the brands can be avoided. The customer sees the visible values like the seat colour, the seat cushion and the upholstery, what he/she does not see is, for example, the different safety tests that the seat has been exposed to. Even if the customer is not aware of all safety regulations and tests he/she knows that if this person, for example, buys a VT, the safety demands are extremely high. There is a risk that the brands will be too much alike and therefore VT, RT and MT will lose market shares. This problem concerns the danger of not maintaining the brands core values, not being unique, and not maintaining the image the brands have today. Due to the acquisition the three brands work more closely together and this can have an effect on the brands’ distinctiveness. To clarify this problem, we have identified Research Problem B in terms of a question: *How do the brands’ core values reflect on the seat product?*

1.4.3 Research Problem C

In Research Problem B we will study how the core values reflect on the seat product, and here we go one step further and consider what features the end-customer considers important to have in his/her seat. A problem of today is that there have not been any specific surveys conducted focusing only on the seats. VT, RT, and MT's knowledge about the end-customers' needs and demands are somewhat limited. Our problem focuses around what makes the important end-customers satisfied and what affects their attitudes towards the seats? Through interviews with truck drivers, both Swedish and international ones, we will get important information about their view of the product. Through surveys that already have been done by product planning- and market departments at VT, RT, and MT we will get useful input about the global perception about the seats. We will have discussions with product planning- and marketing departments globally to get their opinion about what a common seat platform would mean for the different brands within Volvo 3P and how this will affect their work. Are there any overwhelming risks associated with implementing the common seat platform? Research Problem C is expressed in terms of a question to make it more clear, and focuses around: *What attitudes and knowledge do the end-customers have about the truck seat?*

1.4.4 Summary

By answering the three Research Problems by the use of primary and secondary sources, we are convinced that we will be able to answer our proposed main problem and come to a conclusion: *What seat families should Volvo 3P have in their new project?*

After learning more about each seat supplier and after evaluating what they have to offer to the brands within Volvo 3P, new global seat families can be created. Today there is a great variation of different seats among the three brands and in order to decrease the variations, synergies needs to be found.

New seat families, for example, standard-, comfort-, and deluxe seats, will be created globally based on common seat features.

1.4.5 Research Problem Model

Below is a model containing our main problem and its division into our three research questions, see figure 1.3. In order to answer our main problem we will follow this three step model that includes answering the three research questions. We go from Research Question A to B to C before coming to our conclusion concerning the main problem; “How to find synergies and still keep the brand distinction on product level within RT, MT and VT”?

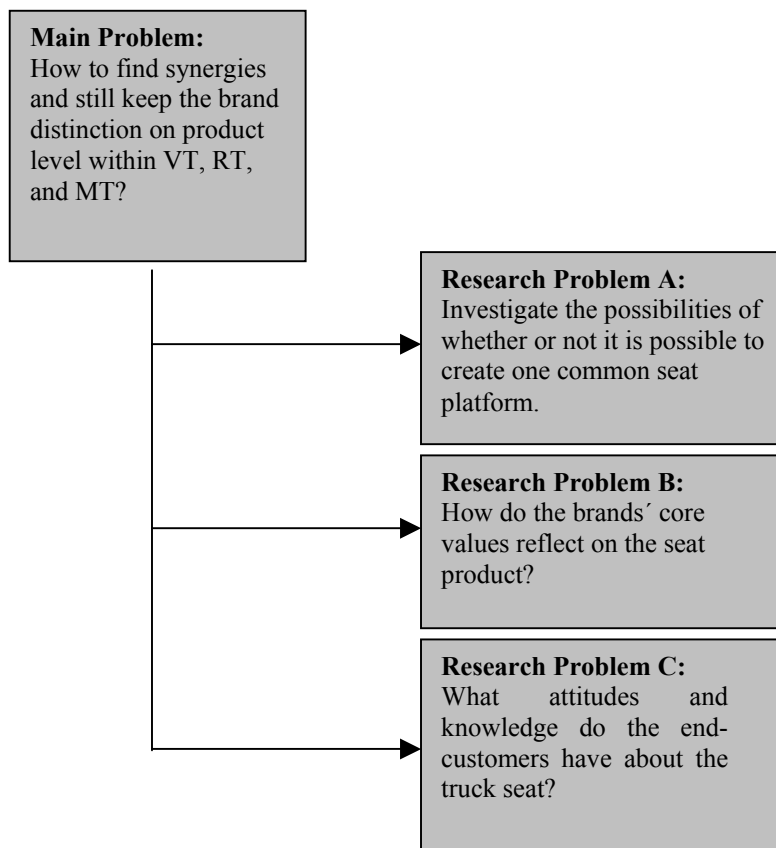


Figure 1.3 - Research Problem Model

1.5 References

The scientific literature uses three types of systems where the references are mentioned in the text. The Harvard Reference System, also called the parenthetical system, is the main reference system, used in the natural

sciences-, the social sciences, and the behavioural science disciplines. The other system, which is the main system in the humanistic subjects, works with notes and is called note system. A third system, the number system, uses number notation in the running text. This technique is most common in medical documents. This system is not very commonly used. (Backman, 1998) In this report we are using the Harvard Reference System. This is in agreement with the School of Economics and Commercial Law's decision about what system should be used. The Harvard Reference System is also commonly used within social sciences subject and we also consider this system as being the most appropriate to use in this context. The Harvard Reference System is easy to understand and the reader does not have to look at the bottom of the page or at the end of the thesis to find the sources. (Backman, 1998)

1.6 Delimitations

Due to the time constraints, we will focus on the European, South American and the US markets. This will give us the opportunity to examine these markets in more detail and therefore reach more accurate, reasonable and valid results. We will only investigate VT, RT, and MT. We will not make any comparisons with other truck brands with the one exception from our Truck Driver Survey presented in the Empirical section. Here we will also include other truck brands in order to get a greater understanding. Through contacts and co-operation with end-customers, marketing departments and product planning in Sweden, France, the US, and sometimes also Brazil, we will get an overview and a better understanding of the seat market and come to a conclusion whether our purpose is viable or not. The Truck Driver Survey we will conduct includes truck drivers' attitudes to their seats. This survey will be conducted in Gothenburg, Sweden and Fredrikshamn, Denmark because of the good access to many professional truck drivers. There are four different seat suppliers that today supply seats to Volvo 3P and these are Isringhausen, National Seating

Company, Bostrom Seating and Grammer. Due to the small number of only passenger seats that Grammer today supplies to Volvo 3P, this supplier has been excluded in this study.

1.7 Outline of the Thesis

As illustrated in figure 1.4, we commenced our thesis by defining our problem and describing the background on which the thesis is based. We have structured our main research problem into three research questions that will be analysed later in this thesis. In the methodology chapter we describe what approach our thesis has. In order to receive a better understanding for the complexity of the research problem, the discussion will begin with the theory regarding the subject matter. Consequently, in our empirical findings the reader will have essential background information to be able to comprehend the complexity of the problems discussed, and to be able to follow our thoughts in the analysis, results, conclusions and recommendations.

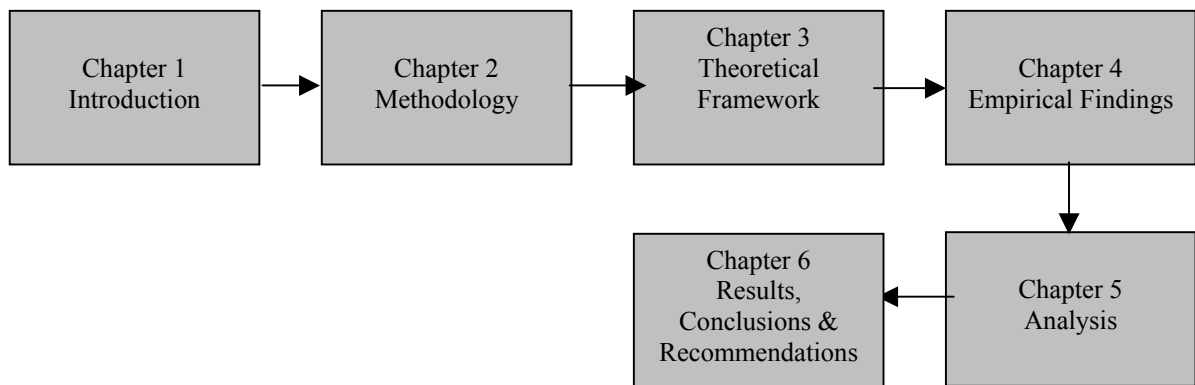


Figure 1.4 – Thesis Outline

Chapter 2

2. Methodology

This chapter aims to describe the investigation methods and techniques that will be used in order to collect and analyse data. We start by presenting the research approach, followed by the investigations direction. Thereafter, the selection process, the data collection, as well as the sources of error are presented. The chapter ends with the chosen methods and surveys. All sections include a theoretical presentation as well as a discussion concerning the approaches we have chosen.

2.1 Qualitative or Quantitative Survey

There is a distinction between qualitative and quantitative data collection. Both approaches have their strengths and the approach chosen depends on the investigation problem (Grossnickle and Raskin, 2001).

Qualitative surveys are valuable when the knowledge about an area is limited. They give a feeling for the subject. Such surveys are good tools in order to research issues that are hard to define, such as assessments, opinions and needs because they provide an opportunity that in detail finds out what the respondent thinks and considers about the subject. A qualitative approach also works as a useful planning tool for following quantitative surveys. The disadvantage is the practical reason that it is not possible to accomplish a survey with a large number of respondents. This results in that it is not possible to stipulate whether or not the result is representative for the whole survey population. There is also a risk that personal interpretations are put into the analysis of the collected material. (Grossnickle and Raskin, 2001)

Quantitative surveys are more structured and formal. The collected material is coded and analysed objectively. The result can be seen as being more reliable when a larger number of respondents have participated in the survey. A quantitative survey is also a cheaper alternative compared to the qualitative survey. A weakness is that it is not possible to go in depth in every area at the same time as the questions are standardised and therefore do not give any room for interpretations and new angles. (Grossnickle and Raskin, 2001)

According to the authors qualitative and quantitative surveys can, as an advantage, be seen as complements to each other. To choose the one alternative does not necessarily mean that the other approach is excluded. In this report both forms are being used, the qualitative in order to create an understanding of the area and the quantitative to get reliable results that can be used as a basis for decision making.

2.1.1 Secondary or Primary Data Collection

Data are being collected from two types of sources; secondary and primary. *Secondary data* is data that are already collected, for example, in prior surveys, literature, and articles. Before our own surveys are conducted it is recommended that the material that already exists within the specific area will be searched. It is of great importance to be aware that such data often is not collected with exactly the same starting point as the current survey and it is also crucial as to be critical to how reliable the information is. *Primary data* is such information that is collected by the investigator for the purpose at hand, in forms of interviews or observations. (Kinnear and Taylor, 1996)

In this thesis, according to the authors, the theoretical framework and the description of the organisation will mainly be based on secondary data which will be collected through studies of relevant literature, articles and internet

homepages. We will also get useful input from surveys that already have been done by VT, RT, or MT. A large part of our other information will be collected through questions methods in terms of personal interviews and a survey. This information is primary data.

2.2 The Investigation's Direction

A survey or an investigation can be divided into three different groups depending on the purpose and what kind of information you are asking for. (Lekvall and Wahlbin, 1993)

Explorative surveys are accomplished when the investigation problem itself needs to be defined and elucidated. The purpose with such a survey could be to collect information about the current investigation area. This information can then function as a base in order to form questions at issue for further surveys.

Descriptive surveys are more “mapping” in their character. In such surveys it is clearly defined from the beginning what is supposed to be investigated. The purpose with a descriptive survey is to explain the situation without giving details about underlying causes and relationships. One example is to identify and describe what actors exist on a certain market. Finally, *causal surveys* aim at determining how different factors are connected to each other in output- and cause relationships. (Lekvall and Wahlbin, 1993)

This report will through all phases have a descriptive direction, since we already know the problem area and what is to be investigated.

2.3 Investigation Approach

The technical design of a survey is called the investigation approach. Lekvall and Wahlbin (1993) divide the approach into three dimensions. The first dimension concerns whether the investigation comes about in depth or is more concerned in issues that are broader. The second dimension handles qualitative

and quantitative approaches (as described earlier) and the third dimension concerns the choice between primary and secondary data.

2.3.1 Breadth or Depth

Depending on if the purpose of the investigation is to go in depth in different investigations and study these very carefully, or to take a wider approach and learn less about many cases, the formulation of the investigation looks very different. Deeper studies are called case studies and broader surveys are called cross section approaches or time serie approaches. Case studies are suitable for exploratory surveys, while the broader approaches are more often used when it is known exactly what is going to be studied. (Lekvall and Wahlbin, 1993)

The study that will be presented further on in this report has more or less a broad approach. We are working on getting an overall understanding of the current seat situation, and are working on developing a new seat situation. In order to succeed in this work, it is necessary to have a rather broad approach.

2.3.2 Strategy for Empirical Findings

In order to solve our proposed three research problems, including our main problem, various interviews and surveys needs to be made.

In accordance with Research Problem A, “Investigate the possibilities of whether or not it is possible to create one common seat platform?”, interviews with The Product Manager at VTC in Sweden, a Product Planning representative at RT in France, and the Public Relations Manager at MT in the US will be conducted. These people’s opinions are crucial in order to find out the different brands’ opinions towards a common seat platform. Interviews will also be made with engineers at Volvo 3P’s three main seat suppliers, Supplier

1, Supplier 2, and Supplier 3. At supplier 1, we will interview the Chief Engineer, at supplier 2, we will interview the Chief Engineer, and at supplier 3, we will interview an engineer. The engineers' opinions are crucial in order to find out whether or not it will be technically possible to implement the common platform.

In connection with Research Problem B, "How do the brands' core values reflect on the seat product?", the Product Manager at VTC in Sweden, a Product Planning representative at RT in France, and the Public Relations Manager at MT in the US will again be interviewed in order to give us a definition and a greater understanding for each brands' core values. We will also conduct interviews with supplier 1, 2 and 3 again with the purpose of getting their definitions of the different core values. We want to see if the suppliers' understanding of the core values matches the brand's own definitions and understanding. In order to learn more about the development of the corporate values for Volvo 3P, interviews with the Product Manager at VTC and the purchaser and segment owner of seats will be made.

Regarding Research Problem C, "What attitudes and knowledge do the end-customers have about the truck seat?" we will conduct a Truck Driver Survey in Gothenburg, Sweden and in Fredrikshamn, Denmark. The results from this survey will be presented in the empirical findings in this report. Here the findings from earlier made seat surveys by a market researcher at RT, France and by a market researcher at VDB, Brazil will be presented. The purpose of this is to find out whether or not the different surveys have reached approximately the same result even though they are conducted in different parts of the world with different customer segment.

2.4 Selection Process

To decide from whom the information should be gathered is an important step in an investigation. Often it is not reasonable to observe all units in the target population, the total amount of units about which information is being sought, and a random sample representative for all units is necessary. To draw conclusions about the whole population on the basis of a random sample is called statistic reference and is burdened with insecurities (Fhanér, 1980). By conducting a careful selection, this insecurity can be reduced. The two main groups of selection methods are *probability selection* and *non probability selection*. The difference between the two is that in the former one, all units in the target population have an equal chance to be included, while in the latter one the selection is more based on judgements of the investigator. (Lekvall and Wahlbin, 1993)

The selection in this report is a non probability selection. In our interviews, qualitative in their character, a judgement selection is made with help from our tutors at Volvo 3P, who are familiar with what people are appropriate to contact. In our survey a non probability selection will be made due to the fact that in order to conduct a probability selection we need to have knowledge about all units in the target population. We do not see it as important to do such a mapping; instead we want to put the focus on finding suitable respondents who fit within our target population. We will contact about 50 truck drivers in order for them to answer our questions. The selection will be made through visiting several truck stops in the surroundings of Gothenburg and also through a visit to Fredrikshamn with the Stena Jutlantica Ferry.

2.5 Data Collection

In order to give answers on the investigation task the collected data needs to be structured and interpreted. Case studies and survey investigations are different

in their nature and therefore they are treated separately. Analyses of case studies are largely based on the investigator's own judgement. A description is made separately in each individual case in order to get an understanding of how it is related to the questions at issue. The different cases are then compared to each other. (Lekvall and Wahlbin, 1993) In order to draw conclusions from a survey investigation it is necessary to first code the collected data. Coding means that variables are allotted values. A variable is an observed characteristic that can enact different values, but that only can enact one value per respondent. (Lekvall and Wahlbin, 1993)

The measurement scales that will be used in the questionnaire are nominal scales and ordinal scales. Limitations with these scales are that the nominal scale not makes it possible with joint order of precedence and that scale values in an ordinal scale not have the same distances. It is therefore not possible in those cases to summarise data through, for example, calculating the mean. A more appropriate methodology is to use frequency tables or to present data in percentage form. (Mitchell and Jolley, 2001)

2.6 Sources of Error

An investigation is always associated with a risk of errors. The two most common types of errors are validity- and reliability errors. *Validity* is defined as a measure instrument's ability to really measure what it is supposed to measure. In order to have high validity a questionnaire-question that intends to answer how organisations operate their purchasing process includes answer-alternatives that really answer how the purchasing process is being managed. *Reliability* deals with the measure instrument's ability to give reliable and stabile decisions. No matter who accomplishes the measurement and when it is conducted, the same result should be achieved (Eriksson and Wiedersheim, 1997). For example, a ruler that measures the same person's length should give

the same measurement result irrespective of who measures or at what destination the measurement is performed.

Lekvall and Wahlbin (1993) define five causes of validity- and reliability errors.

- Wrong purpose. It is important that the purpose of the investigation is correctly formulated. If that is not the case, the investigation will not give the right answers on the right questions. During the time the thesis work will proceed, the purpose will first be more general and then be developed to become more specific and well-defined. Allusion mistakes will be avoided due to the fact that the purpose will be defined and discussed with our tutors, both at the School of Economics and Commercial Law and at Volvo 3P.
- Wrong direction and content. These are faults that arise as a consequence when the task has not been specified clearly enough or that incorrect delimitations have been made. The risk for such faults will be avoided because the tutors will review our work.
- Inference error. These kinds of error occur when conclusions based on a random sample that is not representative for the whole population is made. Inference error can be divided into three types: *Frame error*, *Drop out error*, and *Selection error*. These errors will be restricted by using control questions, thereby assuring that the respondents really are within our target population.
- Measurement error. Errors that occur through the received measurement values and differ from the true value are called measurement errors.

Measurement errors will be limited through carefully prepared and checked interviews, and through test interviews to determine if the questions are indistinct or equivocal. Besides, through phone calls we will check that persons with enough knowledge within the area answer the questions. In the work with designing the questions we have received some help and critical comments from Maria Larsson, one of our tutors at Volvo and from Charlotta Bergmark, at the construction department at Volvo 3P.

- Process- and interpretations error. These types of errors could be assigned to the analytical work of the investigation material. In our interviews these errors will be minimised due to the fact that the interviewers will be taking notes. After the interview material has been compiled it will again be sent to the respondents for proof reading. In the survey investigation the coding is responsible for that those errors do not occur.

(See Lekvall and Wahlbin (1993) for further information about the five sources to validity- and reliability errors)

2.7 Criticism of the Sources

The written sources that we will use will be chosen carefully and much effort will be put on finding relevant and admitted sciences. The aim is that several of the theories presented in this report will be supported by several authors. Efforts will also be made in order to use updated sources by using literature and other information that are immediate. (Lekvall and Wahlbin, 1993)

One possible shortcoming is that many of the truck drivers whom we will interview do not have enough knowledge about the seat and therefore may contribute with misleading information. Other respondents that we will choose

will have more knowledge about the current area but here again this is a possible shortcoming since they could be subjective in their opinions and give the answers they want us to have. We already know that some of the truck drivers we will interview are VT employed test drivers and those drivers have a substantial knowledge about truck seats and cannot be compared to ordinary drivers.

Questionnaires will be sent out to several persons within VT, RT, and MT. Despite the fact that these persons have been examined in order to check that they fit within our selection frame, there is a risk for misjudgement due to the fact of the sometimes large number of respondents. Persons from the marketing-and product planning departments within VT, RT, and MT will be interviewed. In order to avoid that they will be affected by each other, every one of them will be interviewed separately, whether through telephone interviews, personal interviews or e-mail questionnaires. Which interview method we use depends on each situation.

2.8 Chosen Methods and Surveys

Explorative investigations are useful when the researcher wants to know what model is useful for a certain investigation and which attributes and relations are important (Wiedersheim-Paul and Eriksson, 1991). When the problem is defined and structured, it is helpful to construct a descriptive investigation. According to Andersen (1994) descriptive investigations answer questions like where? how many? and, how much? This kind of survey is very common in any project and makes it easier to understand the problem that will be investigated. (Kinnear and Taylor, 1996)

We will use descriptive investigations in order to answer our research questions. This is due to the fact that we already know what is to be

investigated. First, we define the problem and decide on appropriate investigations methods and models. Secondly, we will make both qualitative- and a quantitative investigations to gain an understanding of the problem. We will conduct a qualitative survey through interviews with the three main current seat suppliers to VT, RT, and MT. A broader approach with a quantitative survey in terms of questionnaires will also be part of our investigation, where we interview truck drivers in order to get their opinions about the products. Analysis of the collected material will be made by the investigators' judgements and also through coding of the case studies and the survey studies.

Chapter 3

3. Theory

In this chapter the readers will be provided with an understanding of which theories we use to identify and meet the challenges in the seat mapping project. In order to fulfil our purpose we will here describe theories that we find relevant for our research problems. First theories associated with Research Problem A will be presented, followed by theories associated with Research problems B and C. The chapter ends with a conclusion on the theory.

3.1 Brand Identity

It is a fact that very few brands actually know what they are, what they stand for and what makes them so unique. Very few brands have a brand charter defining the brand's long-term identity and uniqueness. Defining what a brand is made of helps answer many questions that are asked frequently, such as: Is the opportunity for launching a new product inside the brand's boundaries or outside? How can the brand change its communication style, and yet remain true to itself? All such decisions pose the problem of brand identity and definition – which are essential prerequisites for efficient brand management. (Kapferer 1997)

3.1.1 Brand Strategy and Competitive Advantage

Building a brand's market share is a long term process, requiring the communication of a sustainable competitive advantage that distinguishes it from the competition. It is difficult for most companies to achieve competitive advantages through functional attributes alone due to the speed of the technological development and its accessibility. Similarly, sustaining a long-

term competitive advantage through cost leadership is also difficult because of new methods of production and operations. Therefore, companies are increasingly looking towards the intangible symbolic values associated with their brands as the means of building long-term competitive advantages. Strong brands provide the foundation for growth in brand franchise and market share through the extension of the brand into new product categories and international markets. (Hankinson and Cowking, 1993)

3.2 Product Planning

Through making a company's old products better the organisation can maintain or even increase their turnover, sales and profit. It is all about timing: if the new improved version will be introduced on the market at the wrong time, perhaps the market does not want it or a competitor will be there first. Within all product planning you always have to have knowledge about where in the "life cycle" the company's own products are and where the most important competitors are. Is the product and the marketing of it adjusted after the market demands? If the organisation cannot give a positive answer to this question, something should immediately be done in order to turn the development in the right direction. In product planning you always need to, as with all other market planning, have knowledge about the market. Market surveys and profitability judgements are important information sources.

In product planning the following tasks included:

- Study the (market) situation of today and the development on the market.
- Have close contact with other marketing planning divisions.
- Suggest product politics.
- Collect and value product ideas; shape specifications and prototypes.
- Plan in detail approved development projects and determine and calculate the need for resources.
- Follow up development projects and existing selection.

(Marknad och Produkter, 1993)

The product planner must always know why the organisation needs to develop new products. The reasons for it could be:

- Use free capacity (production-, distribution-, capital capacity).
- Maintain the competition ability concerning product design and price.
- Increase the own share of the existing market or the ability to reach new markets; perhaps also decrease a dangerous competitor.
- Decrease the influence from the state of the market and seasonal variations; replace the products in the selection that are threatened with decline.
- Increase the profitability through cost savings, for example, through cheaper raw material, simplified product design or more effective statement methods. (Marknad och Produkter, 1993)

After valuing these wishes and having harmonised them with the other market politics, a common product politic for the organisation can be made. In this, issues like the following are taken under consideration.

- Need areas for different target groups the organisation wants to reach.
- Price- and quality levels, the selection extent and direction.
- Ambitions in the question of modernity, distinctive character, service level, et cetera.
- Restrictions with respect to resources for production, marketing, et cetera.
- The possibility to achieve profitability.

Further the following questions have to be considered: How should we market new products? Which model is appropriate for this organisation? (Marknad och Produkter, 1993)

3.3 Product Development

The idea of product development today is comprised of the concepts of design and production. It is difficult to separate those two concepts in industrial praxis

today and there is even a great deal of convergence of theoretical perspectives and concepts related to design and production. Some of them have already argued that design and production should be seen as one research and management field rather than two. Today design and production are two entities that together make up product development in industrial companies. This means that we see product development as a business process that stretches across functional departments in a traditional functional organisation in order to design, construct and make the firm ready for the production of the new products. (Drejer and Gudmundsson, 2002)

3.3.1 Integration between Design and Production and the Product Development

Process Integration between production and design (or development) has been a research subject for quite some time now (Andreasen and Hein, cited in Drejer and Gudmundsson, 2002). Customer needs and wants are translated into production specifications that are used as a frame for developing a product. Generally this causes difficulties in most companies despite the fact that methods have been developed for integration. The production development process is a complex sequence of different activities in search of fulfilling overall objectives such as performance specification and function structure. Since the activities produce intermediate results that aims at the overall result, the process is complex and difficult to model and illustrate. There have been two main directions in modelling the product development process. First, there are so-called consensus models (Paul and Beitz, cited in Drejer and Gudmundsson, 2002.), where the product development process is seen as a sequence of activities in different phases. Second, there are models of the product development process that could be called dialectic in nature. This implies that the process is influenced by many different actors with differing perspectives on the product being developed and also that these perspectives are bound to be conflicting. (Drejer & Gudmundsson, 2002)

3.4 Differentiation

Differentiation is one type of competitive advantage a firm might possess. The extent to which competitors in an industry can differentiate themselves from each other is also an important factor of industry structure. Organisations often see differentiation in terms of the physical product or marketing practices, rather than potentially arising anywhere in the value chain. Firms are often different but not differentiated; the reason for this is that they pursue forms of uniqueness that buyers do not value. Differentiation can often be costly, but on the other hand it often creates buyer value to the customers. (Porter, 1985)

A firm differentiates itself from its competitors when it provides something unique that is valuable to buyers beyond simply offering a low price (Porter, 1985). It is important, especially for consumer goods, that the products are differentiated to be able to survive on the market (Ind, 1997). Differentiation allows the firm to command a premium price and to sell more of its given product at a given price or to gain equivalent benefits such as greater buyer loyalty during cyclical downturns. If the price premium achieved exceeds any added costs of being unique, differentiation leads to superior performance. A firm's differentiation might appeal to a broad group of buyers in an industry or only to a subset of buyers with specific needs. (Porter, 1985)

Differentiation cannot be understood by viewing the firm in aggregate, but it stems from the specific activities a firm performs and how they affect the buyer. The procurement of raw materials and other inputs can affect the performance of the end product and hence create differentiation. Other successful differentiators create uniqueness through other primary and support activities. Technology development activities can lead to product designs that have unique product performance. Operations activities can affect such forms of uniqueness as product appearance, conformance to specifications and reliability. The logistical system can shape the speed and consistency of

deliveries. Marketing and sales activities also frequently have an important impact on differentiation. Even if the physical product is a commodity, other activities can often lead to substantial differentiation. Similarly, indirect activities such as maintenance or scheduling can contribute to differentiation just as do direct activities such as assembly or order processing. A dust free building can, for example, dramatically improve defect rates in manufacturing. (Porter, 1985)

3.4.1 The Cost of Differentiation

Differentiation is usually rather costly. An organisation must often incur costs to be unique because uniqueness requires that it perform value activities better than competitors. Providing superior applications engineering support usually requires additional engineers, for example, while a highly skilled sales force typically costs more than a less skilled one. Achieving greater product durability than competitors might well require more material or more expensive materials. Some forms of differentiation are definitely more costly than others. Differentiation that results from superior co-ordination of linked value activities might not add as much cost, for example, nor might better product performance that results from closer parts tolerances achieved through a machining centre. (Porter, 1985)

The cost of differentiation reflects the cost drivers of the value activities on which uniqueness is based. The relationship between uniqueness and cost drivers takes two related forms:

1. What makes an activity unique can impact cost drivers.
2. The cost drivers can affect the cost of being unique.

In differentiation, an organisation more often affects the cost drivers of an activity adversely and deliberately adds costs. For example, moving an activity close to the buyer might raise cost because of the effect of the location cost driver. At the same time as uniqueness often raises cost by affecting the cost drivers, the cost drivers determine how costly differentiation will be. An organisation's position vis-à-vis cost drivers will determine how costly a specific differentiation strategy will be relative to competitors. The cost of getting the most sales coverage will, for example, be affected by whether there are economics of scale in the operation of the sales force. If this exists, they might reduce the cost of increased coverage and make such coverage less costly for an organisation with a large local market share.

Learning, timing scale, and interrelationships are particularly important cost drivers in affecting the cost of differentiation. Scale itself can often lead to differentiation, but it most often affects the cost of differentiation. Scale can determine the cost of a firm's policy choice to advertise heavily, or the cost of rapid introduction of new models, et cetera. (Porter, 1985)

The cost drivers thus play an important role in determine the success of differentiation strategies and they also have crucial competitive implications. If competitors have different relative positions respectively important cost drivers, their cost of achieving uniqueness in the affected activity will differ. Likewise, different forms of differentiation are relatively more or less costly for an organisation depending on its situation vis-à-vis the cost drivers of the affected activities. Manufacturing parts with higher precision through automation, for example, can be less costly for a firm that can share the computerized machining centre via interrelationships than for a firm that cannot. In some extreme cases, a firm might have such a large cost advantage in differentiating a particular value activity that its cost in that activity is actually lower than a firm not attempting to be unique in that activity. This is

one reason why an organisation sometimes can be both low cost and differentiated simultaneously. (Porter, 1985)

Sometimes when making an activity unique the firm also achieves lower costs. For example, integration might make an activity unique but at the same time it also lowers the cost of integration if that is a cost driver. When achieving differentiation and reducing cost at the same time, this suggests that:

1. *A firm has not been fully exploiting all the opportunities to lower costs,*
2. *The firm is unique in an activity that was formerly judged undesirable, or*
3. *A significant innovation has occurred which competitors have not adopted.*

If a firm has been reducing its cost, attempts to achieve uniqueness often raise cost. Similarly, once competition imitates a major innovation a firm can remain differentiated only by adding cost. In assessing the cost of differentiation, a firm must compare the cost of being unique in an activity with the cost of being equal to competitors. (Porter, 1985)

3.4.2 Buyer Value and Differentiation

It is a fact that uniqueness does not lead to differentiation unless it is valuable to the buyer. A successful differentiation finds ways of creating value for buyers that yield a price premium in excess of the extra cost. The buyer's value chain is the starting point for understanding what is valuable to the customer. Customers have value chains consisting of the activities they perform just as a firm does. The chosen product is a purchased input to its buyer's value chain. The customer's value chain determines the buyer's needs and it is also the foundation of buyer value and differentiation. A firm creates value for a customer that justifies a premium price through two mechanisms:

1. By lowering buyer cost
2. By raising buyer performance

For institutional, commercial and industrial buyers, differentiation requires that a firm be uniquely able to create competitive advantage for its buyer in ways besides selling to them at a lower price. The customer will be willing to pay a premium price if the firm is able to lower its buyer's cost or enhance its buyer's performance. Raising buyer performance for consumers involves raising their level of satisfaction or meeting their needs. If a car will be durable for a longer period of time the buyer will be willing to pay a premium. The features of a product and its quality are important needs for a customer but so is also the product's status or prestige. Although it might be difficult to value buyer performance for consumers, their value chains will suggest the important dimensions of satisfaction. Buyers might value an organisation that provides satisfaction or prestige for executives or other employees even if it does not contribute to the profit of the company. Many organisations have other goals in addition to profitability even if they are profit making, and this might enter into the buyer value. (Porter, 1985)

3.5 Interrelationships among Business Units

There are three different types of possible interrelationships to be found among business units:

1. Tangible interrelationships,
2. Intangible interrelationships, and
3. Competitor interrelationships.

These three types can all have an important but different impact on competitive advantage and they are not mutually exclusive. (Hankinson and Cowking, 1993)

Tangible interrelationships – Arise from opportunities to share activities in the value chain among related business units because of the fact of common buyers, channels, technologies and other factors. Tangible interrelationships lead to competitive advantage if sharing lowers cost or enhances differentiation enough to exceed the costs of sharing. Business units that for example can share a sales force might be able to lower selling cost or perhaps provide the salesperson with a unique package to offer the buyer. (Hankinson and Cowking, 1993)

Intangible Interrelationships – Involve the transference of management “know-how” among separate value chains. Intangible interrelationships lead to competitive advantage through transference of generic skills or “know-how” about how to manufacture a particular type of activity from one business unit to another. This strategy might lower the cost of the activity or make it more unique. Intangible interrelationships are often manifested in a firm’s use of the same generic strategy in a number of business units, reflecting management’s skills in executing a particular strategy. (Hankinson and Cowking, 1993)

Competitor Interrelationships – Stems from the existence of rivals that actually or potentially compete with a firm in more than one industry. These “multipoint competitors” link industries together because actions toward them in one industry might have implications in another. Because of the fact that tangible- and intangible interrelationships often coexist they can provide the basis for diversification, even though competitor interrelationships occur without tangible- or intangible interrelationships. Competitor interrelationships make

tangible- and intangible interrelationships all the more important to recognize and exploit. (Hankinson & Cowking, 1993)

These three types of interrelationships can occur together. Tangible interrelationships involving some value activities can be supplemented by intangible interrelationships in others. “Know-how” gained from similar activities in other business units can improve activities shared between two business units. When multipoint competitors are present both tangible- and intangible interrelationships are often present. However, each type of interrelationship leads to competitive advantage in a different way. Due to the importance of tangible interrelationships in this context, we will discuss this phenomenon in the next section. (Hankinson and Cowking, 1993)

3.5.1 Tangible Interrelationships

The value chain provides the starting point for the analysis of tangible interrelationships. A business unit can share any value activity, both primary and supporting activities. Sharing leads to a competitive advantage if it reduces cost or enhances differentiation. Sharing always involves some cost, however, that ranges from the cost of co-ordination among the business units involved to the need to modify business unit strategies to facilitate sharing. If sharing a value involves an activity that represents a significant fraction of operating costs or assets, and sharing lowers these costs of performing the activity, it will lead to a significant cost advantage. Sharing will definitely intensify differentiation if it involves an activity important to differentiation in which sharing either reduces the cost of being unique or increases the uniqueness from differentiation. (Porter, 1985)

3.5.2 Sharing and Differentiation

Sharing affects differentiation in two ways. It can, as mentioned above, either increase the uniqueness of an activity or it can lower the cost of differentiation.

When important to actual value, sharing will be most important to differentiation. Sharing is also important to differentiation where it reduces the cost of expensive forms of differentiation, such as an extensive sales and service network. Sharing can make an activity even more unique, both directly and through its impact on the other drivers of uniqueness. Sharing can reduce the cost of differentiation through its impact on the cost drivers of differentiating activities. The added complexity of a shared activity is a cost of sharing, however, that must be measured against the benefits of differentiation. (Porter, 1985)

3.6 What is the Value of a Brand?

The value of the brand can be seen as an economical value through the ability to differentiate the products and service from its competitor's products and services that are similar (Knox and Maklan, 1998).

A strong brands image gives positive results in terms of share price and revenue, according to a research study made by Corporate Branding show (Gregory and Weichmann, 2001). By producing high quality products and through having a brand personality the company can differentiate itself amongst its competitors and encourage customer loyalty. It is the recognition and loyalty a brand should strive to develop. It is also seen that with a recognized brand it is easier to introduce new products and openings for new markets. Branding gives positive effects by motivating the staff and unites the organization when the values are clearly understood. (Gregory & Weichmann, 2001.) Every organisation, however it is constituted or whatever its aims, needs an effective and integrated strategy of communications in order for its objectives and activities to become known to those whom it is attempting to serve. A brand's corporate values give the organisation an opportunity to deliver its corporate image to the surroundings. (Chisnall, 1997)

For several reasons it is important to develop approaches to placing a value on

a brand:

- Since brands are bought and sold, which approach makes the most sense? A value must be assessed by both buyers and sellers.
- In order to enhance brand equity, investments in brands need to be justified.
- The valuation question provides additional insight into the brand equity concept. (Aaker, 1996)

Five general approaches to assessing the value of brand equity have been suggested. The first one is based on *the price premium that the name can support*. In order to measure the price premium attached to a brand one way is to observe the price levels in the market. What are the differences and how are they associated with different brands. For example, what are the price levels of comparable trucks? How responsible is the brand to a firm's own price changes or to price changes of competitors? Price premiums can also be measured through customer research. What would certain customers pay for various features and characteristics of a product where one characteristic would be the brand name? The second one is the impact *the brand name has on the customer preference*. The price premium earned by a brand might not be the best way to quantify brand equity. An alternative is to consider the impact of a brand name upon the customer evaluation of the brand as measured by attitude, preference or intent to purchase. What does the brand name really do to the evaluation? The third considers *the replacement value of the brand*. This perspective focuses on the cost of establishing a comparable name and business. The fourth one is based on *stock price*. The stock price is used as a basis to evaluate the value of the brand equities of a company. The stock market will adjust the price of an organisation to reflect future perspectives of its brands. The fifth and last one focuses *on the earning power of a specific brand*. The best measure of brand equity would probably be the present value of future earnings attributed

to brand-equity assets. One way to do this is to use a long-range plan of the brand and another is to estimate current earnings and apply an earnings multiplier. (Aaker, 1996)

3.6.1 Brand Asset Valuator (BAV)

The brand asset valuator (BAV) is a marketing based consumer evaluation technique and was developed by Young & Rubicam Inc. to identify brand equity (Mortanges and Van Riel, 2003). Young and Rubicam Inc. is an advertising agency that works globally and measures brand equity for over 450 global brands (Aaker, 1996). The BAV model consists of two components and these are *stature* and *strength*. These two components have four sub-components and these are *differentiation*, *relevance*, *esteem* and *knowledge*. The differentiation in this model is the first step in the model and measures the uniqueness or distinctiveness of a brand in its market place (Aaker, 1996). Differentiation is especially important when a brand reach the maturity phase and it has been found that the consumer choice and potential margins affects a brand's differentiation. Secondly is the relevance sub-component which involves the marketing mix and measures the gratitude of a brand to a customer. Here questions like; is the product right priced?, is the product easy for customers to find? are asked. (Mortanges and Van Riel, 2003)

The relevance and differentiation of a brand is the foundation of a brand's strength, which implies that a company needs both of these sub-components to remain strong. This is illustrated in figure 3.1 where relevance and differentiation lead to strength, which thereafter leads to the brand value. Multiplying esteem with knowledge and the two sub-components gives the stature of brand and this can be seen in figure 3.1. (Aaker, 1996) It not only the brand strengths that imply a brand's value but also the brand's stature and in these two components the four sub-components of differentiation, relevance,

esteem and knowledge are included. The customer's relation to a certain brand can be explained as the esteem and the esteem is the third driver of brand equity. Knowledge is the awareness of a certain brand and also how the customers decode the message the brand is trying to send out. The BAV model evaluates today's customers and their perceptions and opinions of the brand. Figure 3.1 illustrates the BAV model. (Mortanges and Van Riel, 2003)

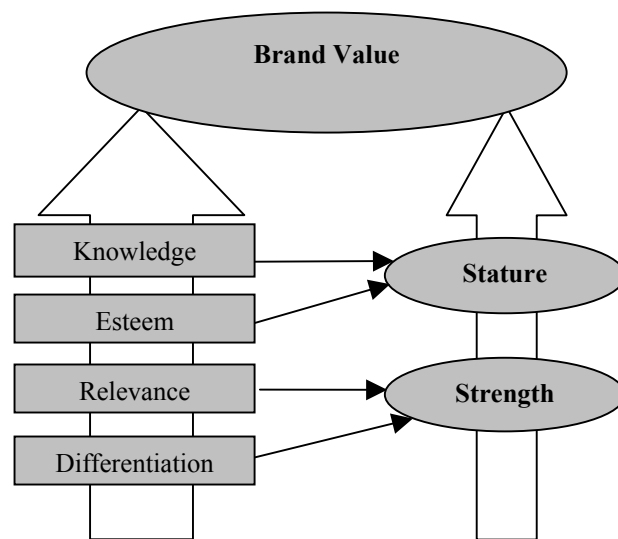


Figure 3.1 - The Brand Asset Valuator (BAV)
 Source: Young and Rubicam, cited in Mortanges and Van Riel, 2003, p. 522.

3.6.2 Providing a Value Proposition

Unless the fact of a brand is simply to support other brands by providing credibility, the brand identity needs to provide a value proposition to the customers. What is a value proposition then? “A brand’s value proposition is a statement of the functional, emotional, and self expressive benefits delivered by the brand that provide value to the customer. An effective value proposition should lead to a brand-customer relationship and drive purchase decisions.” (Aaker, 1996, p 95) Based on this proposition you could get three central concepts; functional, emotional and self-expressive benefits and each of them is being explained.

3.6.3 Functional Benefits

Functional benefits are the most visible and common basis for a value proposition – that is, a benefit based on a product attribute that provides functional utility to the customer. Such a benefit will usually relate directly to the functions performed by the product or service for the customer. For Volvo Trucks, functional benefits might be that it is a safe and durable truck because of its weight and design. Functional benefits have direct links to customer decisions and experiences. If a brand can dominate a key functional benefit, it can dominate a whole category. The challenge is to select a functional benefit that will “ring the bell” with customers and that will support a strong position relative to competitors. The latter task involves not only creating a product or service that delivers but also communicating that capability to customers. (Aaker, 1996)

3.6.3.1 Limitations of Functional Benefits

Product attributes and functional benefits have limitations – they often fail to differentiate, can be easy to copy, assume a rational decision-maker, can reduce strategic flexibility, and inhibit brand extensions. Those problems can be avoided, or at least limited. One way is to expand the value proposition to include emotional and self-expressed benefits as well as functional benefits. Another way could be to expand the brand identity perspective beyond product attributes by considering the brand-as-organisation, person, and symbol. (Aaker, 1996)

3.6.4 Emotional Benefits

The brand provides an emotional benefit when the purchase of a particular brand gives the customer a positive feeling. It is a fact that the strongest brand identities often include emotional benefits. One excellent example is that the customer always can feel safe in a Volvo. Emotional benefits add richness and

depth to the experience of owning and using the brand. In order to discover that emotional benefits are or could be associated with a brand, the focus of research needs to be put on feelings. How do customers really feel when they are buying or using the brand? What feelings are engendered by the achievement of a functional benefit? (Aaker, 1996)

3.6.4.1 Functional and Emotional Benefits

The strongest brand identities have both functional and emotional benefits (Agres, Edell & Dubitsky, cited in Aaker 1996). You could fuse functional and emotional benefits in order to create a composite. For example, Volvo Trucks could combine the functional benefit of a safe and durable truck with the feelings that accompany driving this truck – you feel safe. (Aaker, 1996)

3.6.5 Self-Expressive Benefits

“That we are what we have is perhaps the most basic and powerful fact of consumer behavior” (Belk, p. 139, cited in Aaker, 1996). Russell Belk, a consumer behavior researcher, once wrote. What he meant was that brands and products can become symbols of a person’s self-concept. By providing a way for a person to communicate his or her self-image, a brand can provide a self-expressive benefit. Each person has multiple roles in the everyday life, a man may be a husband, father, consultant, golf player, and hiker. For each of this man’s roles, he will have an associated self-concept and a need to express that self-concept. One way to fulfil this need for self-expression is the purchase and use of brands. When a brand provides a self-expressive benefit, the connection between the brand and the customer is likely to be heightened. (Aaker, 1996)

3.6.5.1 Self-Expressive and Emotional Benefits

Many times there could be a rather close relationship between emotional and self expressive benefits. For example, there is only a small difference between feeling safe when driving a Volvo truck or expressing the secure, safe and

caring side of yourself when driving the truck. However, the difference between the two perspectives can be important. Proving one's success by driving a Rolls Royce might be significant, when "feeling important" may be a too mild emotion to surface in a brand identity analysis. In comparison to emotional benefits, self-expressive benefits focus on; self rather than feelings, public settings and products rather than private ones, aspiration and the future rather than memories of the past, the permanent rather than the transitory, and the act of using the product rather than a consequence of using the product. (Aaker, 1996)

3.7 Core Competences

According to Johnson and Scholes (1999, p.160) core competences are "those competences which critically underpin the organisation's competitive advantage" Core competences differ from organisation to organisation and are in a way the competences that make an organisation brand unique. If an organisation can find core competences that its competitors do not have, the organisation will gain competitive advantage. For long-term competitive advantage the organisation needs to develop new strategies to survive on the future market, and therefore the core competence can be the process of innovation in terms of brand-, marketing- or product development. In the automobile industry global competition has developed over the last couple of years. This can be seen during the 1950s and 1960s, when Ford and General Motors were the number one on the global market using the core competences to establish dealer network and overseas production plants. Their main competitor was the Japanese manufacturers who during this time were developing their core competence and by the 1970s they became Ford's main competitor by using their core competence of quality and reliability. The two core competences became the success factors and in the mid 1980s this was found both in Ford and in the major Japanese companies and it was also crucial

for the companies to develop a global network. Later on, the automobile companies needed to create unique products to gain competitive advantage in terms of core competences in “life style niche”. The following figure, 3.2, illustrates these developments of core competences over time in the automobile industries. (Johnson and Scholes, 1999)

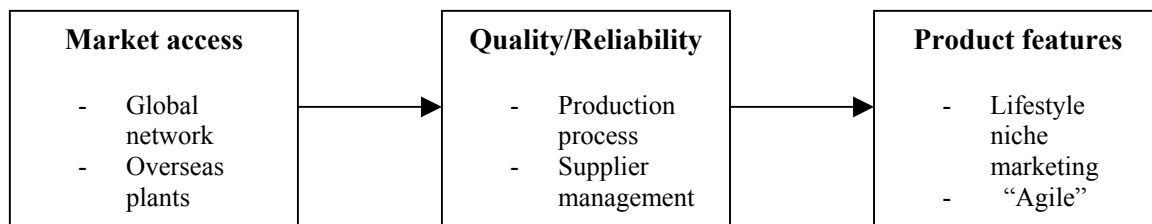


Figure 3.2 - How core competence change over time: the world automobile industry
Source: The authors interpretation of Hamel and Heen, cited in Johnson and Scholes, 1999, p. 162.

3.8 Culture Web

The core values in an organisation are connected to the organisation’s culture. From the culture web an organisation’s taken-for-granted assumptions or paradigms can be seen (Johnson and Scholes, 1999). Also the culture web shows the physical manifestations of the organisation’s culture. It has also been noticed that the different cultures have an influence on individuals’ and stakeholders’ expectations. The culture web observes the way an organisation operates and it also observes the culture artifacts. The outcome gives clues about an organisation’s taken-for-granted assumptions. (Johnson and Scholes, 1999)

There are two ways of looking at culture.

1. The first one is to understand an organisation’s values set twenty years ago and compare those to today’s market and see if they match or need to change?
2. The second view is for organisations operating internationally where it can be hard to meet the standards and expectations set in different countries.

To understand an organisation's culture there are three different layers to take into consideration and these are the values, beliefs and taken-for-granted assumptions. The values of an organisation often describe the organisation's mission objectives or strategies. The values may seem strong but are often vague in terms of values like "equal employment opportunities". In contrast the beliefs are more specified and for Volvo Trucks this can be, for example, the concern of safety. The last one is taken-for-granted assumptions and these are the core of an organisation's culture. These are often hard to identify or explain and can also be called the organisational paradigm. Within an organisation there are usually found sub cultures and these can be sub cultures that depend on a certain profession or unions, et cetera. (Johnson and Scholes, 1999)

3.8.1 Cultural Environment

Kotler and Armstrong (1997, p. 93) define cultural environment as "institutions and other forces that affect society's basic values, perceptions, preferences and behaviors". People get their beliefs and values from the society they are brought up in and these beliefs shape the way the people behave as well as their attitudes in their everyday life. Beliefs and values people have been brought up with can be affected or formed by the school, business, government et cetera. The beliefs and values people have that are more open to change are called secondary beliefs. Even though it is hard to change the core values for a person, the cultural swings help to affect secondary beliefs and values (Kotler & Armstrong, 1997). For example, the switch in the fashion market or music can mean new opportunities or threats for companies. Therefore, the companies should always try to forecast the future for implementation of finding new products and new customer demands. (Kotler and Armstrong, 1997).

3.8.2 Core Value-Based Corporate Brand Building

Corporate values can be describe as “rules of life” according to Gad (cited in Urde, 2003), whilst Kunde (cited in Urde 2003) uses the expression “corporate religion”. Corporate religion is described as the set of values that unites the organisation around a mission and vision. An organisation’s objective should be to define and describe the innermost core of the brand. It is often the founder of the organisation who sets the beliefs and values and this is more common in small companies. The founding group identifies the values and beliefs on a few ideas, which imply the uniqueness of the organisation and the culture that is reinforcing. (Ind, 1997)

Urde (2003) has divided the values into three areas in order to gain both theoretical and practical advantages and in order to see which are the organisational values, the core values and the added values. Urde (2003) also divided these into three identities which are the identity of the organisation, identity of brand, and identity of customer. For gaining sustainable competitive advantage, ideally, a brand should be unique and difficult for competitors to imitate. Corporate culture is characterized by common values, supporting ideas, positions, habits and norms.

“Volvo-ness and the Volvo way are types of expressions that stand for the internal values, basic traits, the corporate culture and guiding principles.”
(Urde, 2003, p.5)

Ind (1997) sees corporate culture as much deeper than just culture and includes corporate memory or genetics. Ind also believes that is hard to change a corporate culture fundamentally but culture can grow.

3.9 Consumer Behaviour

The process of buying a service or a product begins with the recognition that a need or want exists. Even though there are many different ways to characterize needs, the most widely known is Maslow's hierarchy. This specifies five need categories arranged in a sequence from basic lower-level needs to higher-level needs. The five needs are; physiological, safety and security, social, ego, and self actualization. Services can fill all these needs and they become increasingly important for social, ego, and self-actualization needs. (Porter, 1985)

- *Psychological needs*; Biological needs such as food, water, and sleep.

The recognition of these basic needs is fairly straightforward. Recall the last time you took a shopping trip to the city centre. At some point around lunch time you recognized that you were hungry and thirsty and stopped to have lunch. Restaurants and coffee shops suddenly became more noticeable.

- *Safety and Security needs*; shelter, protection, and security.

After the terrorist attack on New York, consumers began to realize their vulnerability and looked for ways to increase their safety. Instead of purchasing trips, consumers instead started to buy bus tickets, movie rentals and insurance in order to satisfy their needs for safety and security. The "small" things became more important and apparent.

- *Social needs*; Affection, friendship, and acceptance.

These needs are important to all cultures, but are particularly crucial in the Eastern part of the world. In the East they spend more time with their families and work colleagues than Westerners and therefore they consume more social services. Consumers in all cultures use many types of services to address social needs, including health and dance clubs, and vacations where socializing among strangers is encouraged.

- *Ego needs*; Prestige, success, accomplishment, and self esteem.

Individuals seek to look good to others, and also to feel good about themselves because of what they have accomplished. Food, safety and belonging are not enough for many consumers, particularly those from Western cultures.

- *Self-actualization*; Self-fulfilment and enriching experiences. This is the consumers' desire to live up to their full potential and enjoy themselves. Some purchase experiences such as skydiving and bungee jumping for the pure thrill of the experience. Other consumers self-actualize through taking singing lessons or sky diving courses, and thereby expressing feelings and meanings that are unrelated to the basic needs of "day-to-day" living.

(Porter, 1985)

According to Kotler and Armstrong (1997), consumer behavior is driven by different type of factors and these are *cultural, social, personal* and *physiological* characteristics. It is very hard for an organisation to control these factors but it is important that they are taken into consideration. (Kotler & Armstrong, 1997) Social and cultural factors can be linked together but differences can be found (Phillips, Doole & Lowe, 1994).

"The differences between these two factors, in different parts of the world, can be a central consideration in developing and implementing international marketing plans." (Phillips, Doole & Lowe, 1994, p. 92)

Culture can be described as values, beliefs and wants a person has and those depends on the society, the family and other important institutions this person has been brought up in. Therefore cultural influences can be very different from place to place. Within a type of culture there are subcultures and Kotler and

Armstrong (1997) describe these as a group of people with shared values and beliefs based on common experiences or situations. Marketers usually target one or more subcultures when producing a new product or service and try to match their demands. Cultural influences also include different types of social classes and two persons from the same social class usually have the same values and beliefs. (Kotler & Armstrong, 1997)

Social factors can be based on influence from a group of people, family, and social role and status. In a group of people there can be an opinion leader that from his or her expertise or knowledge influences others to buy a certain product or service. Families can have a strong influence on consumer behavior and here it is interesting for marketers to know, for example, the influence a husband has over his family. The choice of products or services a person uses is a way of showing which role or status a person has and this can be seen in terms of his or her role and status in the family, club organisation, et cetera. (Kotler & Armstrong, 1997)

Personal factors include a buyer's age and life-cycle stage, occupation, economic situation, lifestyle, personality, and self-concept. People change their buying behavior over their lifetime and for marketers it is important to define these different lifetime stages to be able to produce the right products or services for a certain stage. A person's occupation also influences the buying behavior and this can be obvious in terms of what type of job a person has. A person's ability to buy a product or service depends on his or her economic situation as well as the person's lifestyle. Lifestyles depend on subcultures, social class and occupation as mentioned earlier. Personality and self-concept are two other personal factors for buying behavior where a person choose products or services that suits his or her environment. (Kotler and Armstrong, 1997)

There are four different physiological factors that influence the consumer buying behavior and these are motivations, perception, learning, and beliefs and attitudes. A motivation factor is to find a product or service that fulfils a person's needs and increases his or her satisfaction. By perception, Kotler and Armstrong (1997) mean that two persons do not experience a certain situation in the same way. It depends on a person's way of conceiving information and his or her way of evaluating it. From experience people change and this can also be seen as learning that leads to new consumer behavior. Beliefs and values can also be changed by different experiences and can be described as the thought a person holds about something. (Kotler and Armstrong, 1997)

Phillips, Doole and Lowe (1994) discuss four types of buying behaviour and figure 3.3 illustrate these. It is the difference between the brand's availability to the consumers and the degree of personal involvement that influences the consumers' buyer behaviour

	Low involvement low price, low risk	High involvement high price, high risk
Few differences between brands	Brand loyal repeat purchasing influenced by price and sales promotion offers.	Buying process is relatively quick because of the limited differences.
Significant differences between brands	Brand switching but with limited information gathering.	Information gathering and processing is important. Purchase decision is significant.

Figure 3.3 – Four types of buying behaviour
Source: Phillips, Doole and Lowe, 1994, p. 85

3.9.1 The Buyer Decision Process

Consumers make decisions and process information about products and services in many different ways. Sometimes they go through an effortful, systematic, step-by-step process. First they identify a need, consider

alternatives to fill that need, evaluate each alternative, and then select one of the considered alternatives. Consumers often use this form of processing when making expensive purchases such as cars and flats. Other times when buying a less expensive product or service, they use a less effortful style of decision making. (Porter, 1985.)

The buyer decision process consists of five components and these are *need recognition, information search, evaluation of alternatives, purchase decision, and post purchase behaviour*.

1. The first step is need recognition and this means a person's recognition of a problem or need. These needs can either be controllable or uncontrollable in terms of something to eat or a need of a new hobby.
2. The second step is the information search which concerns a buyer's decision process and findings about information concerning a certain product or service.
3. The third step is the evaluation of alternatives where the consumer evaluates the information he or she has collected about the different brands providing the same product or service. This step implies the importance of strong brand image for the producer as this helps the consumer to choose a brand.
4. The fourth step is the purchase decision and this occurs when the buyer decides what type of brand and product or service to buy.
5. The fifth and final step is the post purchase behaviour which is based on the consumer's satisfaction or dissatisfaction with the product or service. In this step the consumer decides whether his or her expectations of a certain brand were fulfilled. (Kotler and Armstrong, 1997)

3.10 What is Customer Satisfaction?

Everybody claims they know what satisfaction is, until they are asked to give a definition of it. Then, all of a sudden, nobody knows. The citation by Oliver (1997) presented below gives a good definition about what satisfaction really is about:

“Satisfaction is the consumer’s fulfilment response. It is a judgement that a product or service feature, or the product or service itself, provides a pleasurable level of consumption-related fulfilment.” (Oliver, cited in Zeithaml and Bitner, 2003 p. 86).

In less technical terms this definition means that *satisfaction* is the customers’ evaluation of a product or service in terms of whether that product or service has met their needs and expectations. *Dissatisfaction* with the product or service is a result of failure to meet customer needs and expectations. In addition to a sense of fulfilment in the knowledge that one’s needs have been met, satisfaction can also be related to other types of feelings. This depends on the particular context or type of product or service. (Zeithaml and Bitner, 2003.)

Satisfaction might be associated with feelings of pleasure for products or services that make the consumers feel good or are associated with a sense of happiness. For those products or services that really surprise the consumers in a positive manner, satisfaction might mean delight. In other situations, where the removal of a negative one leads to satisfaction, the consumer might associate a sense of relief with satisfaction. It is crucial to recognise that even though we tend to measure consumer satisfaction at a specific point in time, satisfaction is a dynamic, continuously moving target that might evolve over time and that is influenced by several factors. Satisfaction might be highly variable depending

on which point in the usage or experience cycle one is focusing on, particularly when product usage or the service experience takes place over time. Through the service cycle, the consumer might have a variety of different experiences, some that are good and some that are not, and each experience will ultimately have an impact on satisfaction. In the case when a new product is introduced, or new services or a service not previously experienced, the customers' expectations might be formed from the point of initial purchasing. These expectations will consolidate as the process continues and the consumer begins to form his or her perceptions. (Zeithaml and Bitner, 2003)

3.10.1 Satisfaction versus Quality

The two terms satisfaction and quality tend to be used interchangeably, but researchers have attempted to be more precise about the meanings and measurement of the two concepts. The two concepts are fundamentally different in terms of their underlying causes and outcomes. (Parasuraman, Zeithaml, & Berry, 2001. They have certain things in common, but satisfaction is generally viewed as a broader concept, whereas quality assessment focuses specifically on dimensions of service. From this outcome, perceived service quality is a component of customer satisfaction.

The following figure, 3.4, illustrates the distinction between satisfaction and quality. As can be seen in the figure 3.4, service quality is an evaluation that reflects the customer's perception of elements of services such as interaction quality, physical environment quality, and outcome quality. These elements are evaluated and based on specific quality dimensions: reliability, assurance, responsiveness, empathy, and tangibles. (Parasuraman, Zeithaml, and Berry, 1998.) Satisfaction, on the other hand, is more inclusive. It is influenced by the customers' perceptions of customer quality, service quality, and price as well as situational factors and personal factors. The service quality of a beach club is

judged on attributes such as whether equipment is available and how trained and responsive the staff is. Customer satisfaction with the beach club is a broader concept that also will include perceptions of product quality, price of membership, personal factors such as the consumer's emotional state, and uncontrollable factors like the weather. (Parasuraman, Zeithaml, and Berry, 2001.)

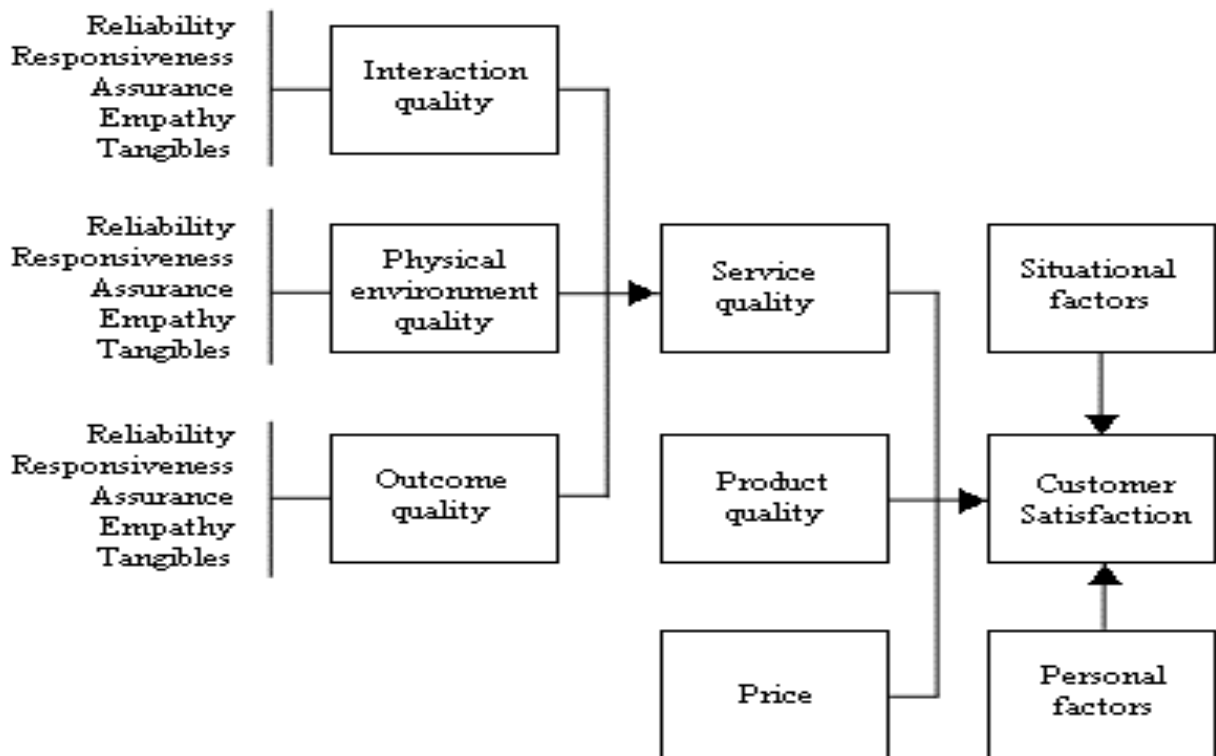


Figure 3.4 - Customer Perceptions of Quality and Customer Satisfaction
Source: Parasuraman, Zeithaml, & Berry, 1998.

3.11 What Determines Customer Satisfaction

The satisfaction of the customer is influenced by specific product or service features and by perceptions of quality. Satisfaction can also be influenced by customers' emotional responses, their attributions, and their perceptions of equity. (Oliver, 1997)

3.11.1 Product and Service Features

Satisfaction with a product or service is influenced by the customer's evaluation of product or service features. (Oliver, 1997) For a service such as a big city hotel, important features might include the pool area, access to a car park, room comfort and privacy, room price, helpful and well co-ordinated staff, and so forth. When making satisfaction studies, most companies will determine through some means what the important features and attributes are for them and then measure perceptions of those features as well as overall satisfaction. (Oliver, 1997)

3.11.2 Consumer Emotions

Customers' emotions can affect their perceptions of satisfaction with products and services. These emotions can be stable, pre-existing emotions – state of mood or life satisfaction, et cetera. When you are in a very happy stage in your life (when you are on a vacation or recently have married, et cetera), your good, happy mood and positive frame of mind have influenced how you feel about the products or services you have experienced. Or, if you are in a bad mood, your negative feelings may carry over into how you respond to things and you might overreact or respond negatively to any small problem. Specific emotions might also be induced by the consumption experience itself, influencing a consumer's satisfaction. (Oliver, 1997)

3.11.3 Attributions for Service Success of Failure

Attributions, the perceived causes of events, are another factor that influences perceptions of satisfaction. When customers have been surprised by an outcome (the product or service is either much better or worse than expected), they tend to look for the reasons for this and their estimations of the reasons can influence their satisfaction. Even when organisations do not take

responsibility for the outcome, customer satisfaction might be influenced by other forms of attributions. For example, customers are less dissatisfied with a pricing error by an organisation if they know the error was outside the organisation's control or, likewise, if the customers felt that it was a rare mistake that is unlikely to occur again. (Zeithaml and Bitner, 2003)

3.11.4 Perceptions of Equity or Fairness

Another thing that influences customer satisfaction is perceptions of equity and fairness. Have I been treated fairly compared with other customers?, Did other customers get better treatment, better prices, or better quality on their products or services than I?, Did I pay a fair price for the product? These are questions customers are themselves. Notions of fairness are essential to customers' perceptions of satisfaction with products and services. (Zeithaml and Bitner, 2003)

3.11.5 Other Consumers and Co-workers

In addition to the individual's own personal feelings and beliefs and product and service features, consumer satisfaction is often influenced by other people (Fournier & Mick, cited in Zeithaml & Bitner, 2003). Satisfaction with a family car is influenced by the reactions and expressions of individual car owners who might be your co-workers or friends. What these people express in terms of satisfaction or dissatisfaction with the new car will be influenced by stories that are retold among those persons. (Zeithaml and Bitner, 2003)

3.11.6 Outcomes of Customer Satisfaction

It is stated that some policymakers believe that customer satisfaction is an important indicator of national economic health. Satisfaction is just as important an indicator of quality of life as economic efficiency and pricing strategies. Individual firms have discovered that increasing levels of customer

satisfaction can be linked to customer loyalty and profits. (Heskett, Sasser, and Schlesinger, cited in Zeithaml and Bitner, 2003)

There is an important relationship between customer satisfaction and brand loyalty. This relationship is particularly strong when customers are very satisfied. Firms that simply aim at satisfying their customers might not be doing enough in order to create loyalty; instead they must aim to more than satisfy or even delight their customers. Researchers have also found that there is a strong link between dissatisfaction and disloyalty. This customer loyalty can fall off when customer reaches a particular level of dissatisfaction or when he/she is dissatisfied with important products or services. (Anderson and Mittal, 2000). It is not an understatement to say that clear linkages have been drawn between customer satisfaction, loyalty, and firm profitability. Today, many firms spend a lot of time and money understanding the underpinnings of customer satisfaction and ways that they can improve. (Anderson & Mittal, 2000)

3.11.7 Not Knowing What Customers Expect

Sometimes there is a big difference between customer expectations and company understanding of those expectations. Quite a few reasons exist for why managers are not being aware of what customers expect; they might not interact directly with customers, they might be unwilling to ask about expectations, or they might be unprepared to address them. When people with authority for setting priorities and making decisions do not fully understand customers' expectations, they might trigger a chain of bad decisions and wrong resource allocations that could result in poor quality in the products or services. Methods to capture information about customer expectations must be developed through market research. (Zeithaml and Bitner, 2003)

Strategies, involving a variety of traditional research approaches, must be used to stay close to the customer. Among them are customer visits, survey research,

complaint systems, and customer panels. More innovative techniques are often needed, such as quality function, deployment, structured brainstorming, and service quality gap analysis. Another factor that can lead to dissatisfied customers is lack of upward communication. Front-line employees often know a great deal about customers. If people from the management level are not in contact with those employees and do not understand the important information they have, the gap between what the customers really want and what the company provides them with widens. Also related to this problem is a lack of company strategies to retain customers and strengthen relationships with them. This is an approach called relationship marketing. When organisations have strong relationships with their existing customers this problem is less likely to occur. When companies focus too much on attracting new customers, they might fail to understand the changing needs and expectations of their current customers. It is important for companies to build strong relationships and understand customer needs over time. Sometimes things might go wrong and then it is of great importance to implement recover strategies in order to make everything right again. (Zeithaml and Bitner, 2003)

3.11.8 Attitudes towards Products or Services

Behavioural tendencies, feelings and evaluations towards an objective or activity are examples of different types of attitudes. The opinions a person can have towards this objective or activity can either be tangible or intangible and some examples can be attitudes towards friendship, a certain movie, and politics, et cetera. Attitudes are based on experiences and interactions with other people and it is not something people change very easily. Not all attitudes need to be very strong and Dibb, Simkin, Pride and Ferrell (1997) divide attitudes into three major components. These three major components are; *cognitive*, *affective* and *behavioural*. A person's knowledge and information concerning a subject or idea can be explained as the cognitive component. The

affective component on the other hand concerns a person's feelings and emotions towards a subject or idea. The final component of behavioural implies how a person acts towards a certain subject or idea. Customers' attitude towards a certain organisation or brand is often based upon the success or failure in terms of marketing strategy. The customers, for example, have a positive attitude toward the organisation's concern for the environment and therefore choose to buy products or services from them. As the customer's attitudes towards an organisation have a great impact on sales, the marketers should measure consumer attitudes towards price, package design, brand names, advertisement, and sales people, et cetera. There are different types of methods used to gain these results and the most effective one is to ask questions directly of people. If the marketers find a negative attitude amongst the consumers towards one part of the marketing mix, the marketer should try to change this attitude in terms of making it more favourable to the consumers. It can take time and sometimes be rather expensive, but it is an important factor for the brand. (Dibb, Simkin, Pride and Ferrell, 1997)

3.12 Conclusion of Theory

Related to Research Question A, the most important studies are product development and differentiation. (Porter, 1985; Drejer, and Gudmundsson, 2002)

- Product Development theories: successful organisations of today always have to be meet their customers demands and at the same time be innovative and efficient in order to “surprise” the customers and make them satisfied.
- Differentiation theories: organisations differentiate themselves in order to be unique and valuable for the buyers. Even though a common seat platform is implemented for the three truck brands, it is still of great importance for each brand to differentiate and to remain unique to its customers.

Related to Research Problem B, the most important studies are value-, and culture theories. (Aaker, 1996; Kotler and Armstrong, 1997; Urde, 2003)

- Value theories: a brand becomes appealing to customers just because of the value(s) the brand communicates. Values can be hidden in the brand but can also be visible and be seen as in the case with the truck seats.
- Culture theories: the culture of an organisation is associated with their core values and that are why cultures is equally important as the values. The culture of an organisation often describes its objectives and strategies and that is why culture is crucial.

Related to Research Problem C, the most important studies are consumer behaviour-, and satisfaction studies. (Zeithaml and Bitner, 2003)

- Consumer behavior studies: this describes the customers' needs and wants and makes it easier to understand why the customers react the way they do. Consumer behavior also helps to understand consumers' cultural, social, personal, and psychological characteristics and this is important in order to understand what to offer certain customers.
- Satisfaction studies: satisfaction is the customers' evaluation of a product in terms of whether the product has met the customers' needs and expectations.

Chapter 4

4. Empirical Framework

In this chapter we will present our investigations and surveys. Throughout the chapter there will be connections to the theoretical framework presented in chapter three. This sections starts with a presentation of Volvo's-, Renault's- and Mack's three main seat suppliers. We will then continue with an appearance of relevant studies associated with our first research problem, followed by data connected to Research Problems A, B and C.

4.1 Seat Suppliers

Today, VT are using four different suppliers. VTC are being supplied with seats from supplier 1. RT are mainly being supplied with seats from Supplier 1, but they use benches from another Supplier - Supplier 4. Due to the fact that Supplier 4 has such a small part of RT seats we will exclude them in this study. MT is being supplied with seats from two American seat suppliers; Supplier 2 and 3. Supplier 3 is the standard seat supplier; if the end-customer does not have any other preferences the truck they purchase is equipped with a supplier 3 seat. If the customers have some preferences they can instead choose a supplier 2 seat. VTNA has two seat suppliers as well; Suppliers 1 and 2. Just recently supplier 1 became the standard supplier and Supplier 2 is, just as in the case with MT, an optional seat that is provided if the customer has that particular wish. VDB is supplied with seats from Supplier 1.

4.1.1 Supplier 1

Supplier 1's success story began in 1919 with its springs. These technical springs are still synonymous with the top quality and technically advanced production that characterise the company. Supplier 1's customer base has

established the company as the market leader in Europe and beyond. Supplier 1 is a business with over 80 years of tradition – they are today the leading manufacturer of commercial vehicle seat systems in Europe. The optimum results of the work by Supplier 1's development team form the basis for the constant growth in product acceptance and the company's excellent market position. The seats manufactured by supplier 1 in 14 countries and 29 production facilities are used throughout the world in trucks, coaches, transporters, and construction and agricultural machinery of all kinds. Supplier had a total turnover of around Euro 500 million in the year 2002. The company has over 3600 employees in their factories. Supplier 1's customers include the big names in the commercial vehicle industry. They supply seats to large truck brands such as Volvo, Renault, DAF, Kenworth, MAN, Daimler-Chrysler, and Iveco. (Supplier 1's homepage, 2003-10-11)

4.1.2 Supplier 2

Supplier 2 is owned by Trim Systems and is the leading seat manufacturer of the heavy truck industry and a predominant seat manufacturer for the motor coach industry in North America. Supplier 2 originated in 1920 and manufactured rail and streetcar seating in California operating under the name of Art Rattan Works. In 1948 the manufacturer changed its name to supplier and a move was made to Mansfield, Ohio, now with focus on the motor coach industry. Supplier 2 relocated in 1985 to Vanore, Tennessee, and there achieved its superior position in the heavy truck air seating industry while they were continuing to produce motor coach seating. Supplier 2 currently develops, engineers and manufactures heavy truck seats, motor coach passenger- and driver seats. Supplier 2 is committed to delivering quality products that are durable and simple to maintain with components that are easy to upgrade. The entirety of Supplier 2's resources includes their state-of-the-art technical centre,

225 000 square feet production facility and most importantly, their dedicated associates. (Supplier 2's homepage, 2003-10-13)

4.1.3 Supplier 3

Supplier 3 design, engineer and manufacture Air Suspension and Static Seating Systems for Medium and Heavy-Duty Trucks, the Truck Parts Aftermarket, and School and Transit Buses. Supplier 3 is owned by the TTI group. TTI is one of the largest suppliers of components and subassemblies for the medium and heavy-duty truck industry. They also supply components for buses and other industrial markets. Included in this organisation are business units that supply a wide range of parts and components for the largest names in the truck and bus markets.

- Gunite Wheel-end components and assemblies
- Brillion Complex iron castings
- Imperial Body and chassis components and sub-assemblies
- Fuel Systems Fuel tanks and related components
- Bostrom Seating systems
- Phillips and Temro Cold start and emissions control technology
- Fabco Steerable drive axles and gear boxes.

TTI has approximately 550 million dollars in sales every year and their headquarters is in Chicago, Illinois. (Supplier 3's homepage. 2003-10-13)

4.2 Research Problem A

This section will present our empirical findings linked to the possibilities of whether or not it is possible to create one common seat platform. This section will give detailed information about Volvo 3P's three main seat suppliers' opinions about the seats and it will also give a presentation of Volvo 3P's market departments opinions. For Interview guide, see appendix 2.

4.2.1 Differences in seats supplied to Volvo, Renault and Mack

- Features, Seat Platform and Other Aspects

According to the chief engineer at Supplier 1, there are quite a few differences between seats supplied to Volvo, Renault and Mack in terms of features, seat platforms and also in terms of other aspects. VT is now the only truck brand that has fully electronic seats with memory functions on their most luxury seats. With this seat it is possible to adjust the following features electrically;

- seat length adjustment
- cushion length adjustment
- height adjustment
- front tilt adjustment
- backrest adjustment
- shoulder adjustment

Additionally, through the memory function, it is possible to store all these adjustments for three different drivers so they do not need to adjust the seat before driving. The chief engineer at Supplier 1 who knows a lot about the European market and also has a substantial knowledge about the US market, mentions some features that can only be found on VT seats and not in RT- and MT seats.

- shoulder adjustment with special type of back rest
- active ventilation system
- integrated I-shift system in the seat
- integrated microphone and speaker in the seat
- height limiter of the suspension system

In Renault trucks, on the other hand, you can find functions and features in the seat that cannot be found in Volvo trucks. RT has the possibility to lower the suspension unit for better access to the seat. According to the Truck Driver Survey we have conducted this is something that VT customers are asking for. This feature has, according to Supplier 1's chief engineer, been rejected by VT

due to safety reasons. When it comes to the seat platform they are rather similar according to supplier 1's chief supplier, at least for VT and RT. This is due to the fact that both VT and RT use a NTS platform for their seats. The NTS platform is developed by Supplier 1 and today VT use 22 per cent of this platform and RT use approximately 80 per cent. There is a difference between the two truck brands in this aspect and in reality this means that VT is developing the remaining 78 per cent by the company itself and RT are developing about 20 per cent by themselves. Because of this there could be rather big differences between the seats. The VT seat platform has several reinforcements and modifications due to the company's high safety demands, its unique styling and high quality level.

In terms of other aspects expect from seat features and a seat platform, there is, according to the chief engineer at Supplier 1, a big difference in styling between VT and RT. Several seat adjustments are adjusted to VT's demands in terms of quality and safety, et cetera. VT has other ranges of tilt adjustments, seat cushion adjustments or suspension strokes due to restricted space in the cab. The VT-seat has different handles, shrouds, foams and textiles/fabrics than RT has, this is due to the VT design appearance requirements. There are also a couple of other differences in terms of styling especially when it comes to visible seat parts. VT has a special Titan grey colour on some visible seat parts in order to match the other interior in the truck cab. The D-ring position of BIS (Belt in Seat) on VT seats is also more upwards and more outbound compared to those on MT. The D-ring is the place and the function where the belt comes out from either the b-pillar or the seat (it depends whether or not the seat is equipped with the Belt-In-Seat function). (The chief engineer at Supplier 1, 2003-10-13)

The chief engineer at Supplier 3, believes that the biggest difference concerning the seats is the two different markets; Europe and North America. In order for Supplier 3 to supply RT and VTC with seats the company needs to do more thorough analyses of the European market. Up to date, Supplier 3 has not conducted any work pertaining to Renault, but since they are an actor on the European market many of the regulations are the same as for VTC. According to the chief engineer at Supplier 3, the features on the seats manufactured for VTC, RT and MT will be the same in case Supplier 3 would deliver them. The more features that are added, the more the cost will increase and here it is up to each brand to determine what they want to have. There will be some features that are offered on certain trucks and not on others in order to help to differentiate the brands. For example, only VT has a shoulder adjustment option and only RT has a passenger seat that slides forward. According to the chief engineer at Supplier these different features help satisfy their particular markets. The chief engineer at Supplier 3 argues that if they would deliver seats to VT, the actual seat platform will be the same for each division. The differences in order to help differentiate the brands will be in styling and/or appearance factors, the features that each truck brand offers and the materials that are used to cover the seat. The chief engineer at Supplier 3 states again that the seat preferences between European and North American customers are the things that differ the most. The European market prefers firmer seats with more contours, where the American market instead prefers soft, flat seats. In order for Supplier 3 to be successful and a competitive actor on the European market they need to better understand this market. (The chief engineer at Supplier 3, 2003-10-23)

An engineer at Supplier 2, states that they produce a common seat structure for all their customers. Similarly, the features and options that they offer are commonly available to all customers. Usually, differences between customers' seats are limited to the cover materials, trim style, and the seat mounting detail.

In North America, it is customary for the truck buyers to customise the seat for their needs. Due to this fact there are a great variety of trim items such as swivels, lumbar support, and back recline on the American market. VTNA and MT have another function than VTC and RT have. When purchasing a truck in the US, the American customer makes a lot of choices about what to put in the truck. The seat is one of these things. The customers get the opportunity to choose the seat brand for themselves. If the truck manufacturer would just put in a seat in the truck cab the customers would more likely put in another one of their own choice if they do not like the seat in place, its angles, and appearance items. Due to this there is a great difference between the European and the American market. (An engineer at Supplier 2, 2003-10-31)

A product planning representative at RT, agrees with the chief engineer at Supplier 3 that it is the geographical area that differentiates the seat the most, and it also depends on what the seats are going to be used in. “Mack can have whatever seats they want”, they are not a competitive brand on the European market. It is VTC and RT that need to appear different. According to the product planning representative at RT it is also of great importance that the seat platform looks different on the two truck brands because this is what the drivers see immediately when they open the door to the cab and enter the truck. This first impression is extremely important and so hard to change. The product planning representative at RT believes that it is crucial that the truck brands (especially the ones existing on the same market) have different seat features. If VT would like to have, and to focus on electrical seats, that is fine. Instead RT wants to put efforts into developing the best pneumatic seats. It is important that the different truck brands have their specific features that attract their customer segment. (A product planning representative at RT, 2003-10-28)

4.2.2 Price Levels

The chief engineer at Supplier 1, states that because of the differences between the seats Supplier 1 supplies to the truck brands, there are also differences in the prices on those seats. Due to VT's higher safety demands, other demands in quality, more advanced functions, other comfort demands and a different styling and appearance, the VT seats are more expensive compared to a similar seat manufactured by RT. Due to these reasons it is rather obvious that the VT seats are more expensive. (The chief engineer at Supplier 1, 2003-10-13)

The chief engineer at Supplier 3 says that usually it seems that MT is more cost sensitive than VT is (no information and details pertaining to Renault seats). The reason for this is that MT seats have fewer features. (The chief engineer at Supplier 3, 2003-10-23)

According to an engineer at Supplier 2, the differences in cost arise from differences such as cover materials, trim style and appearance items. Because VT requires wide mountain pattern, Supplier 2 has a special wide mounting plate on their seat platform. This, along with more expensive cover materials, results in a higher price for VT seats.

A product planning representative at RT states that the cost level depends on the material used in the seat foam and upholstery and other parts of the seat. The different features on each seat are of course also an important determinant of the price of the seat. It cannot be said which brand has the most expensive or cheapest seat. In case of a common seat platform there will not be any difference in price for this part for VT, RT and MT. (A product planning representative, 2003-10-28)

4.2.3 The Safety Regulations

According to the chief engineer at Supplier 1, seat suppliers manufacturing seats for VT and RT have to consider the two truck brands' different safety regulations when producing the seats. These specific considerations can be "seen" in the seats in many different ways.

- VT has, in each suspended seat, an extra retractor that is normally located in the riser. In the event of a crash this extra retractor will then limit the upward movement of the suspension unit and it will also reduce the forward displacement of the driver.
- In VT some rollers in the suspension unit are produced by a turning process made by a special material which is more expensive than the rollers in RT's suspension system, produced with injection moulded tools.
- In VT seats, depending on the seat type, there is different reinforcement on the suspension frames. VT could have additional brackets and/or welding.
- On VT trucks you can find unique reinforcements in the recliner area such as welded brackets to side plates of seat frames and additional reinforcements brackets.
- On VT seats, the retractor of the integrated belt system (BIS) is attached to the suspension unit and not to the seat frame as for RT.

(The chief engineer at Supplier 1, 2003-10-13)

According to the chief engineer at Supplier 3 all three truck brands have similar demands. There is not a very big difference among them. Due to the fact that the same hardware will be used for both VT and MT, the seats will perform the same. When it comes to safety regulations the two brands, VTNA (VTNA has the same safety regulations as VTC has) and MT, have to meet the same regulations. The only difference would be the sled pulse used for dynamic testing in sled tests. Sled test is a special kind of crash test for trucks and the sled pulse is the speed the truck makes the crash test in. Supplier 3 has to

consider the difference when producing the seat; they have to take into account both brands' requirements, because a common hardware system/platform will be used for both VT and MT. (The chief engineer at Supplier 3 does not have enough knowledge about Renault Trucks to make any comments about them.) There would not be any differences between VT and MT that can be "seen", because the same hardware would be used for both seats. One difference might be internal verse external tethers. VT's tethers are internal to the seat structure, whereas MT's are external, attached to the cab floor. This is not a real performance difference; it is just a different way of managing seat belt loads. (The chief engineer at Supplier 3, 2003-10-23)

According to an engineer at Supplier 2, VT supplies more trucks for highway use than MT does; therefore, there is a great requirement for comfort and safety in VT. MT produces more vocational trucks; therefore, they have a great need for durability. However, Supplier 2 provides the same heavy-duty-seat structure to VT that they provide to MT. The federal requirements that Supplier 2 must meet are essentially the same for both customers, VT and MT. All of their seats are designed to pass the most stringent federal- and customer requirements. (No information concerning RT). (An engineer at Supplier 2, 2003-10-31)

The public relations manager at MT, argues that VT, RT and MT's different safety demands and regulations need to be taken into consideration and evaluated before any changes concerning the seats can be made.

4.3 Common Seat Platform

According to the chief engineer at Supplier 1, it is not possible that with only small adjustments install the same seat in both truck brands and still fulfils the brand specific requirements and demands. In his opinion, with his experience from the past, some adjustments need to be made. The chief engineer refers to

that VT has done a crash test at TNO (a test centre in Belgium that is used for truck tests) with a RT truck according to VT crash test demands. The result was terrifying for both the truck and the seat. According to the chief engineer at Supplier 1, this says everything about how similar the two brands really are. On the other hand, he argues that this could be a target for VT and RT to harmonise their demands in the future if this is what is needed and wanted. VT has higher safety demands and therefore the VT seat must be stiffer in order to meet the requirements, both internally in terms of safety and quality regulations, but also externally in terms of higher customer demands. Is, for example, RT really willing to pay for reinforcements or modifications they do not need in order to meet their internal requirements and customer demands? According to the chief engineer at Supplier 1, both VT and RT have different kinds of tests they expose their seats to before they come out on the market. Both brands have a sled test (crash test) but they have different demands and targets with this test and VT's demands are much higher and more specific. The RT crash test is a very short, with a high peak with less energy compared to the more extensive/comprehensive VT crash test. In the VT test the energy is more than two times higher! Additionally, VT has additional tests like side facing tests (different crash test where the seat is in different positions every time, which examines the safety in different driver- and passenger positions), barrier-test (a crash test where the cab hits the barrier before the actual chassis does, this examines whether or not the cab is strong enough), and overload tests (tests with dolls with different weights and sizes. It is standard to drive 30 km/h that corresponds to the sled pulse, which examines how the truck acts with different drivers) along with several others. (No information regarding RT). (The chief engineer at Supplier 1, 2003-10-13)

The chief engineer at Supplier 3 argues that they will be able to supply a common hardware/platform system for all three truck brands. The difference

will be in the features offered, styling- and product design, and materials used for trim covers. The seats can appear totally different, but at the same time still have the same “guts”, so to speak. This will be possible by using Supplier 3’s modular design. Their different standard blocks will be used in order to create each brand’s seat. According to the chief engineer at Supplier 3 this would be technically possible. Their plan is actually to meet all three truck brands’ requirements and do this with the same hardware. The same seat platform will in other words be used in both the US and in Europe. It would be very cost prohibitive to develop separate hardware for each division. According to the chief engineer at Supplier 3, it is not only possible to have the same seat platform in VT-, RT- and MT, it is mandatory to use the same hardware platform for all of the brands. Having separate platforms for each brand would increase tooling costs, development- and testing costs, and also the piece price. Supplier 3 will need to use common tooling to make as many parts as possible to get economic scale, both in order to help amortise the investment and to help minimise piece cost. The chief engineer does not have any knowledge of the Renault testing requirements, but VT and MT have the same sled requirements, but each would use a different sledge pulse. As VT and MT move towards common truck chassis they can move towards common sled test requirements. (The chief engineer at Supplier 3, 2003-10-23)

An engineer at Supplier 2 argues that all their seats are essentially the same with only trim and detail changes. The only structural difference, that the engineer can see, is the wide VT mounting plate. If this specific VT requirement was removed, the seats would be interchangeable and therefore with only small adjustments be installed in both trucks. The engineer at Supplier 2 argues that for highway use it will be possible to have the same seat platform in both VT and RT. The seats provided to both companies are structurally very similar. However, Supplier 2 is aware that MT uses several

special seats for off-highway applications for which National currently does not offer. The engineer at Supplier 2 is of the opinion that the seats supplied to VTNA and MT do not differ very much from seats supplied to other customers on the market. The seats supplied to all their customers are, as stated above, structurally very similar, differing mostly in cover materials, trim style and mounting details. According to the engineer, each customer has its own internal standards and Supplier 2 has its own standards, which are typically representing the worst case of their customer's requirements. They do not regularly perform seat dynamic testing (i.e., sled testing), because the truck manufacturer is responsible for the total occupant environment system, including both the seat and the seat belt. Supplier 2 does occasionally perform dynamic testing for their own knowledge or for special situations as required. (An engineer at Supplier 2, 2003-10-31)

The product planning representative at RT says yes to a common platform for VTC and RT. He believes the cabs are so similar that it, with only small adjustments, would be possible. Concerning the US, he states that it would probably be possible with VTNA but not with MT. The product planning representative has worked at MT in the US for six years and knows the brand and its products rather well. The MT Cab is too narrow and therefore it could be a problem to implement the same seat platform. In order to succeed with this, some of the brands need to change their style in the cab and also change the construction of it. (A product planning representative 2003-10-28)

The public relations manager at MT argues that the organisation needs to bear in mind that changing to a common seat platform for all brands is a huge challenge for the whole truck. In order to succeed with this work, the whole design of the trucks needs to be altered. He also believes that it would take some time to prepare this project and Volvo 3P needs to look at each brand's

specific requirements and the different seats that exist. This work can be a success, but it is not an easy thing to implement and it can become rather complicated.

4.4 Research Problem B

In this section we will present our empirical findings related to how the brand's core values reflect on the seat product. We present the core values for Volvo Group AB and the ones for each truck brand; VT, RT and MT. This part will also describe how the three seat suppliers, Supplier 1, Supplier 2 and Supplier 3 define Volvo 3P's core values, how they are visible in the seats and their understanding of these words.

4.4.1 Volvo Group AB Corporate Values

In terms of the acquisition in 2001 the three truck brands VT, RT and MT become a corporate business unit, called Volvo 3P, which improved the Volvo Group's competitive advantage. "In order to preserve the brand promise to the customers, visual identity – of the products, the offering to support the products, the printed materials and the signage – must be coherent and distinct for each brand" (Multi-Brand Usage Guidelines, 2003, p. 3). Each truck brand has retained its own specific brand core values after the acquisition involving VT, RT and MT and these core values imply the strength and identities of each brand. Since the acquisition there are also corporate values for Volvo Group AB that include all the three truck brands. These are safety, quality and concern for the environment. According to the Multi-Brand Usage Guidelines document, quality is defined as the mindset of the Volvo Group. This means that the truck brands shall provide products and services that can be trusted in order to meet the customer's needs and expectations. Safety concerns the use of the product in society in terms of minimising the risks of unintended consequences of accidents. The work conditions for Volvo Group's product

operators are also included when defining the meaning of Volvo Group's way of safety. The final corporate value is the environmental care and this implies the Volvo Group's commitment to improve energy and resource efficiency. (Multi-Brand Usage Guidelines, 2003)

4.4.1 Volvo Trucks Core Values

VT's core values are *safety, quality and concern for the environment* with safety as the primary and most differentiating core value. "Volvo creates value by providing transportation related products and services with superior quality, safety and environmental care to demanding customer in selected segments and this makes them unique" (www.volvo.com, 2003-10-02) These three "words" should be what the customers of VT identify the company with. The automotive market that VT is a main actor in, demands a high quality level. The Product Manager at VTC has defined the VT core values as safety, quality and concern for the environment. VT has higher safety regulations than what the legal requirements are and this is a major advantage for VT. In Sweden VT has a unique cab test conducted on its truck. This test puts high demands on the cab platform and this test is a part of the VT safety concept. Safety can also be found in the seat belts where VT has a higher safety level on this feature than the authorities say is necessary. These messages provide the customer with known or unknown safety feelings when driving a Volvo Truck. VT's core value of concern for the environment is defined according to the Product Manager at VTC as concern about pollution and the use of environmental friendly products when manufacturing the trucks. The customer should feel that VT's trucks are environmental friendly and are the best choice of truck for protecting the earth. The Product Manager at VTC also points out the importance of the seat, as it is the component where the drivers spend most of their time. According to the Product Manager at VTC, (2003-11-05) "The seat shall breathe quality" and the control buttons shall be easy to find. The seats for

Volvo Trucks should be more comfortable compared to other truck brands and the driver should be able to sit in the truck for a long time without getting any back injuries, thus gaining a good reputation for its comfort and quality. For the moment VT needs to improve its position regarding this core value and therefore further development needs to be done. VT also defines quality on the seat level to be easy to take on and off the seat belt and a future development is to have a red seat belt to imply the importance of safety. If VT will succeed in marketing its core values (right), the customer will have the image of quality, safety and concern of the environment when purchasing a VT. (Product Manager at VTC, 2003-11-05)

4.4.2 Renault Truck's Core Values

RT's core values are *innovation*, *efficiency* and *caring and daring* with a strong focus on its customer demands and on-going improvements. (A Product Planning Representative at RT, 2003-10-28). The core value innovation follows RT's automobile market. A Product Planning Representative at RT, describes this core value as the process of producing new products. For example, looking at the seat level, the process of finding new seat upholstery. First there is a range of 1500 different upholsteries and out of these 1500, 50 different upholsteries are selected based on the requirements. Out of these 50 upholsteries, RT selects the 10 upholsteries that have passed their durability test. RT is searching for a new material and also looking at solutions for what fabric is needed on the different parts of the seat. RT's has now a sticker (explanation) on the seat to give the customer an impression of the seat's uniqueness. According to a Product Planning Representative at RT, efficiency is the most important core value as it is something that the company must have. All manufacturers try to have efficiency and it is a big competition to remain the best on the market. Efficiency is linked to durability in terms of features, fabrics et cetera. The final core value is caring and daring. Caring is linked to

“feeling” according to a Product Planning Representative at RT, and RT wants to give a “warm” impression in both internal and external factors in their truck. Daring is a sensitive subject and according to a Product Planning Representative at RT it is a type of gambling. When producing a new product, RT does not know how the customer will react to this, some will appreciate it and some will not. (A Product Planning Representative at RT, 2003-10-28).

4.4.3 Mack Truck’s Core Values

The Public Relation Manager at Mack Trucks defines MT’s core values as sub core values. He talks about the common core values of safety, quality and concern for the environment as the values that cover all three truck brands VT, RT, and MT. Additionally, MT has their own core values that identify their brand. These are reliability and durability, customer contact and application excellence. According to the Public Relation Manager at MT, MT’s core values are based on customer perception of the brand. He defines customer contact as always remembering that the customer is the foundation of MT’s business and the importance of focusing on customer demands and needs. The Public Relation Manager at MT points out that it is therefore important to have trained staffs that have substantial knowledge about the company in order to be able to support the customers in the best way. According to the Public Relation Manager, MT’s core value of application excellence stands for producing an excellent product that meets the standard and requirements the customer wants. He also describes it as providing the best product for the core market and on the seat level it can be the design, but also the features that need to be customised. The core values of reliability and durability are related to the other two core values because the customer can rely on the fact they get what they want and the product has a long product life. The Public Relation Manager at MT sees all the core values as very important. He thinks MT strives for delivering enough

value to its customers in order to have a price that is above the average. (The Public Relation Manager at MT, 2003-10-31)

4.5 Seat Suppliers' Definitions of Volvo 3P's Core Values

Volvo 3P's core values are safety, quality, environmental thinking, innovation, efficiency, friendliness, reliability and durability, customer contacts and application excellence. We now have got an understanding how each truck brand defines its core values but we also want to know how the seat suppliers define these. We asked the three suppliers, Supplier 1, Supplier 2 and Supplier 3, to describe how they define these values and how they can be found in the seats.

4.5.1 Safety

According to a chief engineer at Supplier 3, the word safety in Supplier 3's point of view is to ensure that the seat will not cause any harm to the occupant under normal use and that the seat will not add harm to the occupant during an accident. Also, the seat should offer features that will help protect the occupants under adverse conditions or during an accident and it should meet all government regulations. Supplier 2 takes safety into consideration in everything they do according to an engineer at Supplier 2. This means that safety not only is considered in the final product but also during the whole manufacturing process in terms of the design and development programme. The engineer at Supplier 2 also points out how our society today demands safety and therefore Supplier 2 uses a special quality procedure when safety is an issue to deal with. The chief engineer at Supplier 1, sees safety and comfort as two important components for meeting the long term quality criteria.

4.5.2 Quality

Quality is to meet or exceed the customer's expectations according to the chief engineer at Supplier 3. Supplier 3's quality also includes the concept that the

product should meet the expectations and requirements of its customers. An engineer at Supplier 2 defines quality to be a major pillar of Supplier 2 and sees the importance of addressing quality in the early stage to retain its current customers. According to the chief engineer at Supplier 1, this company sees quality policy as a comprehensive concept and task. Supplier 1 involves the whole organisation when it comes to providing high quality on the seats.

4.5.3 Environmental Thinking

Environmental thinking, according to the chief engineer at Supplier 3, is not to harm the environment in any way during the manufacturing and disposal of their products. He also points out that the by-products of manufacturing and disposing a seat should not affect the environment as well. Today Supplier 2 is using environmentally friendly production processes in terms of a water-based powder paint system. According to an engineer at Supplier 2, this company is designing a plan to implement the environmental system and consider the environment as an important factor. Supplier 1 is well aware of the commitment to the environment and according to the chief engineer at Supplier 1, it is the organisation's responsibility to use and re-use resources during the whole production process. He also points out that Supplier 1 thinks there should exist in the form of laws, norms, guidelines, regulations, ordinances, et cetera set by the organisation itself. This can be accomplished by only allowing environmentally friendly materials and technology.

4.5.4 Innovation

According to the chief engineer at Supplier 3, the company defines innovation as offering products to the customer that they did not even know they needed or wanted and being the first one on the market to provide these new innovations. According to an engineer at Supplier 2 they are always looking for new innovations in terms of new technology to add value to their products. Supplier

2 is focusing on developments that meet the truck driver's demands at an affordable price. The engineer at Supplier 2 says that innovation is needed but is only useful if it can be purchased at a reasonable price. The chief engineer at Supplier 1 describes innovation as the specific objective and strategy set up for an organization in order to meet the expectations and requirements for its customers, investors and company partners. Supplier 1 is constantly developing their position on the global market and sees its know-how as a factor to fall back on.

4.5.5 Efficiency

For Supplier 3 efficiency is to create output or manufacturing of seats with as little input as possible, according to the chief engineer at Supplier 3. According to an engineer at Supplier 2, this company is improving their efficiency by having monthly workshops in which every employee should participate; key suppliers or sister companies are also invited. At the workshops they meet to discuss and learn about waste and efficiency. The improvements that are discovered are later implemented in the suitable workstation within Supplier 2's facilities. According to the chief engineer at Supplier 1, this company sees efficiency as "there is nothing that cannot be improved upon". He points out how Supplier 1 always should question their achievements and work in order to improve their products. He also says that the external competences should be taken into consideration and this can be customer's "know-how" and the experience or expertise from their suppliers.

4.5.6 Friendliness

The chief engineer at Supplier 3 defines friendliness as providing seats that are easy to use and to control. On the specific seat level, an engineer at Supplier 2 relates friendliness with seats that are natural, very comfortable foam shapes, easy to use control buttons and excellent performance and durability. The engineer at Supplier 2 believes this, together with Supplier 2's emphasis on

quality and customer service, to be the reason they are the market leader in North America. The chief engineer at Supplier 1 connects friendliness with the words experience, innovation and uncompromising customer-orientation, which makes it possible to provide products that customer are happy to sit in. The Chief engineer at Supplier 1 also argues that an organisation should provide customer –oriented, just-in-time products and services that fit the customer.

4.5.7 Reliability and Durability

The chief engineer at Supplier 3 thinks a seat should imply reliability by producing a seat or feature that is working as it was designed every time it is used. For durability he points out the importance of having a long product life. An engineer at Supplier 2 connects the durable and comfortable platform that Supplier 2 is offering with reliability. He says that it is these attributes that have made Supplier 2 the most requested supplier in new trucks in North America. According to the engineer at Supplier 2, this company tests their seats' durability and offers seats with a durability of 7 Years per 1 000 000 miles. For reliability, the chief engineer at Supplier 1 says that the users of Supplier 1's products can fully rely on the products and can concentrate fully on transporting goods and people. When it comes to durability, Supplier 1 tests and measures their products to a high degree, which would never occur in real life, regarding to the chief engineer at Supplier 1. He also describes durability as (by long-term testing and simulation) providing a long product life of their seats.

4.5.8 Customer Contact

The chief engineer at Supplier 3 describes customer contact as being made every time an individual buys a Supplier 3 seat. He also points out that it includes anyone that uses Supplier 3 seats and it can be an internal group within the company, it could be anyone at the production site or it could be the

end user. According to an engineer at Supplier 2, this company offers customer support and this includes customer service staff, field representatives and sales engineers who all have customer contact. The engineer at Supplier 2 believes that nothing is more important than the needs and concerns of Supplier 2's customers. According to the chief engineer at Supplier 1, this company puts a lot of focus on customer contacts and strives towards having the leading position on the world market in terms of long-term assurance. The chief engineer at Supplier 1 therefore sees the importance of providing products that exceed the customer demands and wishes. He describes customer contact as a matter that increases the customer satisfaction and this is the most important evidence of market acceptance of Supplier 1's products and services.

4.5.9 Application Excellence

For the chief engineer at Supplier 3, application excellence is seen as outstanding design, innovation and advance process application management when it comes to manufacturing seats and seating components. The chief engineer at Supplier 3 also includes achieving superior results in design achievement, overall quality, technical execution, attention to detail and conceptual significance when he defines this value. According to an engineer at Supplier 2, application excellence is seen as providing the appropriate seat for a particular application in terms of what type of truck the customer demands. This means that, depending on what type of truck it is, the safety, function, durability, styling and cost requirements are balanced to match the appropriate seat. Supplier 2 has today a range of different types of seats that fit different trucks, and they are developing their current range of seats in order to improve the ability to tune the seat to the application.

The core value of application excellence differs between the US market and the European market according to the chief engineer at Supplier 1. Supplier 1 supplies seats both to the US market and to the European market, and with help

of questionnaires to the end-customers, they try to identify the different regions' customer demands. The main difference between these two markets is that in the US the customers can order special upholstery whilst on the European market the design of the seats is designed in corporation with the specific truck brand.

4.6 The Development of Core Values for Volvo Group AB's Future Seat

The demands from the customers are changing all the time and so are also all the internal requirements. VT is discussing future development of its core values in order to strengthen the brand. According to the Product Manager at VTC, the three current core values for VT should have a wider meaning instead of increasing the number of core values. He indicates that today approximately 50 percent of VT's employees know the three core values of safety, quality, and concern for the environment and if VT would add one or two more values, this percentage would most likely decrease. Because of this, he thinks that increasing the meaning of each core value could be an opportunity. Today safety is related to the different tests VT makes to provide the safest truck on the market. According to the Product Manager at VTC, the meaning of safety can have a broader meaning, for example in terms of changing the position of the control buttons from the left side to the right side, which makes it easier for the truck driver to adjust the seats whilst driving. This could be seen as a safety caution. (Product Manager at VTC, 2003-11-05) In the future Volvo 3P should try to make the core values more visual and stronger in order to increase the customer trust (Segment owner at VTC, 2003-11-25) The core values for Volvo 3P should be visualized on the seat product and a future development on the seat is the red seat belts. VT wants to emphasize that it is important for the drivers to use the seat belt by visualizing the safety caution by using the red color.

4.7 Research Problem C

In this section we will present our empirical findings related to what seat features the end-customer considers important and what effect a possible common seat platform would have on them. This section includes a field study consisting of 53 truck drivers and here we review their opinions of the seats. Included in this section are also findings from other surveys that have been made globally within Volvo 3P.

4.7.1 Truck Driver Survey

In order for us to get a better understanding of the current seat situation, to find out what the important end-customers really think about their seats, we have conducted a Truck Driver Survey.

4.7.2 General Information

This Truck Driver Survey actually concerns how satisfied the drivers are with their seats, what they think about the sitting comfort, and what can be improved for the future. One question in this survey that interested us particularly was the question of whether or not the drivers are interested in having removable seat cushion in their seats. We have been talking to chief engineers at VT's, RT's, and MT's three main seat suppliers, Supplier 1, Supplier 2 and Supplier 3, in order to find out if it is technically possible to have a common seat platform with a removable seat cushion. We have also been in contact with marketing department and product planning department representatives at VT, RT, and MT to get their opinions about this.

Through our Truck Driver Survey we want to get the drivers opinions and attitudes about their seats and about the idea of removable seat cushions. Another important aspect is how the drivers consider their sitting comfort. This factor is also interesting to compare to other surveys that have been conducted

globally within the organisation. Through this survey the truck drivers' knowledge of the seats become obvious and we obtained valuable information about crucial issues for our research. On the following page some general information concerning the drivers participating in our survey are presented. This information is important to have in mind when reading this section.

Nationalities:	<i>Swedes, Danes, Germans, Finns, Norwegians, British, and Dutch</i>
No of respondents:	<i>53 Truck Drivers have been interviewed</i>
Gender:	<i>All Male</i>
Interview Places:	<i>Gothenburg, Sweden and Fredrikshamn, Denmark.</i>
Business Areas:	<i>Test Driving, Long-Haul Driving, Distribution Driving, Driving Practice, Tank Lorry, and Container Truck.</i>
Truck Brands:	<i>Volvo, Scania, Renault, Mercedes, Iveco, MAN, and DAF</i>
Age of the Vehicle:	<i>3,2 Years in average</i>
Seat Brand:	<i>Isringhausen, Bostrom, and Recaro.</i>
Age of the Seat:	<i>On average the same age as the truck.</i>
Height of the driver:	<i>1,80 M on average.</i>
Weight of the driver:	<i>88,5 Kg on average.</i>
Driving Time:	<i>4,1 Hours on average.</i>

The truck drivers we have interviewed drive mainly VT and Scania Trucks. Table 4.1, Truck and Seat Brands, illustrates the exact distribution of the number of different truck and seat brands. As can be seen in the table, about half of the interviewees do not know their seat brand and Isringhausen is the dominating seat brand in this survey. There are only two drivers with Bostrom

seats, and one with a Recaro seat. These are general remarks and they are important to keep in mind when reading our study. For complete information about the Truck Driver Survey, see appendix 2.

Truck Brand	No	Seat Brand	No	No of unknown seat brands
Volvo	25	Isringhausen/Recaro	11/1	13
Scania	16	Isringhausen/Bostrom	7/1	8
DAF	4	Bostrom	1	3
MAN	3	Isringhausen	1	2
Mercedes	2	Isringhausen	1	1
Iveco	2	Isringhausen	1	1
Renault	1	Isringhausen	1	

Table 4.1 – Truck and Seat Brands
Source: The Truck Driver Survey

4.7.3 Satisfaction with the Seat

The truck drivers we have interviewed in this study seem to be rather satisfied with their seats. This is a general opinion and there are only a few drivers who actually believe their seats are not good. As a general remark, 89 per cent of the drivers have answered this question. Almost 75 per cent of the truck drivers with Isringhausen seats, regardless of truck brand, are satisfied with their current seat and the remaining percent are either unsatisfied or do not have an opinion. All drivers of the drivers with Bostrom seats are satisfied. About half of the drivers who do not know their seat brand are satisfied with their seat and the remaining half have either not answered the question or are dissatisfied.

4.7.3.1 Positive Remarks on the Seat

Since the drivers are fairly satisfied with their seats and there are quite a few positive comments on the sitting comfort and the seat features, et cetera. Regardless of seat brand, almost half of the respondents say that their seats have a lot of different and excellent adjustments. It is especially the Belt-In-Seat function, the shape of the seats, the good sitting comfort, the good adjustable air suspensions, and the fact that the seat is so easy to adjust that are

especially good. Truck drivers with VT and Scania trucks are fond of their heated cushions and drivers with VT Trucks appreciate that they can adjust the seat very easily, that it is so easy to change the position of the seat while driving and that the seat actually feels good for their back. Another factor that is appreciated by the VT drivers is the possibility to get ventilation in the seat. The most common answer for positive remarks on the seat is all the different adjustments. The drivers also think the sitting comfort is good.

Note that 65 percent of the drivers have answered this question.

4.7.3.2 Negative Remarks on the Seat

Despite the fact that the drivers are satisfied with their seats, some negative comments on the seats became obvious. Regardless of truck brand, contrary to what has been written above, some driver consider the sitting standard as uncomfortable. There have been some comments on the durability of the seats; too short, the placement of the control buttons is not always good, the seats do not have so many adjustment possibilities as desired and the seat is unstable. Even though most drivers are satisfied with the Belt-In-Seat function, one comment is that the belt rubs against the driver's neck. VT drivers consider that it is not possible to come down enough with the seat to get a good sitting position. Another comment from those drivers is that the length adjustment is not good enough. On the contrary, from what has been stated as a positive remark, is that the VT driver with the Recaro seat considers the Isringhausen seats as dangerous for the drivers back. The most common answer for negative remarks on the seat is the uncomfortable sitting standard. Otherwise, the negative comments are much varied and difficult to summarise.

47 per cent of the drivers have answered this question concerning negative remarks.

4.7.3.3 The Current Seat

Compared to seats that the drivers have had in the past, many drivers, regardless of truck brand, consider their current seats are much more comfortable. The drivers are of the opinion that the seats of today are very good and the development of seats has gone forward. Things that have become better are all the different in droved adjustments. It is only a few drivers who consider today's seats as worse compared to the ones the drivers have had before. The drivers that are of this opinion have VT Trucks.

58 per cent of the truck drivers have answered this question.

4.7.3.4 What Seat Brand do the Drivers Prefer?

As few as 30 per cent of the truck drivers have answered this question and out of these most drivers prefer Isringhausen seats. A couple of drivers also prefer Bostrom seats. The most common answer is that the drivers prefer their current seat brand and want to have the same brand in the future.

4.7.4 The Seat's Sitting Comfort

Due to the fact that it is mainly respondents with VT and Scania Trucks in this survey, these are the ones we have focused on in this section. But what can be said about the drivers with RT, Mercedes, MAN, DAF, and Iveco is that they in general are rather satisfied with their seats. This question the drivers could answer on a scale from one to ten where ten is highest ranked. Concerning VT, the drivers are again rather satisfied with the sitting comfort. The exact percentages can be seen in the table 4.2 below. The lines in table 4.2 illustrate that no truck driver ranked this certain grade. The Scania truck drivers are the ones who are most satisfied with their sitting comfort. About 78 per cent of those drivers have given the grade 10 or 9. For exact information see table 4.2.

Grades		10	9	8	7	6	5	4	3	2	1
Truck Brand											
Volvo		8%	20%	16%	40%	4%	4%	8%	-	-	-
Scania		31%	-	44%	6%	6%	13%	-	-	-	-

Table 4.2 – Sitting Comfort
Source: The Truck Driver Survey

- The mean for VT is 7,2.

- The mean for Scania is 8,1.

The mean for the other truck brands are as follows; RT – 3, MAN – 8, DAF – 8. Iveco – 8, Mercedes – 7,5.

4.7.5 Seat Features

We asked the truck drivers what they think about their different features on their seats. The information we got showed us the knowledge the truck drivers have about their seats and also which features that are most commonly used. For each feature we have made a table of the number of respondents for each truck brand and a diagram that illustrates the satisfaction level. The diagrams in our different seat feature figures show the percentage of the drivers that think the feature is very good, good, fairly good, ok, do not know or do not have it. For more detailed information about the seat features, see appendix 2.

Positioning and Size of the Buttons: 68 per cent of the truck drivers have answered this question and in the table 4.3 below the number of respondents to each truck brand can be seen.

Truck brand	Volvo	Scania	Iveco	MAN	DAF
Number of drivers	14	12	2	3	5

Table: 4.3 – Respondents of Positioning and Size of the Buttons
Source: The Truck Driver Survey

As seen in figure 4.1 the number of truck drivers with VT have different opinions concerning the features. These drivers think it is either ok, fairly good, good, or very good. It can also be seen in the following figure that all the truck drivers in general think this feature is fairly good or good, except for the drivers with Iveco Trucks. No driver answered not good, do not know or do not have it which can be seen in figure 4.1.

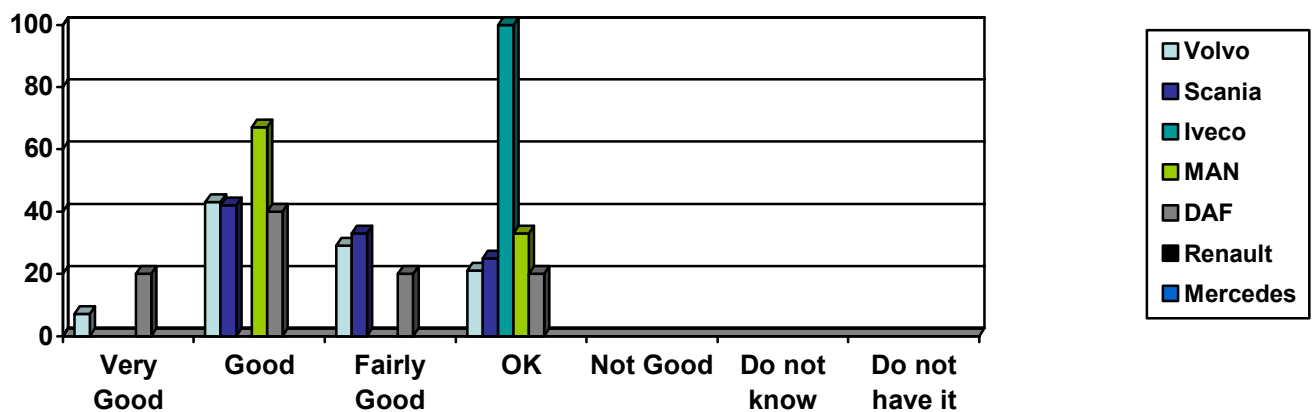


Figure 4.1 – Positioning and Size of Buttons
Source: The Truck Driver Survey

Height Adjustments: The spread of respondents to this feature was similar to the positioning and size of buttons respondents feature, except for the number of drivers for each truck brand. The distribution of drivers for each truck brand can be seen in the table 4.4 below.

Truck brand	Volvo	Scania	Iveco	MAN	DAF	Mercedes
Number of drivers	15	11	1	3	3	1

Table 4.4 – Respondents of Height Adjustments
Source: The Truck Driver Survey

More than half of the drivers with VT, a third of the drivers with Scania Trucks and a third of the drivers with DAF Trucks think the height adjustment is fairly good. Otherwise, almost all the truck drivers think this feature is ok but there are also a few drivers with VT, Scania and MAN trucks who say the feature

was very good. The figure below illustrates the respondents' answers on how bad or good they think this feature is. No driver answered not good, do not know or do not have it. This can be seen in figure 4.2.

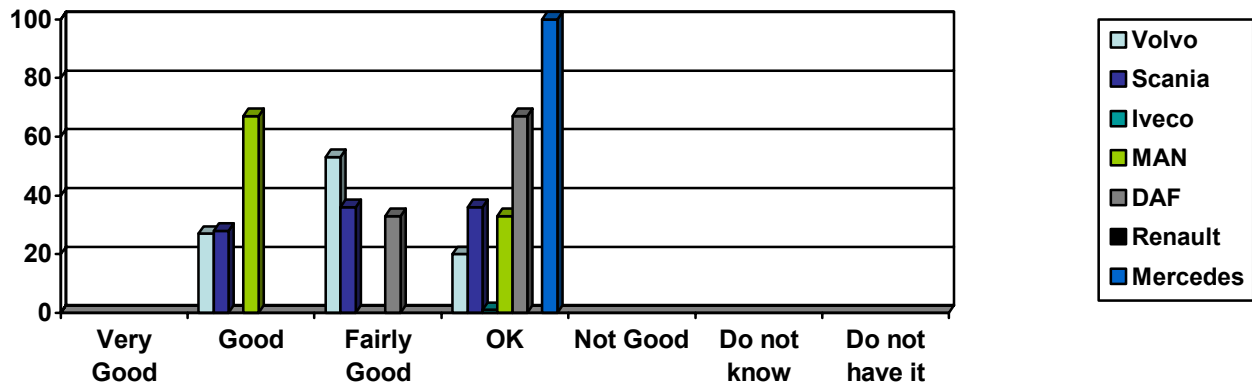


Figure 4.2 - Height Adjustment
Source: The Truck Driver Survey

Length Adjustment: As seen in the table 4.5 below, only half of the drivers with VT and Scania Trucks have answered the question concerning this feature and approximately half of all truck drivers interviewed have answered this question. The distribution of the numbers of respondent for each truck brand is illustrated in table 4.5.

Truck brand	Volvo	Scania	Iveco	MAN	DAF	Mercedes
Number of drivers	13	8	2	3	3	1

Table 4.5 – Respondents of Length Adjustments
Source: The Truck Driver Survey

The truck drivers with VT and Scania Trucks have a varied opinion concerning this feature and this can be seen in the figure 4.3. For the other truck brands there is a more common opinion and most of these truck drivers think this feature is ok except for the drivers with MAN Trucks where 67 percent think the length adjustment is good. No drivers answered that they did not think it is good or that they do not have it as seen in figure 4.3.

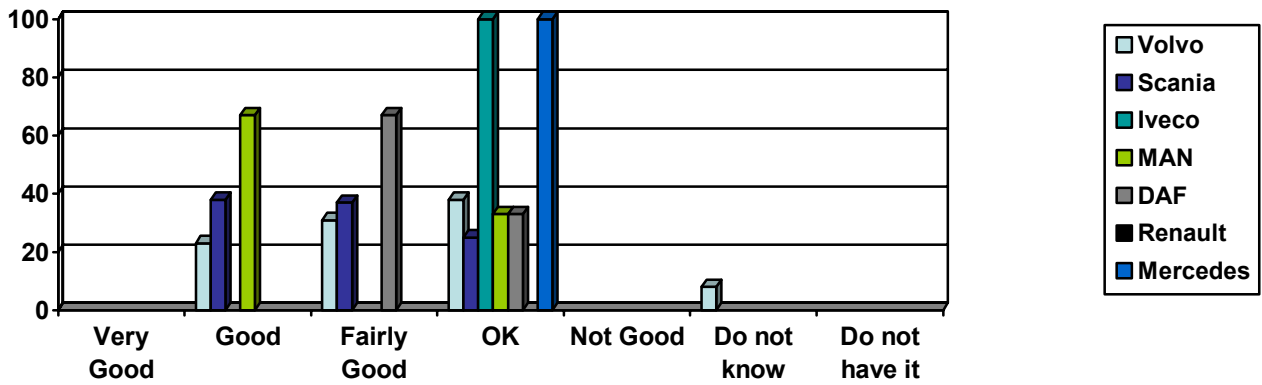


Figure 4.3 – Length Adjustments
Source: The Truck Driver Survey

Seat Belt Reminder: The seat belt reminder feature had almost the same amount of respondents as the previous mentioned length adjustment and also the distribution of drivers for each truck brand is similar as seen in the table 4.6.

Truck brand	Volvo	Scania	Iveco	MAN	DAF	Mercedes
Number of drivers	14	7	1	3	3	1

Table 4.6 – Respondents of Seat Belt Reminder
Source: The Truck Driver Survey

As seen in figure 4.4 the truck drivers who have this feature seem to have agreed that it is ok. A third of the drivers with VT think this feature is good. A small number of the drivers with Scania Trucks think the seat belt reminder is fairly good. A third of the drivers with DAF trucks that think the feature is not good and a third of the truck drivers who have answered this question do not have this feature. The figure 4.4 also shows that no truck drivers have answered that they do not know.

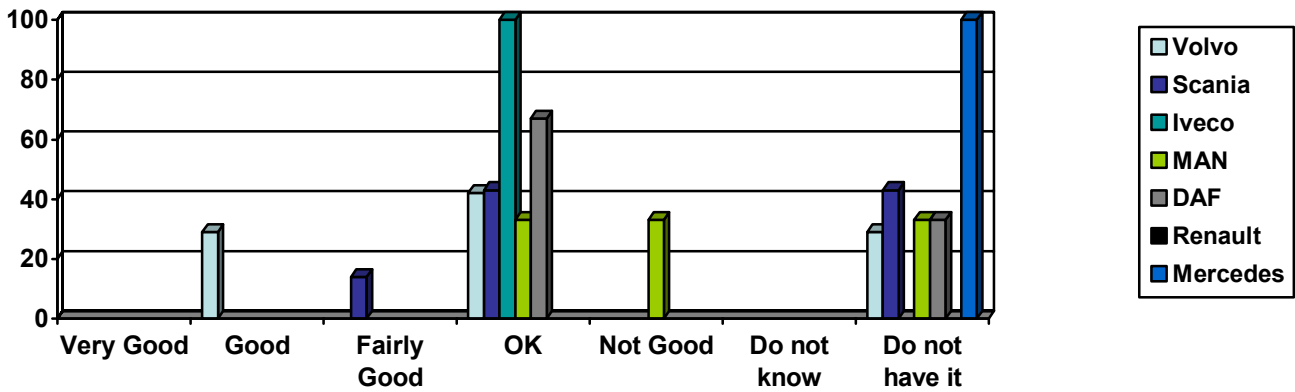


Figure 4.4 – Seat Belt Reminder
Source: The Truck Driver Survey

Lumbar Support: The number of answers we have got for this feature is rather high with 70 per cent and the spread of driver for each truck brand is illustrated in the table 4.7 below.

Truck brand	Volvo	Scania	Iveco	MAN	DAF	Mercedes
Number of drivers	18	11	1	3	3	1

Table 4.7 – Respondents of Lumbar Support
Source: The Truck Driver Survey

Again there is a varied opinion for the drivers with VT and Scania Trucks as can be seen in the figure 4.5. The drivers with RT and Iveco Trucks agree that this feature is ok and all the drivers with MAN trucks think it is good. The Mercedes Truck does not have this feature and no driver answered that they do not know.

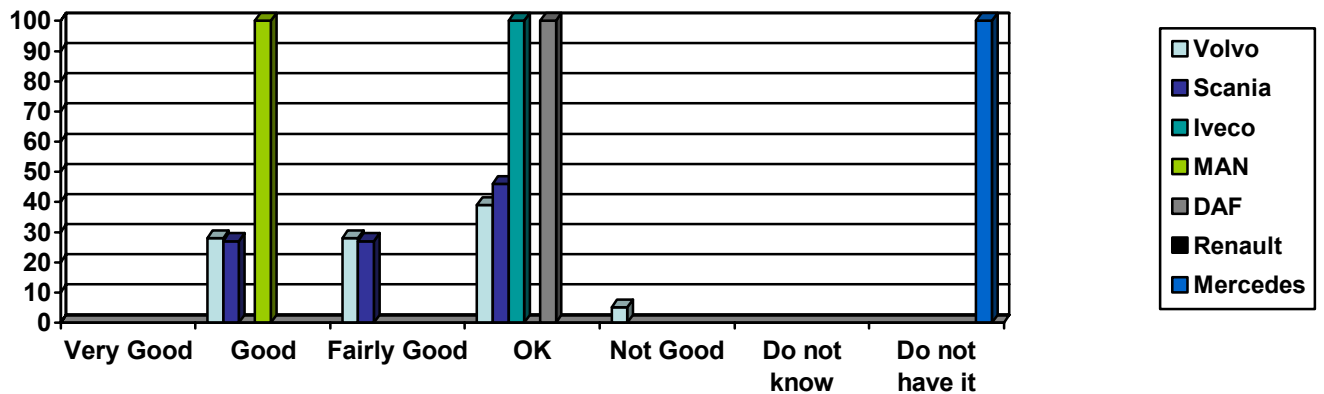


Figure 4.5 – Lumbar Support
 Source: The Truck Driver Survey

Front Tilt Adjustment: This feature has the same per centage (70%) as the lumbar support feature, of how many truck drivers who have answered this question. However, the number of truck drivers for each truck brand differs a little and this can be seen in the table 4.8.

Truck brand	Volvo	Scania	Iveco	MAN	DAF	Renault	Mercedes
Number of drivers	14	13	1	3	3	1	2

Table 4.8 – Respondents of Front Tilt Adjustments
 Source: The Truck Driver Survey

The truck drivers have ranked this feature very differently and the drivers with the same truck brand seem to have a different opinion. It is only some drivers with DAF Trucks and a small number of the drivers with VT who do not think this feature is good. Otherwise all drivers have ranked this feature from ok to good as can be seen in the figure 4.6. Figure 4.6 also show that no drivers have answered do not know.

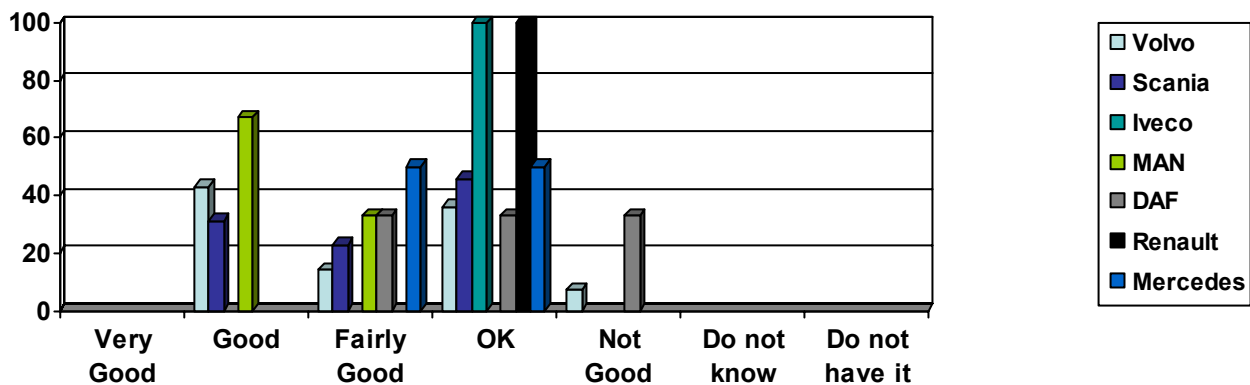


Figure 4.6 – Front Tilt Adjustment
Source: The Truck Driver Survey

Adjustable Shock Absorber: Again we can see that the per cent of truck drivers responding to this question is almost the same as for the features front tilt adjustment and lumbar support. In the table 4.9 below the number of drivers for each truck brand who have made comments about this feature are illustrated.

Truck brand	Volvo	Scania	Iveco	MAN	DAF	Reanult	Mercedes
Number of drivers	18	13	1	3	3	1	1

Table 4.9 – Respondents of Adjustable Shock Absorber
Source: The Truck Driver Survey

The adjustable shock absorber is found in almost all the trucks except for the Mercedes Truck where only 50 per cent had it. In general, the truck drivers answered that they think this feature is ok, otherwise there is a small spread of drivers who have another opinion and no driver answered not good or do not know as illustrated in figure 4.7.

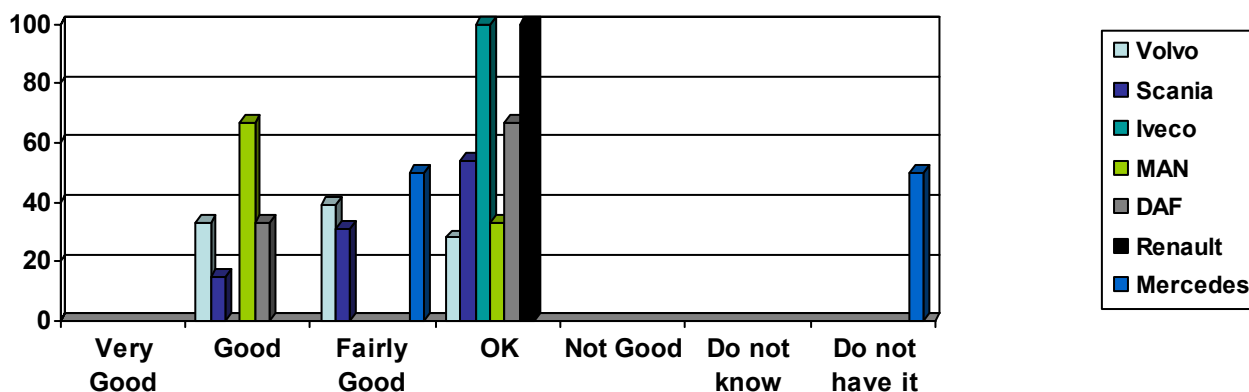


Figure 4.7 – Adjustable Shock Absorber
Source: The Truck Driver Survey

Seat Cushion Extension Adjustment: More than half of the drivers interviewed have answered this question and the distribution of drivers for each truck brand can be seen in table 4.10, below.

Truck brand	Volvo	Scania	Iveco	MAN	DAF	Mercedes
Number of drivers	16	10	2	2	3	1

Table 4.10 – Respondents of Seat Cushion Extension Adjustments
Source: The Truck Driver Survey

In our survey it is only the Mercedes Trucks that do not have this feature and the drivers with DAF- and Iveco Trucks agree that the seat cushion extension adjustment works ok. The MAN Trucks drivers think this feature is good. The drivers with VT and Scania Truck have a spread opinion and no driver answered not good or do not know as can be seen in figure 4.8.

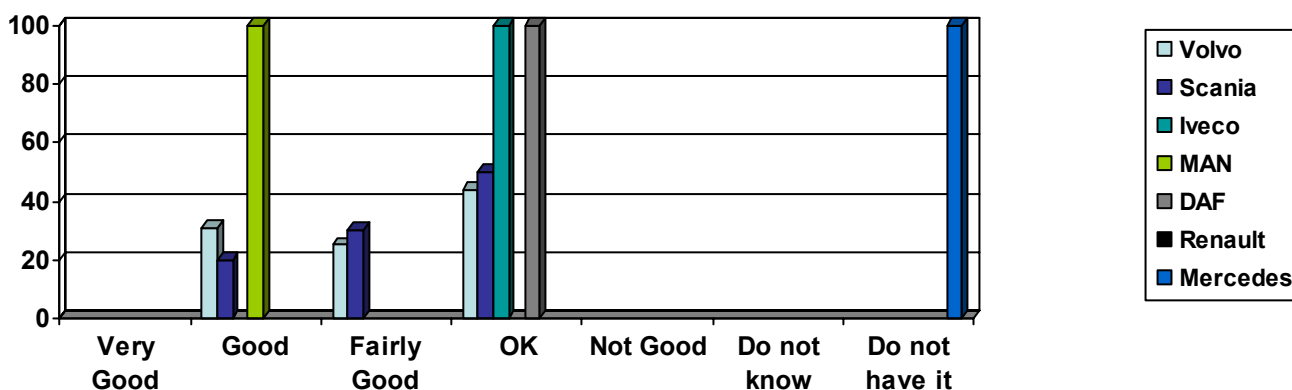


Figure 4.8 – Seat Cushion Extension Adjustment
Source: The Truck Driver Survey

Memory Height Position: This feature has the same per cent of respondents as the previous mentioned seat cushion extension adjustment, but here the spread of drivers for each truck brand differs and this is illustrated in table 4.11.

Truck brand	Volvo	Scania	Iveco	MAN	DAF	Mercedes
Number of drivers	13	13	1	3	3	1

Table 4.11 – Respondents of Memory Height Position
Source: The Truck Driver Survey

This feature is the rarest one because all drivers with Iveco-, DAF- and Mercedes Trucks do not have this feature. For the truck brands that have this feature the drivers have a different opinion concerning the satisfaction factor and no driver answered not good or do not know as is illustrated in figure 4.9.

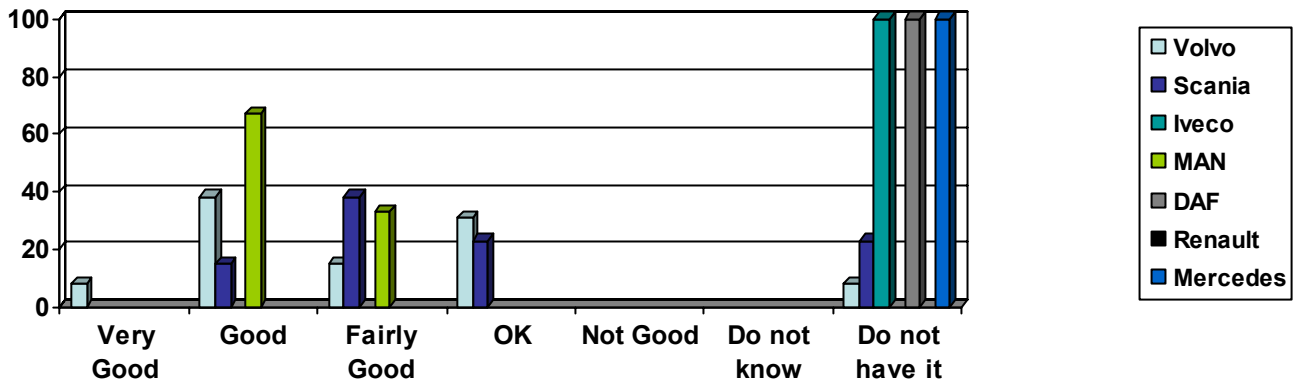


Figure 4.9 – Memory Height Position
 Source: The Truck Driver Survey

Air Suspension: All the different truck brands have one or more drivers that have answered this question and the total percentage of respondents was 68 per cent. Table 4.12 shows how many drivers for each truck brand that answered this question.

Truck brand	Volvo	Scania	Iveco	MAN	DAF	Renault	Mercedes
Number of drivers	16	12	1	4	2	1	1

Table 4.12 - Respondents of Air Suspension
 Source: The Truck Driver Survey

The criticism towards the air suspension is positive from most of the drivers and half of all the drivers with VT, Scania- and MAN Trucks think this feature is good. The others think it is either ok or fairly good. As illustrated in figure 4.10, only the drivers with the Mercedes Truck do not have this feature and no driver answered not good or do not know.

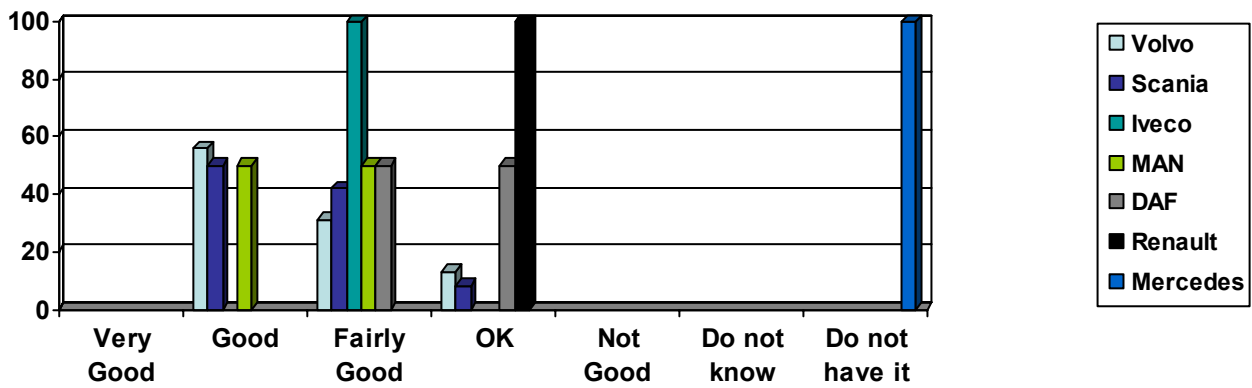


Figure 4.10 - Air Suspension
Source: The Truck Driver Survey

Shoulder Adjustment: More than half of all truck drivers interviewed have comments on this feature, as seen in table 4.13. No drivers from RT have answered this question.

Truck brand	Volvo	Scania	Iveco	MAN	DAF	Mercedes
Number of drivers	12	13	1	3	3	1

Table 4.13 – Respondents of Shoulder Adjustments
Source: The Truck Driver Survey

This feature cannot be found in DAF and Mercedes Trucks as illustrated in figure 4.11. This feature can not be found in some of the VT and Scania Trucks. There is a wide variation of opinions in terms of satisfaction for the drivers with VT, and the rest of the drivers think it is either ok or good. Figure 4.11 also shows that no driver answered that they do no know.

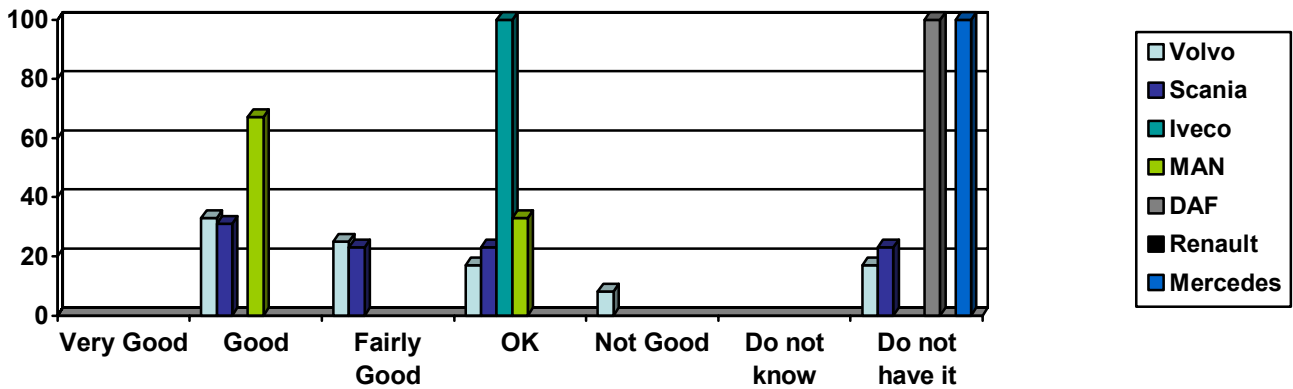


Figure 4.11 - Shoulder Adjustment
Source: The Truck Driver Survey

Heated Cushions: Again, more than half of the drivers have answered the question. For the heated cushions all truck brands are present and their drivers' comments are presented in the text below, following table 4.14.

Truck brand	Volvo	Scania	Iveco	MAN	DAF	Renault	Mercedes
Number of drivers	13	11	1	3	3	1	1

Table 4.14 – Respondents of Heated Cushions
Source: The Truck Driver Survey

More than half of the drivers with DAF trucks do not have this feature and it is the same for all drivers with Mercedes Trucks. Iveco- and RT receive same grade from all their drivers and they think it is ok. VT and Scania Trucks get more varied opinions where the drivers with VT are more positive to this feature than the drivers with Scania Trucks. The drivers with MAN Trucks agree that they think the feature works well. No drivers answered not good or do not know and this information is presented in the figure 4.12.

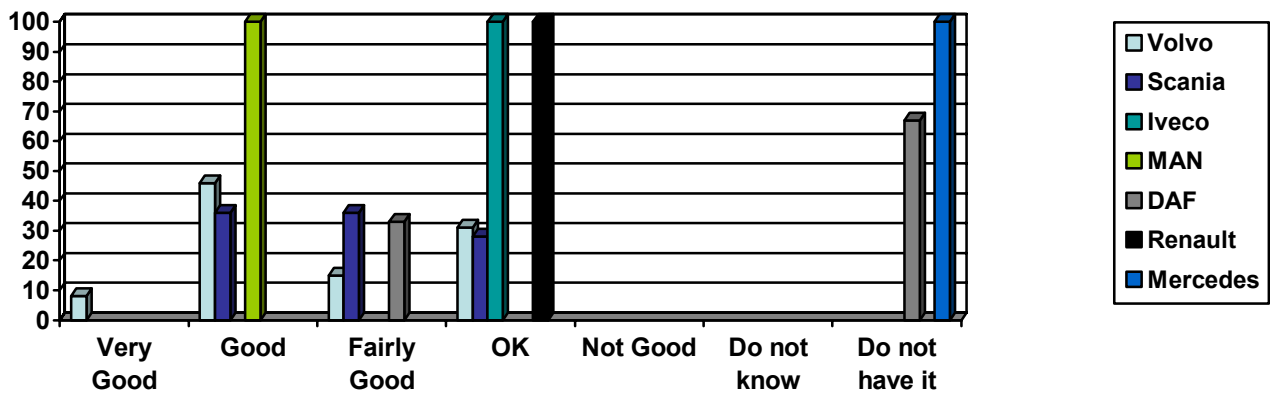


Figure 4.12 - Heated Cushions
Source: The Truck Driver Survey

Ventilated Seats: The respondent of this feature are 68 per cent and as presented in table 4.15 almost all Scania Truck drivers have answered this question.

Truck brand	Volvo	Scania	Iveco	MAN	DAF	Mercedes
Number of drivers	16	12	1	3	3	1

Table 4.15 – Respondents of Ventilated Seats
Source: The Truck Driver Survey

It can be seen in the figure 4.13 that a high percentage of the drivers do not have this feature and this is true for almost all truck brands even though the percentage differs. The driver with Iveco Truck was fairly satisfied with the ventilated seat and otherwise, most drivers who were satisfied had VT. The remaining distribution of opinions between the truck brands can be seen in the following figure. No drivers answered not good or do not know on this feature.

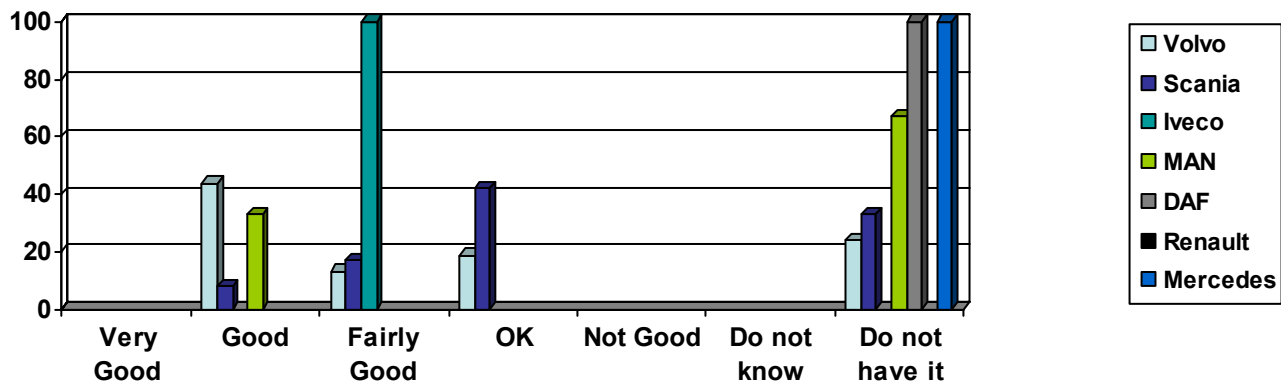


Figure 4.13 - Ventiladed Seats
Source: The Truck Driver Survey

Belt-In-Seat(BIS): The percentage of respondents on this feature is almost the same as for the ventilated seats but here there are fewer drivers that have Scania Trucks. The distribution of drivers for each truck brand can be seen in table 4.16.

Truck brand	Volvo	Scania	Iveco	MAN	DAF	Renault	Mercedes
Number of drivers	17	9	1	3	3	1	1

Table 4.16 – Respondents of Belt-In-Seat
Source: The Truck Driver Survey

A lot of the drivers who have answered this question have this feature except for a few drivers. This feature get a lot of different opinions for each truck brand and it is only the drivers with RT and Iveco Truck who agree this feature is ok. The drivers with VT are the ones who have the most varied comments on the level of satisfaction and this can be seen in the figure 4.13. This feature received no answers of do not know.

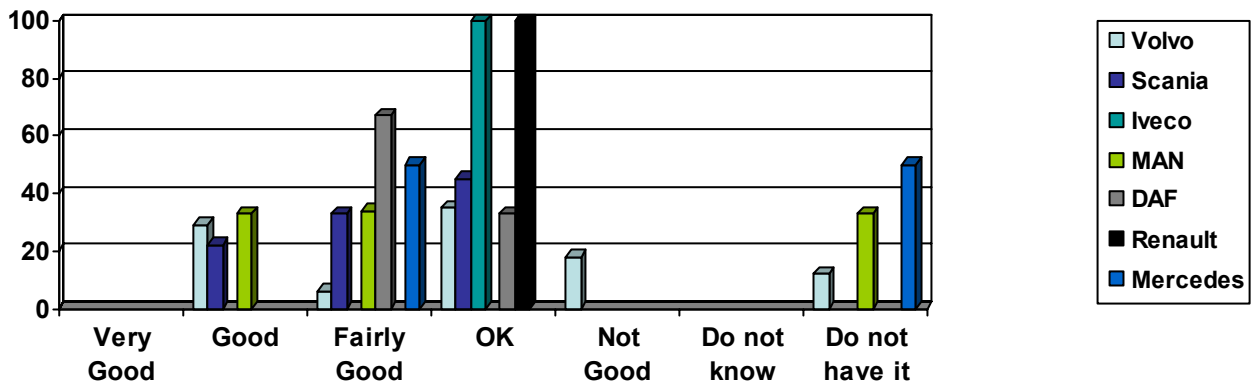


Figure 4.14 – Belt-In-Seat
Source: The Truck Driver Survey

4.7.6 Removable Seat Cushions

Almost all truck drivers in our survey have answered this question concerning whether or not they want to have removable seat cushions. Most of the drivers interviewed want to have it. Out of 50 respondents, 35 drivers want to have removable seat cushions and 13 do not want to have it. The remaining two drivers claim they already have it.

The feature of removable seat cushions is a possible solution for a future seat. This would make it possible for VT, RT, and MT to have the same seat platform. Due to the importance of keeping the three brands unique, it is of great importance to differentiate the seats. The idea is to do this in terms of different seat cushions and upholsteries. Many drivers with VT in our truck driver survey consider this an excellent function, because then you can choose other cushions and get softer seats. It is also advantageous because the drivers have the opportunity to choose more for him/herself. Regardless of truck brand, some drivers argue that it is easier to only replace the seat cushion than change the whole seat when the cushions are worn out. Most of the time there is a need for changing cushions before the actual seat base is worn out. The seats

sometimes get very dirty and with removable seat cushions it would be much easier to clean the seat.

Some truck drivers also had some negative remarks on removable seat cushions. Some drivers, regardless of truck brand, just do not see any point in having removable seat cushions and those also wonder if it would really work for heavier men. Will the cushions be as stable as they have been in the past?, and will the seat platform be of the same quality as it is today and will it really hold?

4.7.7 Future Seat

One question in the truck driver survey was what other features the drivers would like to have in their future seat. The VT drivers want the seats to be softer, and they want to have better sitting comfort and better upholstery. Other concerns they have about a future seat are; today's seats have sometimes very bad quality and the seats wear out too fast. They want to have softer seats, and the control buttons on the seat need to be clearer and easier to find; today it is sometimes hard to find the right button when making a certain adjustment. Those drivers argue that it would be easier to find the right button if they looked and felt different from each other.

A general opinion among the drivers, regardless of truck or seat brand, is that the seats need to be more comfortable in the future. Another opinion is that the seats need to be easier to adjust. Some drivers also complain about the shoulder adjustments. They want this function to be better in the future. Most of the features and things the drivers want in the future are functions that already exist but need to be improved. The only "new" feature that came up during the survey was the desire for massage in the seats.

Regardless of truck and seat brand, most drivers want to have the same seat brand in the future that they have today. This is irrespective of whether the drivers know their current seat brand. The drivers who have the strongest opinion about what seats they want to have are the test drivers at Volvo test center in Hällered. It should also be noticed that there are quite a few drivers who have not answered this question

4.7.8 Additional Surveys

After the presentation of our Truck Driver Study conducted here in Sweden we will now present the result from some other surveys conducted in different parts of Europe by a market researcher at RT, and in South America, conducted a market researcher at VDB.

4.7.8.1 Renault Magnum Survey, Europe

The aim of this study is to evaluate how the drivers experience their seats and determine strengths and weaknesses of the truck. 40 drivers over a period of nine months were interviewed. Questions were asked concerning if they find the driver seat comfortable.

Those drivers with Isringhausen seats consider them as comfortable. They are much more comfortable than the previous one, and good but not perfect.

Some weaknesses have also been noticed like the lack of lumbar support, lack of electrical adjustments, and that the driving position can be improved. The sitting cushion is too thin and it is less comfortable than the previous magnum seat.

4.7.8.2 Renault Premium Survey, Europe

In this survey there are mainly French drivers. They are experienced, are generally working for a company, and they are mostly doing international journeys. Questions concerning the seats sitting comfort were asked. The

drivers of this truck think their Isringhausen seats are comfortable in a static position, the seats are very good – it is almost like in a plane.

No negative remarks were found in this study.

4.7.8.3 Volvo FH Survey, Europe

Another survey that has been taken is the Volvo FH survey. The FH Truck was officially launched in October 2001 and this survey was conducted one year later. The aim of the survey was to determine strengths and weaknesses with the vehicle. 50 interviews with FH Trucks were conducted. Questions asked if they consider their driver seat comfortable and if there are any changes from the previous FH. Drivers studied in this survey consider their seat as very good and in general the seats are comfortable. The driving position is good and some drivers stated that they simply loved their seat. Compared to the previous FH seat, a general opinion is that the new seat is comfortable and better than the previous seat. Of course there are things that could be improved. Drivers are dissatisfied with their lumbar support, and they think it is placed too high on the backrest. Another general opinion is that the seat is too hard, and in response to a positive remark just mentioned, drivers think the old seat was better, especially considering the lumbar support that was much more comfortable previously. The first impression is that it is not very comfortable, and after driving it you get pain in the shoulders and in the back.

4.7.8.4 Seat Comfort Survey South America

The reason for conducting this survey was the general complaints about the driver seat. The survey was done in September 2002 and September 2003 and included 16 interviews.

General Data

Driver's average age: 40

Driver's average height: 1,72 m

Driver's average weight: 76 kg

Experience: About 20 years of driving

Travel distances: more than 1000 km (53%), about 1000 km (40%)

Road type: rough / very rough conditions

The survey included questions about the driver seats' sitting comfort. The drivers in this survey clearly think that Scania and VT have the best driver's seat (Scania 62%, Volvo 54%, Mercedes 8%). Positive remarks on the VT driver seat are all the different regulations, the height adjustment, the seat regulations, the spum, and the seat belt. Negative remarks on the VT seat are clearly the seat cushion inclination, but also the spum and the height adjustment.

Out of the drivers interviewed 62% are completely satisfied with their VT seat, 15 % are satisfied, 31 % are unsatisfied and 8% are completely dissatisfied.

Chapter 5

5. Analysis

We will in this chapter, based on our theoretical framework and the empirical findings, analyse the possibilities for Volvo-, Renault-, and Mack Trucks to have a common seat platform. We will also analyse the core values' meaning for each brand, and the end-customers' attitudes towards the seat. Each section within this chapter is analysed in connection to Research Problems A, B or C.

5.1 A Common Seat Platform - Research Problem A

According to the theory, a firm differentiates itself from its competitors if it can be unique at something that is valuable to the buyers. Differentiation is a competitive advantage a firm might possess and should strive for. The 2nd of January 2001 Volvo's acquisition of Renault Truck Corporation was accomplished. This acquisition meant that VT acquired all shares from both RT and MT. Before the acquisition the three truck brands were competitors, especially VTC and RT in Europe, and VTNA and MT in the US, suddenly the brands belong to the same organisation.

Due to the long history in the industry VT has gained knowledge and skills in what their customers want and expect. The company also has a long history of learning how to communicate and listen to its customers. Even though VT, RT, and MT now belong to the same organisation it is of great importance that the brands remain unique. This is in order to be able to attract their specific customer segment. It is a fact that uniqueness does not automatically lead to

differentiation unless it is valuable to the buyer. It is not enough just being unique. The organization need to respond to customers needs.

In the work with introducing a common seat platform for the three truck brands many factors need to be considered. Especially whether or not it is possible to introduce a common seat platform with removable seat cushions and still retain the uniqueness the brands possess. Lack of a clear distinction between the seats implemented will both in theory and practise increase the risk of confusion and uncertainty within the organisation and among its customers. An implementation of a common seat platform for Volvo 3P demands significant work, but it is the company's responsibility to create consistency and reliability throughout this possible process. We will later, in the conclusion chapter, elaborate on how to create consistency within the organisation.

5.1.1 The Role of the Suppliers - Research Problem A

Today, VT, RT, and MT's three main seat suppliers are Supplier 1, Supplier 2 and Supplier 3. In order to succeed with implementing the same seat platform with removable seat cushions in all three truck brands, the suppliers need to be able to manufacture this. Volvo 3P's seat suppliers' role is to supply the best possible seats that can be found. Volvo 3P is today trying to gain competitive advantages on the market through offering the best possible seats to its customers. Today, there are quite a few differences between the seats supplied to VT, RT, and MT in terms of features, but also in terms of the seat platform and other aspects. Representatives from all seat suppliers argue that in the case of a possible common seat platform with removable cushions, the seats still need to be different. The truck brands within Volvo 3P do not have the same cost levels and they do not attract the same customer segment. This is the way it has always been and the way it should be in the future. The truck market is

large, but it is not large enough to provide truck brands offering the same attributes with the selling numbers they want.

All three seat suppliers, Supplier 1, Supplier 2 and Supplier 3, think it is a possibility in the future to have a common seat platform, but the level of adjustments that needs to be done in order to succeed differs among the suppliers. According to all seat suppliers, it is in case of a common seat platform important to clearly distinguish the brands through the seat cushions and upholstery. Supplier 3 actually argues that it would be very cost prohibitive to develop separate hardware for each division/brand. They believe it is not only possible to have the same seat platform in VT, RT, and MT, it is absolutely mandatory to use the same hardware platform for all the brands. Separate platforms for each brand would increase both tooling-, development-, and testing costs and also, in the end, increase the price of the truck. Supplier 2 believes all their seats to be essentially the same with only some trim and detail changes. With only small adjustments the seats would be interchangeable and could be installed in all truck brands. Supplier 1, on the other hand, believes that rather a substantial number of adjustments needs to be done in order to implement a common seat platform and still fulfil each brand's specific requirement. A test has been performed where a RT did a crash test according to VT crash test demands. The result was terrible for both the truck and the seat. Because of this, a question concerning how similar the seats really are arises, and whether or not it would be possible that with only small adjustments really to have the same seat platform. The development costs for the truck brands to harmonize their safety levels, is probably something they are not prepared and willing to do. It is also important that the brand distinction is apparent in many different ways, not only visible.

5.1.2 The Role of the Brands - Research Problem A

VT, RT, and MT's role in the creation of a possible common seat platform with removable seat cushions is focused on achieving competitive advantages against each other. There are three different types of possible interrelationships to be found among business units, such as Volvo 3P, and these are as mentioned earlier: tangible interrelationships, intangible interrelationships, and competitor interrelationships. These three types can all have an important impact on competitive advantage. In the case of tangible interrelationships it gives an opportunity to share activities in the value chain, such as in the case with Volvo 3P, common buyers and technologies.

However Volvo 3P is gaining advantages through centralisation, decentralisation and distinction. The choice between centralisation and decentralisation can be a compromise. Global purchasing that Volvo 3P has, for example, is not solely conducted in a clear centralised manner. Each division often purchase their own products for its own brand and everything does not have to be agreed upon among all three truck brands. This is one way to compromise the benefits of centralisation and decentralisation. By incorporating the locally purchasing units, VTC, for example, minimises cultural clashes and obtains region or country specific knowledge.

After interviewing people from VT, RT, and MT we have a greater understanding about their opinions on a common seat platform among the brands. From RT we understand that the greatest difference in terms of the seats is the different geographical areas that the seats are going to be used in. Product planning representatives from VT and MT agree with a representative from RT that VTC and MT can have very similar seats because they are not competing on the same market. VTC is a main actor in Europe and MT is operating in the US. It is obviously the same for VTNA and RT because VTNA

is an actor in the US and RT is in Europe. The most important thing is that actors playing on the same market are not too similar to each other, in this case in terms of seats that are too much alike. Concerning VT, RT, and MT; VTC and RT are actors in Europe, and VTNA and MT are actors in the US, and those brands then need to be differentiated from each other. Apart from this and the fact that each truck brand needs to offer their specific combinations of features on the seat, the three truck brands are positive about having a common seat platform. This would decrease the seat variances, the company's development and tooling costs and it would possibly also make the brands more united.

We have in our empirical findings learned that the idea with a common seat platform is not an easy task and it would take time, cost, and effort to make it a reality. Despite this, Volvo 3P believes that it would be possible to construct a common seat platform with regards not only to commercial aspects but also to technical aspects. According to RT it will without doubt be possible in Europe, but in the US it is another question because they have a more narrow cab. Because of this, it could be a problem to implement the common platform, but this view is not shared by representatives from VT, and MT that argues this is possible. It is important to move forward and be innovative in order to be a competitive actor on the market and the idea with the common platform might be one step in the right direction. Product development is a business unit that stretches across functional departments in a traditional functional organisation in order to design, construct, and make the organisation ready for the production and implementation of new products.

If Volvo 3P is to implement a common seat platform, it is the organisation's responsibility to understand the consequences of such an action. At the same time, the purchasing departments have the responsibility for considering how

this will affect their work load and work spread. Volvo 3P is responsible for making all parties aware about the implementation and is also responsible for addressing the attitudes towards it.

5.2 The Importance of Corporate Core Values - Research Problem B

Since the acquisition in 2001 corporate values were established for the business unit Volvo 3P that includes all three truck brands VT, RT and MT. The corporate values for Volvo 3P are based upon the Volvo brand's core values, which are safety, quality and environmental care and these values are the foundation for Volvo 3P. Corporate values can be related to an organisation's corporate religion, which implies the set of values that unites an organisation. Corporate culture includes common values, supporting ideas, positions, habits and norms. It is hard to change an organisation's beliefs and values and people are often more open-minded during a cultural swing that often are very hard to predict. Before the acquisition each brand within Volvo 3P had their own values and way of doing things and it can be hard for RT and MT to adapt to Volvo 3P corporate values. A common platform is an opportunity and a step in the direction of uniting the three truck brands for developing a more common organisational culture. Due to the fact that VT, RT and MT now belong to the same organisation, it is crucial that they have some connections and a kind of organisational foundation in common in order to maintain a successful organisation.

5.2.1 The Impact of Core Values - Research Problem B

In addition to the corporate values each of the truck brands within Volvo 3P has its own core values. These core values are based upon customer perception in terms of product performance and emotional appeal. According to the theory an organisation with a strong brand image leads to increased share price and revenue and as the core values are the foundation of a brand's image these are

of great importance. For Volvo 3P it is crucial that each brand will be distinctive from the other in order to retain its brand uniqueness and its targeted customer segment. It is the core competence that differ the organisations and these competence are the ones that make an organisation's brand unique. A brand should try to have core competence that its competitors do not have in order to gain competitive advantages. The core competence for the VT, RT and MT can be seen in their core values.

VT's strongest and most recognised core value is safety, very much due to the fact that VT has higher safety regulations than the legal requirements. Therefore VT customers know that when buying a Volvo truck they are buying one of the safest trucks on the market. VT's other core values are quality and concern for the environment. Quality can be seen as a functional benefit by VT's ability to produce quality trucks in terms of design and durability. It is often easy for the competitors to imitate functional benefits; therefore it is important for VT to also imply emotional benefits or/and self-expressed benefits. The core value for concern of the environment can be associated with an emotional benefit as it can give the customer a positive feeling when purchasing a Volvo truck.

The RT brand is based upon the core values of innovation, efficiency and caring and daring. Out of these three core values efficiency is the most important, because this is something a truck brand should have in order to be successful. Therefore efficiency could also be seen as a functional benefit that is found amongst many competitors. Innovation for RT is to add value to its products at a reasonable price and this core value can also be seen as a self-expressive benefit. The self-expressive benefit is related to consumer behaviour and is a way for a person to communicate his or her self image. One reason for

purchasing a Renault truck might be that the customer is aware of the innovating products RT offers.

MT's core values are reliability and durability, customer contact and application excellence. As MT produces heavy-duty trucks that are mostly used as construction trucks they target a different segment than VT and RT do. The US market that MT supplies differs from the European market because in MT the customer can choose whatever seat and other components to the he/she requires and on the European market there is always a standard seat in each truck. The core value of application excellence refers to this and through the good customer contact and durable and reliable trucks, MT meets its customer demands and requirements. For organisations that operate on a global market it can be hard to meet the standards and expectations set in different countries. The opportunity for Volvo 3P is that the different truck brands already have knowledge about the standards and expectations in their specific region and therefore can meet the customers' demands. They also have different positions on the market and therefore they cover a larger market segment.

5.2.2 The Meaning of Core Values for Suppliers - Research Problem B

It is important for Volvo 3P to find out their seat suppliers' understanding and definitions of each truck brand's core values. Through our empirical findings we can see whether or not the suppliers' definition of the core values matches VT, RT and MT definition of them. The end-customers often relate the seat brand to the truck brand and it is therefore of great importance that the seat has the same values as the truck. Our empirical study shows that Volvo 3P has similar definitions of the core values as the suppliers, Supplier 1, Supplier 2 and Supplier 3. This information is a useful source of knowledge for Volvo 3P. In order to evaluate the suppliers and to find the most appropriate one for each

type of seat family globally including VT, RT and MT, this information needs to be taken into consideration.

5.2.3 Future Core Values - Research Problem B

An organisation should compare its values that are set a long time ago with today's market and see if they match. The core competence of organisations might have changed during the years and therefore the core values also need to be updated to match the brand's uniqueness. In our empirical study we have found that the core values for VT in the future can have a broader meaning than they have today. If VT for example would increase the number of core values there might be confusion about what the brand stands for. It is also easier for people to remember only three strong words. Therefore VT has looked into the meaning of each core value and the core value of safety might not only have the meaning of safety in terms of crash tests but also in terms of safety in the living environment in the truck cab. It can also be a safety precaution to replace the control buttons to the right side of the seat instead of the left side, which could make it easier and less dangerous for the driver to adjust the seat whilst driving. Our empirical findings show that each truck brand within Volvo 3P has strong beliefs about its core values. When it comes to the corporate values, these have been adopted by RT and MT since the acquisition. The core values in an organisation are related to the organisation's culture and different cultures have different influences on individuals. In an organisation's culture values, beliefs, and taken for granted assumptions need to be taken into consideration and these are often hard to change.

5.3 Increasing Focus on the End-customer - Research Problem C

According to the theory consumer behaviour is driven by cultural-, social-, personal-, and psychological characteristics. It is obviously very hard for VT, RT, and MT to control these factors but it is important that they try to at least

take them into consideration. In order to find out important information about what the end-customers really think about their products, surveys are being conducted within Volvo 3P where appropriate target groups are being selected. The process of buying a service or a product begins with the recognition that a need or a desire exists. In this context, it is the need or desire for a truck, and the seat is an important component of the truck. It could be said that by purchasing a truck the customer satisfies a primary need, and by getting a good seat that he or she is satisfied with, a secondary need is satisfied. Our empirical findings suggest that it is crucial for Volvo 3P to use the knowledge the end-customer possesses and take advantage of this source of information.

5.3.1 Truck Driver Survey - Research Problem C

Through our Truck Driver Survey we have found that most drivers with VT are rather satisfied with their seats. Most drivers interviewed have Isringhausen seats, and regardless of truck brand (VT, Scania, et cetera) most drivers argue that today's seats have many excellent adjustments that could not be found in the past. Most truck drivers also believe they have a good sitting comfort. On the other hand, we have found that many drivers are not satisfied with their seats' sitting comfort. There is almost nothing in between: they are either satisfied or not with the comfort in the seat. Due to the fact that the development has gone forward, the different adjustments have been improved and most drivers consider the seats of today as being much better than those they have had in the past. A negative aspect about the seats is that the seat cushions are considered as being too thin and the drivers can actually feel the steel frame and the fan through the cushion.

Changes in seat appearance and seat features can cause problems and confusion among the customers, but we have not found anything that shows that in our survey. The drivers seem to be satisfied with the changes and the development

that has occurred. There might be specific factors that influence the development and these should be considered before the changes are implemented. It is the organisation's responsibility to come up with answers to demands and needs from the end-customers. Changes within the organisation are always related to possible problems. These risks have to be reduced as much as possible by implementing an instrument or tool that can identify potential threats. Some of the unwillingness to take risks within Volvo 3P can be traced to lack of understanding of the customer demands. It has been argued that the quality standards that RT and MT have are not as high as in the case with VT. According to remarks that RT and MT have made, our empirical findings suggests that this is inaccurate. It is just due to a lack of understanding of each other's qualities. It should not be the case that MT and RT have lower quality standards; it is just that the brands are prioritising different factors and interpreting needs and demands in different ways.

If we compare what we have found in our Truck Driver Survey with the other surveys that have been made globally, our empirical findings seem to be rather accurate. According to the RT Magnum Survey regarding the seats' comfort, those drivers consider their present seats as comfortable or very comfortable. The seats are described as being much more comfortable than in the past. Some negative remarks that came up here are the lack of electrical adjustments, and that the sitting cushion is too thin. Also here, as in the case with our Truck Driver Survey, some drivers argue that the seat is not so comfortable compared to the previous Magnum seat. Our empirical findings concerning the RT Premium Survey show that those drivers think their Istringhausen seats are comfortable and very good. In the VT FH Survey the drivers say their seats are very good, and a general opinion is that the seats are comfortable. Compared to the previous FH seat, the current one is stated as being better. Another general opinion is here again that the seat is considered as being too hard and some

drivers actually consider the previous seat as being better, especially regarding the lumbar support that used to be much more comfortable. The seat Survey conducted in South America shows that the driver thinks that VT, together with Scania, has the best driver seat. Both truck brands have Isringhausen seats. Positive remarks are in accordance with our survey that all the different adjustments on the seat are good.

5.3.1.1 Seat Features

In order to get a better picture and a greater understanding about what features the drivers appreciate on their seats and what they really consider as important, one important question in our survey with the truck drivers is the one regarding all the different features apparent in the seat. This also gave us information about how much the drivers really know about their seats and if they use all the features and adjustments. It should be stated that we have both been in contact with VT test drivers and regularly truck drivers. The data we have gathered might therefore be a bit misleading because the test drivers have a substantial share of knowledge that is unique for them. But it is also very interesting to get such varied opinions and views about the seat. Since between 54 per cent and 77 per cent of the drivers have given answers to the different features in this question, it is a question whether or not the result is really valid, at least this is something that needs to be taken into the consideration when reading the survey. Some drivers do not have all the features mentioned in the questionnaire and therefore they have not given any answer. Another possible reason is that all drivers do not exactly know what the different features are. In this survey truck drivers with VT, RT, Scania, MAN, DAF, Iveco, and Mercedes were participating. We have been given all answers in percentages and due to the fact that VT and Scania trucks are clearly over represented in this study compared to the other truck brands the result might be a bit misleading. There was, for example, only one Renault driver participating in

the survey. The overall opinion is, regardless of truck or seat brand, the drivers are satisfied with most of their features.

The features that have received the best result are the “Lumbar support”, and the “Size and positioning of buttons”. The reason for this could be that a lot of development has been done on renewing and making the control buttons clear and easy to use. It is the same thing for the lumbar support, as it is an essential part of the seat and this is something the seat manufacturers prioritise and consider as important. The worst results concerned the features “Belt-In-Seat” and “Front tilt adjustment”. Even though the Belt-In-Seat function is an appreciated feature, the belt is considered to rub against the neck in an uncomfortable way. The front tilt adjustments proportionately bad result could be a bit misleading for Volvo 3P since most Volvo drivers and the only Renault driver participating in the survey consider this as rather good. Another problem that makes us a bit unsure about the reliability of our survey is the fact that we do not know how much knowledge the drivers have about the different features in the seat. From sources at Volvo we have learned that VT is the only truck brand that offers ventilated seats. In our survey several drivers with other truck brands say that they have this feature. The drivers probably believe they have this feature even if they do not.

5.3.2 The Importance of Removable Seat Cushions - Research Problem C

Our empirical findings have shown that the truck drivers participating in our survey in general consider removable seat cushion as a good idea and something they would like to have in the future. Two drivers actually stated that they already can do this with their seat and they think it is an excellent feature that should be developed and be more common in the future. This option makes it possible for the drivers to make more choices of their own and influence the specific purchase of the seat. Since a substantial share of the

drivers considers their seats as being too hard, this is a great opportunity for them to choose the hardness and the thickness of the cushion for themselves. Some drivers would then obviously choose to have a softer seat. Since the seat cushions often wear out before the actual seat frame or seat platform does, it is an interesting idea to have the possibility to change the seat cushions instead of the whole seat. This is also a cheaper solution, but it requests that the seat platform be very strong and durable. Obviously some drivers do not consider removable seat cushions as a very good solution. Some drivers do not see the point of having it and some do not believe the seat is as durable and stable as it is now. In case of a common seat platform, it is Volvo 3P's responsibility to make sure that the future seats are just as good as or even better than they are now. It is also the organisation's responsibility to persuade the drivers that this is a good solution and make the drivers understand that this is a positive development and not just a cost efficient solution for the brands that do not benefit the end customers.

5.4 Conclusion of Analysis

Related to Research Problem A, we have analysed the impact of a common seat platform and the role of the suppliers and the brands.

Related to Research Problem B, we have analysed the importance of corporate core values, the impact of core values, the meaning of core values for suppliers as well as future core values.

Related to Research Problem C, we have analysed the increasing focus on the end-customer, the Truck Driver Survey and the importance of removable seat cushions.

Chapter 6

6. Results, Conclusions, and Recommendations

In this final chapter we provide the reader with the conceptual discussion regarding our three research problems and our main problem. Although the questions are very much linked to each other, the chapter will answer the questions separately. The chapter starts with a results section, continues with our conclusions and ends with our recommendations.

6.1 Purpose

In chapter one, we presented the purpose of this thesis which was to investigate the possibility and attitudes towards having a global seat family for Volvo 3P.

In the purpose we wanted to find the answers to:

1. Attitudes to common seat families among the truck brands.
2. Seat suppliers' attitudes of producing similar seat platform for VT, RT and MT.
3. If or how each truck brand's uniqueness and distinctiveness will be affected.
4. End-customers opinion about the seats.

Our research problems A, B and C have investigated these statements and they will be answered in this chapter.

6.2 Research Problem A

“Investigate the possibilities of whether or not it is possible to create one common seat platform?”

6.2.1 Results Problem A

Our study shows:

1. It is possible to implement a common seat platform in all three truck brands within Volvo 3P.
2. People's attitudes and perceptions towards a common platform are in general positive. It is the level of adjustments required in order to succeed with this idea that differs among the people we have been in contact with at VT, MT, and RT and Suppliers 1, 2 and 3.

According to our empirical findings it is possible to implement a common seat platform in VT, RT and MT. This finding is based on knowledge from engineers and market- and product planning representatives so both technical and commercial aspects are involved. Today's seats are different from each other both in terms of features and seat platform, but despite this, the persons we have been in contact with are positive about implementing a common seat platform. Each supplier has different opinions about how much needs to be adjusted in order to have a common platform. The three truck brands have different safety tests and other regulations that suppliers need to take into consideration in case of delivering common platforms globally. Supplier 1 believes that a rather substantial part of the adjustments needs to be done in order to succeed. From our findings, they are the only supplier that has experience with this and has conducted a crash test with a Renault truck according to VT crash test demands. Regarding the outcome of this experiment, much needs to be changed and done in order to have a common seat platform in VT, RT and MT. Probably due to the fact that Supplier 1 have more knowledge about all three brands, they believe that a substantial part of the adjustments needs to be made before a common seat platform becomes reality. Supplier 3 believes it is technically possible and it is also compulsory with a common seat platform in order to be cost efficient. Supplier 3 delivers to MT and does not seem to have that much knowledge about the rest of the brands. Supplier 2 states that the seats are similar today and only small adjustments need to be

made in order to implement a common platform. The biggest challenge is VT's high requirements that either need to be decreased or the other brands need to adapt. Supplier 2, that manufactures seats for MT and VTNA has corporate knowledge about both brands and knows that the seats of today differ a lot among the brands.

A common belief for all seat suppliers is that the seats need to be differentiated and distinguished from each other in terms of different cushions and upholstery.

6.3 Research Problem B

“How do the brands’ core values reflect on the seat product?”

6.3.1 Results Problem B

The study we have conducted shows:

1. Volvo 3P corporate values and each truck brand's core values have an impact on the seat product.
2. The seat suppliers' definition the truck brands core values are in general similar to VT's, RT's and MT's definitions.

Our study shows that the corporate values for Volvo 3P are the same as VT's core values of safety, quality and concern for the environment. These values are also defined similarly and therefore this is considered as an advantage for VT as these values are already implemented in the organisation. Although Volvo 3P has corporate values each truck brand has retained its own specific core values that are based upon customer perception. Our study shows that both the corporate values and the individual core values for each truck brand are evident in the seat. However, some of the values are invisible and some are visible. VT's core values are both visible, and invisible, and for example, the core value of safety can be an invisible value whilst the core value of quality can be a

visible one in terms of specific upholstery. Our empirical findings show that RT offers innovative products and this can be seen in the seat upholstery where new innovations are continually being developed. When it comes to efficiency, RT aims to offer products with high quality at a reasonable price and this core value is the most important one for RT. It is the most important one due to the fact that RT wants the customer to see them as a company offering high quality products with affordable prices. The core value of caring and daring has the purpose of giving the seat a warm feeling and the opportunity to produce a seat without knowing how the customers will react and how the perceptions will be. Through close customer contact, MT can offer seats that match the customer demands and this is also part of the core values of application excellence. The core value of durability and reliability is part of MT strategies to produce seats that have a long-term product life and that the seats are working as they should. In our study we have also investigated how the seat suppliers define the core values for each truck brand VT, RT and MT. The result is that in general the definitions from the suppliers match the definitions from each truck brand. There are only small differences found between the suppliers' and the truck brands' definitions of the core values. Our study shows that the brands' definitions are better developed than the suppliers are, and this could be a reason for the existing differences.

6.4 Research Problem C

“What attitudes and knowledge do the end-customers have about the truck seat?”

6.4.1 Results Problem C

The study we have conducted shows:

1. The truck drivers' attitudes towards their seats are in general positive and most drivers are satisfied with their seats. The drivers' knowledge about their seats varies significantly depending on what type of driver you ask.
2. The findings from our Truck Driver Survey are similar to other surveys that have been conducted globally and this makes our survey rather reliable.

Our Truck Driver Survey, which includes many different truck brands, shows that regardless of truck brand most drivers are satisfied with their seats and consider them as being better than they were in the past. According to the survey, Isringhausen is the most common seat brand that appears in Europe and the knowledge about other seats on the market is small. Even though most drivers have Isringhausen seats, only approximately half of the drivers actually know what seat brand their seat has. It is the comfort in the seats and all the different adjustments the seat has that the drivers are most satisfied with. The features the drivers are less satisfied with are the "Belt-In-Seat" and "Front Tilt Adjustment" functions. The drivers are positive about removable seat cushions that would be the case with a common seat platform. The strongest and most common argument for removable seat cushions is the opportunity for the drivers to choose what cushions they want for themselves. Since many drivers consider the seats as being too hard they could thus pick a softer one. Other arguments for having removable cushions are the opportunity to change cushions before the whole seat wears out and it is also a cheaper solution than the old traditional seats. Our study is more reliable due to the fact that our results are similar to the results of the surveys that have been made within Volvo 3P in other parts of Europe and South America.

6.5 Main Problem

"How to find synergies and still keep the brand distinction on product level within VT, RT, and MT?"

6.5.1 Results Main Problem

Our findings show;

1. Each truck brand within Volvo 3P should, in order to find synergies, be both observed separately and compared to each other.
2. The brand distinction lies in each brand's unique seat cushions and upholstery. It is not in the seat platform itself.

Although our results relate to each of the three research problems, some results can be transferred to this main problem in general. It is very important to sometimes or in some occasions observe VT, RT, and MT separately in order to get more detailed information about each brand and to really see what links, respective distinguishes the brands. In order for the organisation to be successful and competitive in the future, some activities need to be shared among the brands and some need to be more decentralised and be the responsibility of each truck brand. Our empirical findings have shown that the seats do not differ very much in the actual seat platform. It is the cushions and upholstery that differ the most and should continue to do so. It is the three brands' worst scenario that they will be too much like each other and not have anything special that attracts their specific target market. After observing Volvo 3P's three main seat suppliers and taking into consideration what they offer their customers, we have created new global seat families for Volvo 3P to use in the future. In order to decrease the part numbers and decrease the huge variation of seats, the idea that the three brands should offer global seat families is an excellent solution. It is also efficient for VT, RT, and MT to have the same seat names globally and that will be the case with the new seat families. Looking at the different seats supplied to VT, RT and MT by Supplier 1, 2 and 3 we have seen a pattern of similarities and an opportunity to create common seat families. When developing these new seat families for Volvo 3P we have to take into consideration the differences between the seats supplied especially

to the American market and to the European market since the two markets have different demands on their seats and there are differences when it comes to the customer choice of seat.

6.6 Conclusions

Our conclusion is based upon the result of Research Problem A, B, C, the main problem and also through our theoretical study. This section includes conclusions from the analysis that the authors wish to highlight. The foundations of the conclusion are the analysis of Volvo 3P's current seat situation and how the situation might be developed in the future. This section contains some of the conclusions, which have a more long-term view and are more general and strategic issues.

6.6.1 Common Seat Platform

We believe that it is a good idea to implement a common seat platform in all three truck brands within Volvo 3P. Our belief is based on the knowledge from the research in expertise and on the fact that we consider this as a great opportunity for the brands to be more united and gain advantages from a more similar organisational culture. This process demands that all units within the Volvo 3P organisation are involved in this product development process, not only the purchasing departments, in order for this process to be successful. If not all concerned parties agree this is an opportunity both internally and externally, it could never be a winning project. Internally we mean of all employees within VT, RT, and MT, and externally we mean all suppliers and customer segments. We consider Supplier 1 as the supplier that has the greatest knowledge about all three truck brands within Volvo 3P and in our view they are the ones that should deliver the most luxurious seat type globally. They have delivered seats to VT for 27 years and it is VT that uses the most luxurious type of seats. There is no idea for the other brands to do this because

their customer segments do not require this. Supplier 3 admits to not having a substantial knowledge about the European market and in order to succeed in delivering seats globally, they need to find out more information about both the brands VT and RT and their respective customer segments. There is a similar situation for Supplier 3. Even though they deliver both to VTNA and MT they have not yet entered the European market and in order to do this, market surveys with customers needs to be made in order to find out what these want to have in their seats.

6.6.2 The Importance of Core Values

We do not think a common seat platform with removable seat cushions is a threat for each truck brand to become too much alike. We judge each brand's core values as being so strong that each will survive and still be evident on the seat product. VT will for example never restrict their safety regulations and in our minds this will continue being a competitive advantage for the Volvo brand. The corporate values that are the same for Volvo 3P are however, an opportunity to strive in the same direction towards common values. We believe this is important if the organisation is to continue being successful and be able to co-operate. On the other hand, we see it as a potential risk that all three truck brands adopt the corporate values and define them in the same way which will decrease the distinctiveness among the brands. Even though RT are striving for having high quality seat products their customers are not willing to pay the higher price that VT customers pay for their seats. Because of this it is not really a threat to have the same corporate values. The brands clearly do not define the corporate values similarly and they do not prioritise them the same. The studies we have done show that the brands and the suppliers have similar definitions of both the corporate values and the core values. A reason why some differences exist could be that representatives from the truck brands have more knowledge and information about the values and have therefore given us

broader and more in-depth explanations of them. This is not very surprising, but in order for the suppliers to deliver what the brands want to have, it is important that Supplier 1, 2 and 3 focus more on each brand's core values and deliver in accordance with them.

6.6.3 The End-Customers' Opinion Regarding the Seat

The end-customers we have been in contact with through our Truck Driver Survey are in general satisfied with their seats and its features. Our results agree with the other studies made within the organisation. We think it is interesting to see that our results match the other studies that have been made globally within the organisation. We believe that this fact also increases the reliability of our study because we see that our result is valid in other parts of the world as well. All studies emphasise the importance of a good sitting comfort in the seat and it is the comfort that is significant to focus on in the future when developing new seats. This is why we consider it so essential to have removable seat cushions. Then the drivers can choose for themselves what hardness and other comfort factors they want to have in their seats. Today, the seat cushions often wear out before the actual seat platform does, and the idea with removable cushions is an opportunity to create a longer life cycle of the seat. We consider the opportunity with removable seat cushions as a primary solution that is appropriate for long haul drivers who spend many hours in a row in their trucks. We think that for trucks that have many different drivers with their own removable seat cushions, there is a risk of an early deterioration of the seat platform.

6.6.4 Global Seat Families for Volvo 3P

In accordance with the common seat platform with removable seat cushions an opportunity for the organisation exists to create global seat families. Through our empirical findings we have created global seat families for Volvo 3P. These

new families are based on the type of seats that are offered by the three mail seat suppliers today. Our studies show that it is, for example, only Supplier 1 that supplies the most luxurious of seat and they supply it to VT and VTNA. No other supplier or truck brand matches this level. The other truck brands within Volvo 3P do not find it important to have this kind of seats, offering all these features and functions, since their customer segments do not demand this. This is important to remember when choosing which supplier should supply which seat in this possible upcoming process. The best choice according to our findings would be if one supplier specialised in manufacturing one seat family and another supplier specialised in manufacturing another seat type. Then there is a greater chance that the price level can be lower and that the products are better because the suppliers feel more pressure from each other.

6.6.5 Suggestions for Implementing a Common Seat Platform

In our opinion it is essential that in order to succeed with the work of implementing a common seat platform with removable seat cushions and global seat families, technical aspects should be investigated more carefully. The common platform needs to be tested by Volvo 3P in all the truck brands according to their specific requirements and tests. We have found from the seat suppliers that this would be possible but how to manage this is not yet confirmed and needs further investigations. We consider possible common seat families as an opportunity for Volvo 3P to be more united in the future and it is also a competitive advantage in terms of cost reductions. In order to succeed with the work of both developing and implementing the common seat families it is of great importance that the brands are united and can agree upon specific seats. Even though the seats will differ a bit between the brands, and the VT brand will continue with developing the most luxurious variant of seats it is essential that the brands agree upon certain facts, features and solutions. It is also crucial that the brands agree upon which supplier will supply what and that

these suppliers will agree upon this and consider this as an opportunity for them as well. We believe this will give the seat suppliers an opportunity to focus on their specialities. Instead of delivering a wide range of different seats, they can focus on a special type and make this type even better and more competitive on the market. It is the responsibility of Volvo 3P to convince the suppliers that a common seat platform with removable seat cushions and common seat families is a worthwhile idea.

6.7 Recommendations

In this concluding section of our final chapter we will develop some, in our minds, appropriate recommendations. Our analysis chapter has identified specific shortages in the implementation process of a common seat platform with removable seat cushions and global seat families. This will be elaborated further in our recommendations.

6.7.1 Management and Employee Support

After our time at Volvo 3P, we conclude that there exists organisational resistance towards implementing the common seat platform globally and the global seat families by some parties in the Volvo 3P internal organisation, especially from RT. It is a task of the management to decrease the resistance and change the sometimes negative attitudes. We believe it is true that it is not only the necessity for the management's responsibility to be committed, but also to sell the concept to the concerned parts of the organisation so the whole global organisation works, and is aligned in the same direction.

6.7.2 Willingness to Change Current Practices

VT, RT, and MT are organisations that have existed for decades, with practices and procedures that are deeply rooted in the organisation. A change in the core values, in the supplier structure and in the seat outcome calls for a change in

current practises. Additionally, a change in the supplier base and in the seat outcome will perhaps mean that jobs will be lost. We believe that Volvo 3P must convince, on the first hand, the concerned parties and departments, and on the other hand, the organisation, that such changes are positive in the long run. Concerned parties must understand and have knowledge of why the change is made.

6.7.3 Willingness to Take Risks

We believe that a few persons within the Volvo 3P organisation have the perception that changing to global seat families and seats with removable seat cushions is concerned with increased risk exposure. Increased synergies and similarities have been argued to create problems in forms of lack of clear distinction from each other and in terms of that the customer gets confused. However, these arguments fail to communicate its meaning and reasoning.

Changes from the current situation can always cause problems, but it is not associated with these specific tasks. We have not found any confirmation that a common seat platform with removable seat cushions and global seat families is going to create problems for Volvo 3P. There might be specific factors that influence, and they should be considered when implementing global seat families. However, it is the organisations responsibility to come up with answers to reduce those specific factors. Changes within organisations, like the potential one with a common seat platform and new global seat families, are always related to possible problems. These risks have to be reduced as much as possible by implementing an instrument or tool that can identify potential threats.

6.7.4 Eliminate Prejudices

Volvo 3P has implemented prejudices (in terms of scary scenarios with truck brands offering the exact same product) and has not convinced all parties in the

organisation about the potentials of being more alike. Since the acquisition is a fairly new occurrence, all parties might not have got used to the new organisation. Before the acquisition VT, RT, and MT were competitors on the market, and they still are, but in a different way. It takes time for management and employees, not to mention all the customers, to adjust to new organisational forms and changes, both internally and externally. We believe that not all people are happy and satisfied with this and it is of great importance that Volvo 3P eliminates prejudices that could harm the perception of future possibilities. Creating “success stories” from similar businesses and transferring this knowledge within the organisation globally can be one way to change the perception. This is not only the case with truck seats but with all kinds of products and services within Volvo 3P and other organisations.

6.8.4 Future Work and Actions

The next step in the work with implementing a common seat platform with removable seat cushions and global seat families must be to investigate the different suppliers further in order to find out whether or not they are interesting in delivering such a product. It is also important to investigate if it is possible that one supplier delivers one seat family that they are specialised in and another supplier manufactures another one. Due to the fact that Suppliers 2 and 3 are actors on the American market, it is essential that they gain deeper knowledge about the European market and find out what these customers want in their seats. There must also be an ongoing dialog between the three truck brands within Volvo 3P regarding this product development project and find out if all concerned parties are on the same level and agree on approximately the same goals and actions. In order for this to succeed, it is essential that all parties strive in the same direction and aim for the same goal.

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Appendix 1 Seat Explanations

Features		Description
Neck support		Headrest
Backrest adjustment		Adjustment for the back cushion.
Height adjustment		The possibility to adjust the seat vertically.
Length adjustment		Makes it possible to move the seat back and forward.
Lumbar support adjustment		Cushion supporting the back, can be adjusted
Front tilt adjustment		The possibility to adjust the front of the sitting cushion up and down.
Air suspension/suspension unit		Suspension in the seat platform.
Ventilation		Air ventilation in the seat.
Belt in B-pillar		The normal attachment pillar of the belt.
Belt in seat		The belt is attached in the seat itself.
Slide seat		The possibility to move the whole seat horizontal.
Adjustable shock absorber		A function that reduces shocks.
Heated cushions		The possibility to get the seat warm.
Fore and after isolator		Horizontal shock absorber.
Seat cushion extension adj.		The possibility to move the sitting cushion horizontally.
Foldable backrest		The possibility to fold the backrest cushion forwards.
Memory height position		A function remembering the former adjustment.

Features		Description
Armrest		Support for the arms on the sides of the seat.
Swivelling base		The seat has the possibility to spin.
Side support adjustment backrest		Side cushions supporting the back.
Memory general		A function remembering several different adjustment positions.
Seat belt pretensioners		A safety function withdrawing the seat belt.
Foldable seat cushion/short base		The possibility to fold the sitting cushions upwards.
Seat belt reminder		Electronic reminder of using the seat belt.
A-shift controls/l-shift controls		Automatic gears/manual gears in the armrest.
Speaker or microphone in headrest		Handsfree phone
Shoulder adjustment		The seat supports the drivers shoulders
Pneumatic seats		A seat's adjustments are controlled by air.
Trim style		The appearance of the upholsters.
Static seats		Seats without suspension.
Tethers		The seat belts holding.

Appendix 2 - Interview guide

(to Supplier 1, Supplier2, and Supplier 3)

1). In your opinion, if you would deliver seats to Volvo, Renault and Mack; what would the biggest difference be between the seats manufactured to Volvo compared to those to Renault and Mack?

- a). in terms of features?
- b). in terms of seat platform?
- c). in terms of other aspects?

2). Do you think there would be different costs for producing a similar Volvo, Renault and Mack seat?

Which one do you think would be the most expensive one and why?

3). In your opinion, looking at, Volvo Renault and Mack internal demands on their seats – how do the three truck brands demands differ the most?

4). What about safety regulations? Would you have to consider the three truck brands different safety regulations when producing the seats?

If yes, how and where can this be “seen” in the seat?

5). Do you think that the seats to Volvo, Mack and Renault would be so similar that they, with only small adjustments, can be installed in both trucks and still fulfil each brands requirements et cetera?

According to your knowledge, would it be technical possible?

Is it possible to have the same seat platform in both USA and Europe?

6). Would it be possible to have the same seat platform in both Volvo-, Renault- and Mack Trucks?

7). Do you have any knowledge about what kind of crash tests (sledge tests etc) Volvo, Renault and Mack expose their seats to? Do the different brands tests differ a lot?

8). The following “words” are Volvo-, Renault- and Macks core values. Please define them according to Supplier 1/Supplier 2/Supplier 3 Company opinions and policies.

What are Supplier 1/Supplier 2/Supplier 3’s opinion concerning those “words”:

- Safety
- Quality
- Environmental thinking
- Innovation
- Efficiency
- Friendliness
- Realibility
- Durability
- Customer contacts
- Application Excellence

Appendix 3 – Truck Driver Survey

Made by: Carin Björn & Sara Carlzon



53 Truck drivers were interviewed
- All male

Truck stops:

Stigs center – Gothenburg
Komarkens Trafikskola - Gothenburg
Erikssons Åkeri KB Jan A - Gothenburg
Oljehamnen - Gothenburg
Hällered – Gothenburg
Stena Line – Jutlantica Ferry

Length & Weight:

Length: 165 - 170cm	Weight: 70 – 90kg	6 Drivers
Length: 175 – 185cm	Weight: 67 – 85kg	16 Drivers
Length: 175 – 185cm	Weight: 90 – 115kg	16 Drivers
Length: 186 – 195cm	Weight: 75 – 100kg	12 Drivers

94% of the Truck Drivers have answered this question.

Driver's Nationality



1 Norwegian



26 Swedes



20 Danes



2 Germans



1 British



2 Finns



1 Dutch

Question 1

What brand has your truck?

Volvo: 25 Scania: 16 Mercedes: 2 Renault: 1 Iveco: 2

MAN: 3 DAF: 4

How old is your truck?

Age: **No. of truck drivers:**

2003	11
2002	7
2001	5
2000	6
1999	10
1998	1
1997	4
1996	4
1995	2
1987	1
Don't know	2

What is your truck's area of activity/business area?

Activity/ business area: **No. of truck drivers:**

Test-driving:	8
Long haul driving:	31
Distribution:	1
Driving practice:	1
Tank lorry:	6
Container truck:	1

91% of the Truck Drivers have answered this question.

How long do you sit and drive before taking a break?

Time of driving:	No. of truck drivers:
20 min	1
30 min	1
1-2 hrs	7
3-4 hrs	1
4-5 hrs	20
8-9 hrs	7
9-10 hrs	2
11-12 hrs	1
13-15 hrs	1
Varies	2

81% of the Truck Drivers have answered this question.

Question 2

Do you have cruise control in your truck?

Yes: 43 No: 5 Don't know: 5

Question 3

What brand has the seat in your truck?

Seat brand:	No. of truck drivers:
Isringhausen	22
Bostrom	2
Don't know	26
Other	3

(Brand: 1 Truck driver had a Recaro seat.)

Question 4

For how long time have you had your seat?

No. of truck drivers:

The same as the truck:	33	
New:	2	
Half a year:	2	
One and a half year:	2	
Four years:	2	
Different seat all the time:	8	(test drivers)
Don't know:	5	

Question 5

Are you satisfied with your seat?

- 72% of the truck drivers with Iringhausen seats are satisfied.
- 100% of the truck drivers with Bostrom seats are satisfied.
- 14% of the truck drivers with other seat brands are satisfied.
- 14% of the truck drivers with Iringhausen seats and 4% of the truck driver who do not know his seat brand, do not have an opinion.
- 14% of the truck drivers with Isringhausen seats are unsatisfied.
- 66% of the truck drivers with other seat brands are satisfied with their seats.
- 8% of truck drivers who do not know their seat brands, do not like their current seats.
- 54% of the truck drivers who do not know their seat brands are satisfied with their seats.

89% of the Truck Drivers have answered this question.

Most of the truck drivers are satisfied with their current seats, no matter what type of seat brand or truck brand they have. There are a small number of drivers who do not have an opinion or do not like their seat brand.

Question 6

What is the best with your seat? (? = unknown seat brand)

Positive remarks:

- Good for your back. (1 Volvo Isri, 1 Volvo Recaro, 2 Volvo ?)
- A lot of different and excellent adjustments of the seat. (5 Volvo Isri, 2 Volvo ? ,4 Scania ?, 1 Iveco ?)
- Good adjustable air suspension, easy to adjust. (1 Scania Isri, 1 Scania Bostrom, 1 Scania ?, 1 MAN Isri)
- Continuously adjustable. (1 Scania ?)
- Good sitting comfort (2 Scania Isri, 1 Volvo ?, 1 Mercedes ?, 1 Scania ?)
- The possibility to lean the seat forward. (1 Volvo Isri)
- Isringhausen deluxe seats are very good as you can adjust the seat very easily, you change position many times during driving. (1 Volvo Isri)
- The shape of the seat. (1 MAN ?)
- Belt-In-Seat. (1 Volvo ?)
- Heated cushions. (1 Volvo ?, 1 Scania ?)
- Good armrests. (1 Volvo Isri)
- Ventilation. (1 Volvo Isri)

65% of the Truck Drivers have answered this question.

The most common answer for positive remarks is the different adjustments on the seat. The truck drivers also think that the sitting comfort is very good in their seats.

Question 7

What is the worst with your seat? (? = unknown seat brand)

Negative remarks:

- No adjustable air suspension. (1 Renault Isri)
- Not satisfied with the durability of the seat. (1 Scania Isri, 1 DAF Bostrom)
- No continuously adjustable. (1 Scania ?)
- Hard to adjust the air to a desired level in the sitting cushion. (1 Scania Isri)
- Uncomfortable sitting comfort. (1 Iveco Isri, 3 Volvo ?, 3 Volvo Isri, 1 Scania ?, 1 DAF ?)
- Placement of control buttons. (1 Volvo Isri)
- BIS, the belt-in-seat is rubbing against the neck. (1 Volvo Isri)
- For shorter drivers it is not possible to come further down to the right sitting position. (1 Volvo Isri)
- Isringhause seats are dangerous for your back. (1 Volvo Recaro)
- The foldable seat cushions are better on the manual seat. (1 Volvo Isri)
- The seat is unstable. (1 Volvo Isri)
- Not so many adjustment possibilities. (1 Volvo Isri)
- The seat cover, especially leather. (1 Volvo ?)
- The length adjustment. (1 Volvo ?)
- The backrest and armrest. (1 Scania ?)
- It does not tip back enough. (1 Mercedes ?)

47% of the Truck Drivers have answered this question.

The most common answer on the worst thing about the seat is the uncomfortable sitting comfort. Otherwise the truck drivers seem to have a lot of different opinions on this question.

Question 8

How is the seat you have today compared to that/those you have had before? (? = unknown seat brand)

- The seats are much more comfortable today than they were before. (2 Volvo Isri)
- Today's seats are very good, the development of seats has gone forward. (7 Scania ?, 2 Scania Isri, 5 Volvo Isri, 2 DAF ?, 2 Man ?, 1 Mercedes ?, 1 Iveco ?, 3 Volvo ?, 1 DAF Bostrom.
- Volvo's seats are better because they are continuously adjustable . (1 Scania ?)
- Isringhausen's seats are much better than BeGe seats. (1 Scania Isri)
- The adjustments of today's seats are much better. (1 Volvo ?)
- The seats of today are worse compared to the one the drivers have had before. (2 Volvo ?)

58% of the Truck Drivers have answered this question.

In general the truck drivers like their current seats better than the one they had before. Many of the drivers argue that it depends on the ongoing development that makes today's seats better than the old ones.

Question 9

Which seat brand do you prefer? (? = unknown seat brand)

- Prefer the current seat brand. (1 Scania ?)
- Prefer the seat brand in Volvo Trucks. (1 Scania ?, 1 Volvo ?)
- Prefer Isringhausen's seats, better sitting comfort. (1 Scania Isri, 2 Volvo Isri, 2 Volvo ?, 1 MAN ?, 1 DAF ?)

- Prefer the seat brand in the Actros Truck. (1 Volvo Isri)
- Prefer Bostrom's seats. (1 DAF Bostrom, 1 Volvo ?, 1 Scania ?)
- Prefer the seats in Scania- and Volvo Trucks. (1 Scania ?)
- Prefer the seat in Mercedes Trucks. (1 Mercedes ?)

30% of the Truck Drivers have answered this question.

In general the truck drivers who have answered this question seem to want the same seat brand that they have today. On the other hand only 16 of 53 truck drivers have answered this question and this can be due to lack of knowledge of their current seat brands.

Question 10

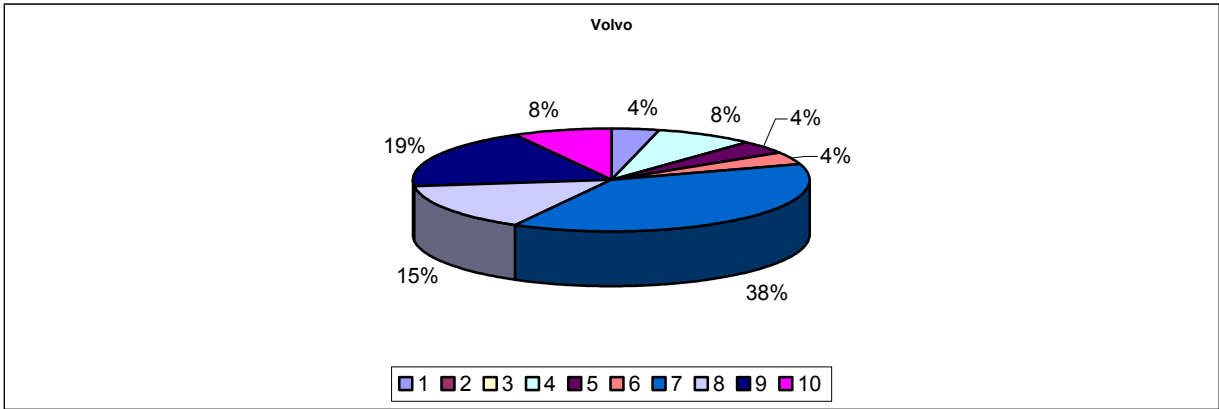
What do you think about your seat's sitting comfort from a scale 1 to 10 where 1 is lowest ranked? (? = unknown seat brand)

The data below shows all truck drivers opinions regarding the sitting comfort, no matter what truck- or seat brand they have.

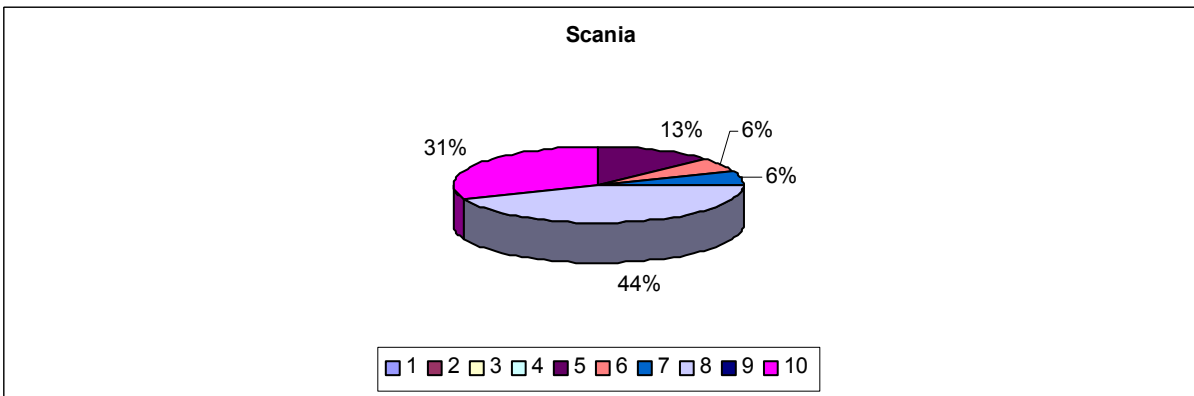
Truck brand, seat brand:	Grade, where 10 is highest ranked:	
DAF, Bostrom	10	
Scania, ?	10	4 truck drivers
Scania, Isri	10	
Iveco, ?	10	
Volvo, ?	10	2 truck drivers
DAF, ?	9	
Volvo, Recaro	9	
Volvo, ?	9	2 truck drivers

Volvo, Isri	9	2 truck drivers
MAN, ?	8	
MAN, Isri	8	
Mercedes, ?	8	
Volvo, Isri	8	2 truck drivers
Volvo ?	8	2 truck drivers
Scania, ?	8	4 truck drivers
Scania, Isri	8	3 truck drivers
DAF, ?	7	
Mercedes, Isri	7	
Scania, Isri	7	
Volvo, ?	7	3 truck drivers
Volvo, Isri	7	7 truck drivers
DAF, ?	6	
Iveco, Isri	6	
Scania, Isri	6	
Volvo, Isri	6	
Scania, Isri	5	
Scania, Bostrom	5	
Volvo, no seat brand	5	
Volvo, ?	4	2 truck drivers
Renault, Isri	3	
Volvo ?	1	

Most drivers have either Volvo trucks or Scania trucks and therefore the following pie charts are only made on these two brands.

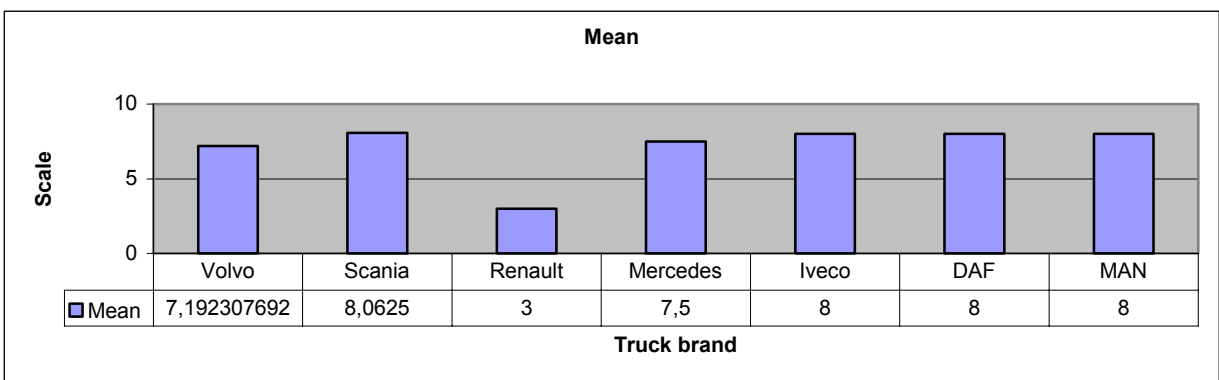


- 25 Truck drivers with Volvo trucks



- 16 Truck drivers with Scania trucks

The below figure illustrates the mean that each truck brand has on the scale of 1 to 10, where 1 is the lowest ranked.



In the table above we can see that Scania, Iveco, DAF and MAN are highest ranked with the mean of 8 or above. Volvo trucks and Scania trucks are the two truck brands that have more than four truck drivers that have been interviewed

and therefore these have been compared more in detail in terms of the above pie charts.

Question 11

What features does your seat have and what do you think about them? (? = Seat brand unknown)

Positioning and size of buttons

Very Good	2 Truck Drivers (1 Volvo Recaro, 1 DAF ?)
Good	15 Truck Drivers (3 Scania Isri, 4 Volvo Isri, 2 Volvo ?, 1 MAN Isri, 1 Scania ?, 1 DAF ?, 1 DAF Bostrom, 1 MAN ?, 1 Scania Bostrom)
Fairly Good	9 Truck Drivers (2 Scania Isri, 2 Volvo Isri, 2 Scania ?, 2 Volvo ?, 1 DAF ?)
OK	10 Truck Drivers (2 Volvo Isri, 1 Iveco Isri, 3 Scania ?, 1 Iveco ?, 1 MAN Isri, 1 DAF ?, 1 Volvo ?)
Not Good	-
Do not know	-
Do Not Have It	-

All buttons are placed on the left side of the seat except in the Recaro seat, which has them placed on the right side. Most truck drivers think it is hard to see them and it is too tight between the door and the buttons. However, in general the drivers are rather satisfied with their seat buttons but say they have become smaller than before.

68% of the Truck Drivers have answered this question.

Height adjustments

Very Good	-
Good	9 Truck Drivers (3 Volvo Isri, 3 Scania ?, 2 MAN ? 1 Volvo ?)
Fairly Good	13 Truck Drivers (2 Volvo Isri, 6 Volvo ?, 2 Scania Isri, 2 Scania ? 1 DAF ?)
OK	11 Truck Drivers (2 Volvo Isri, 1 Volvo ?, 1 Mercedes ?, 1 Scania Isri, 3 Scania ?, 1 DAF Bostrom, 1 DAF ?, 1 MAN Isri, Iveco ?)
Not Good	-
Do not Know	-
Do Not Have It	-

The driver with Iveco-Isri answered that this is the most used feature.

4 drivers with Isringhausen seats want to be able to get lower and these four also say that it is hard to adjust the height. This is the most used feature. One driver with a Volvo wants to be able to lower the seat more. Two drivers with Volvo-Isri seats argue that the buttons are too small and one driver with a Scania? seat says that it is difficult to adjust the seat.

62% of the Truck Drivers have answered this question.

Length adjustments

Very Good	-
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Good	8 Truck Drivers (3 Scania ?, 2 Volvo ?, 1 Volvo Isri, 2 MAN ?)
Fairly Good	9 Truck Drivers (2 Volvo ?, 2 Volvo Isri, 2 Scania ?, 1 Scania Isri, 1 DAF Bostrom, 1 DAF ?)
OK	12 Truck Drivers (1 Iveco ?, 3 Volvo ?, 2 Volvo Isri, 1 Scania Isri, 1 Scania ?, 1 MAN Isri, DAF ?, 1 Mercedes ?, Iveco Isri)
Not Good	-
Do Not Know	1 Truck Driver (1 Volvo Isri)
Do Not Have It	-

In general most drivers answering this question are satisfied with this feature. The drivers do not have any specific ideas or opinions about what is good and what is not so good.

57% of the Truck Drivers have answered this question.

Seat belt reminder

Very Good	-
Good	4 Truck Drivers (3 Volvo Isri, 1 Volvo ?)
Fairly Good	1 Truck Drivers (1 Scania ?)
OK	13 Truck Drivers (4 Volvo ?, 2 Volvo Isri, 2 Scania ?, 1 Scania Isri, 1 DAF Bostrom, 1 DAF ?, 1 MAN Isri, 1 Iveco ?)
Not Good	1 Truck Driver (1 MAN ?)
Do Not Know	-

Do Not Have It **10 Truck Drivers** (3 Scania ?, 1 Volvo Isri, 3 Volvo ?, 1 Man ?, 1 DAF ?, Mercedes ?)

There are 29 truck drivers that have answered this question and out of these 29 drivers, 19 of them have seat belt reminders. All except one are satisfied with this function.

55% of the Truck Drivers have answered this question

Lumbar support

Very Good

Good **11 Truck Drivers** (3 Scania ?, 3 Volvo Isri, 2 Volvo ?, 1 MAN Isri, 2 MAN ?)

Fairly Good **8 Truck Drivers** (2 Volvo Isri, 3 Volvo ?, 3 Scania ?)

OK **16 Truck Drivers** (1 Scania Isri, 4 Scania ?, 3 Volvo Isri, 4 Volvo ?, 1 Iveco ?, 1 DAF Bostrom, 2 DAF ?)

Not Good **1 Truck Driver** (1 Volvo Isri)

Do Not Know -

Do Not Have It **1 Truck Driver** (Mercedes ?)

Most drivers are satisfied with this feature. Two truck drivers who have Volvo trucks with Isringhausen seats think there is too little ability to adjust the lumbar support and therefore they do not use it very often. Another driver with a Volvo-Isringhausen seat has the opinion that the seat is difficult to adjust and it would be much easier if all seats had electrical functions. Two drivers with Scania trucks and one with a Volvo truck (seat brands unknown) believe the cushions are not very comfortable.

70% of the Truck Drivers have answered this question.

Front tilt adjustment

Very Good	-
Good	14 Truck Drivers (4 Volvo Isri, 2 Volvo ?, 3 Scania Isri, 1 Scania ?, 2 MAN ?)
Fairly Good	7 Truck Drivers (1 Volvo ?, 1 Volvo Isri, 2 Scania Isri, 1 Scania ?, 1 Mercedes Isri, 1 DAF Bostrom, 1 MAN Isri)
OK	14 Truck Drivers (1 Volvo Isri, 4 Volvo ?, 2 Scania Isri, 4 Scania ?, 1 Mercedes ?, 1 DAF ?, 1 Iveco ?, 1 Renault Isri)
Not Good	2 Truck Drivers (1 Volvo Isri, 1 DAF ?)
Do Not Know	-
Do Not Have It	-

Most drivers are rather satisfied with this feature. However, one driver with a DAF truck and one with a Volvo truck with an Isringhausen seat do not like it. They consider this feature to have too few adjustments and they want this feature to be continuously adjustable. Four of the drivers who are satisfied with their seats have the opinion that the front tilt adjustment is difficult to adjust.

70% of the Truck Drivers have answered this question.

Adjustable shock absorber

Very Good

Good	11 Truck Driver (4 Volvo Isri, 2 Volvo ?, 1 Scania Isri, 1 Scania ?, 2 MAN ?, 1 DAF ?)
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Fairly Good **12 Truck Drivers** (4 Volvo Isri, 3 Volvo ?, 2 Scania Isri, 1 Scania ?, 1 Scania Bostrom, 1 Mercedes Isri)

OK **17 Truck Drivers** (3 Volvo ?, 2 Volvo Isri, 3 Scania Isri, 4 Scania ?, 1 Iveco ?, 1 MAN Isri, 1 DAF Bostrom, 1 DAF ?, 1 Renault Isri)

Not Good

Do Not Know

Do Not Have It **1 Truck Driver** (1 Mercedes ?)

The drivers seem to be satisfied with this feature, especially those with Volvo trucks. Two drivers with Isringhausen seats (both in Volvo trucks) complain about when adjusting the shock absorber in order to come to the hardest level they seem to come too high up with their seats. One driver with an Isringhausen seat (Volvo truck) uses his adjustable shock absorber without air in order to come down a bit. Two drivers, both with Isringhausen seats in Volvo trucks, say that this function is just excellent.

77% of the Truck Drivers have answered this question.

Seat cushion extension adjustment

Very Good

Good **9 Truck Drivers** (4 Volvo Isri, 1 Volvo ?, 1 Scania Isri, 1 Scania ?, 2 MAN ?)

Fairly Good **7 Truck Drivers** (1 Volvo Isri, 3 Volvo ?, 3 Scania ?)

OK **16 Truck Drivers** (4 Volvo Isri, 3 Volvo ?, 2 Scania Isri, 3 Scania ?, 1 Iveco ?, 2 DAF ?, 1 DAF Bostrom, 1 Iveco Isri)

Not Good -

Do Not Know -

Do Not Have It 1 **Truck Driver** (1 Mercedes ?)

The drivers seem to be rather satisfied with the seat cushion extension adjustment. Three drivers want to be able to move the cushion further back and they say that it is not enough like it is today. One of them drives a Volvo truck with an Isringhausen seat and the other two have Scania trucks with unknown seat brands. Two drivers with Isringhausen seats in Scania trucks believe the adjustments are poor on this feature.

64% of the Truck Drivers have answered this question.

Memory Height Position

Very Good 1 **Truck Driver** (1 Volvo Isri)

Good 9 **Truck Drivers** (3 Volvo Isri, 2 Volvo ?, 2 Scania ?, 2 MAN ?)

Fairly Good 8 **Truck Drivers** (2 Volvo ?, 2 Scania Isri ? 2 Scania ?, 1 Scania Bostrom, 1 MAN Isri)

OK 7 **Truck Drivers** (2 Volvo Isri ?, 2 Volvo ?, 1 Scania Isri, 2 Scania ?)

Not Good -

Do Not Know -

Do Not Have It 9 **Truck Drivers** (1 Volvo Isri, 3 Scania ?, 1 Iveco ?, 1 DAF Bostrom, 2 DAF ?, 1 Mercedes ?)

The drivers who have this feature are fairly satisfied with it. There are quite a few drivers who do not have memory height position. Four drivers, two with Isringhausen seats and two seats of unknown brand (all with Volvo trucks),

want to have this function in their seats and hope to get electrical seats in the future. One driver with a Volvo truck and one with a Scania truck, both with Isringhausen seats, want the buttons to be on the right side instead of the left due to the shortage of space between the door and the seat on the left side

64% of the Truck Drivers have answered this question.

Air suspension

Very Good

Good **16 Truck Drivers** (5 Volvo Isri, 4 Volvo ?, 1 Scania Isri, 5 Scania ?, 1 MAN Isri, 1 MAN ?)

Fairly Good **14 Truck Drivers** (2 Volvo Isri, 3 Volvo ?, 4 Scania ?, 1 Scania Bostrom, 1 DAF Bostrom, 1 MAN ?, 1 DAF ?, 1 Iveco ?)

OK **5 Truck Drivers** (2 Volvo Isri, 1 Scania, 1 DAF ?, 1 Renault Isri)

Not Good

Do Not Know

Do Not Have It **1 Truck Driver** (1 Mercedes ?)

The drivers are satisfied with their air suspension. This seems to be one of the features that most drivers are satisfied with and it is especially the drivers with Volvo and Scania trucks who are most satisfied. However, two drivers with Scania trucks with Isringhausen seats believe the air suspension makes the seat come too high up. Another opinion that two drivers with Volvo trucks have (seat brand unknown) is that this feature has a slow reaction.

68% of the Truck Drivers have answered this question.

Shoulder adjustments

Very Good

Good **9 Truck Drivers** (2 Volvo Isri, 2 Volvo ?, 2 Scania Isri, 1 Scania ?, 2 MAN ?)

Fairly Good **6 Truck Drivers** (3 Volvo ?, 1 Scania Isri, 2 Scania ?)

OK **7 Truck Drivers** (2 Volvo Isri, 3 Scania ?, 1 MAN Isri, 1 Iveco ?)

Not Good **1 Truck Driver** (1 Volvo Isri)

Do Not Have It **9 Truck Drivers** (2 Volvo ?, 3 Scania ?, 1 DAF Bostrom, 2 DAF ?, 1 Mercedes ?)

Surprisingly is that there are so many drivers who do not have shoulder adjustments. Otherwise, among the drivers who actually have this feature, they seem to be rather satisfied with it. Two drivers with Scania trucks (seat brand unknown) want the adjustment to come further forward in order to support their necks. Four drivers with Volvo trucks (two with Isringhausen seats and two with unknown seat brands and two drivers with Scania trucks both with Isringhausen seats) have the opinion that the shoulder adjustment needs to be more comfortable. As it is now they argue that they only use it in the same position all the time.

60% of the Truck Drivers have answered this question.

Heated cushions

Very Good **1 Truck Driver** (1 Volvo Isri)

Good	13 Truck Drivers (3 Volvo Isri, 3 Volvo ?, 1 Scania Isri, 3 Scania ?, 1 MAN Isri, 2 MAN ?)
Fairly Good	7 Truck Drivers (2 Volvo ?, 3 Scania ?, 1 Scania Bostrom, 1 DAF Bostrom)
OK	9 Truck Drivers (2 Volvo Isri, 2 Volvo?, 1 Scania Isri, 2 Scania ?, 1 Renault Isri, 1 Iveco ?)
Not Good	-
Do Not Know	-
Do Not Have It	3 Truck Drivers (2 DAF?, 1 Mercedes ?)

Again, this feature seems to be very appreciated and most drivers are satisfied with heated cushions. However, two drivers with Volvo trucks (Isringhausen seats) think that the buttons could be both bigger and easier to find. They argue that today it could be dangerous to adjust this feature when driving. Three Scania drivers, all with unknown seat brands, argue that their seats can get way too warm and therefore it is not possible to use this feature. They want this function to have more different temperatures. Two Volvo drivers with unknown seat brands never use this feature because it is impossible to get the “right” temperature.

62% of the Truck Drivers have answered this question.

Ventilated seats

Very Good	-
Good	9 Truck Drivers (4 Volvo Isri, 3 Volvo ?, 1 Scania ?, 1 MAN ?)
Fairly Good	5 Truck Drivers (2 Volvo ?, 2 Scania ?, 1 Iveco ?)

OK	8 Truck Drivers (2 Volvo Isri, 1 Volvo ?, 4 Scania Isri, 1 Scania ?)
Not Good	-
Do Not Know	-
Do Not Have It	14 Truck Drivers (1 Volvo Isri, 3 Volvo ?, 4 Scania ?, 1 MAN Isri, 1 MAN ?, 1 DAF Bostrom, 2 DAF ?, 1 Mercedes ?)

Many of the drivers we have interviewed do not have this feature. However, almost everyone who does not have it wants to have it in their next seat. Four drivers, two with Volvo trucks and two with Scania trucks (seat brands unknown), state that the ventilation makes way too much noise. The same drivers plus two others with Volvo trucks (Isringhausen seats) say they can feel the fan through the upholstery. One of these says that if this is not going to be better in future seats, he does not want to have this function. The driver with the Iveco truck (unknown seat brand) was satisfied with this feature before, but now it is broken and it is hard to fix it. For this reason he is not very sure he wants to have a ventilated seat in the future.

68% of the Truck Drivers have answered this question.

BIS – Belt in Seat

Very Good	-
Good	8 Truck Drivers (3 Volvo Isri, 2 Volvo ?, 1 Scania Isri, 1 Scania ?, 1 MAN ?)
Fairly Good	7 Truck Drivers (1 Volvo ?, 1 Scania Isri, 2 Scania ?, 1 DAF Bostrom, 1 MAN Isri, 1 DAF ?, 1 Mercedes Isri)

OK	13 Truck Drivers (2 Volvo Isri, 4 Volvo ?, 1 Scania Isri, 3 Scania ?, 1 DAF ?, 1 Iveco ?, 1 Renault Isri)
Not Good	3 Truck Drivers (3 Volvo Isri)
Do Not Know	-
Do Not Have It	4 Truck drivers (1 Volvo Isri, 1 Volvo ? 1 MAN ?, 1 Mercedes ?)

The opinion about this feature is rather mixed. Some truck drivers like this function a lot and some do not. Six drivers, three with Volvo trucks (seat brands unknown), two with Scania trucks (Isringhausen seats) and one with a Renault truck (Isringhausen seat brand), complain that the belt rubbs against the neck and therefore they consider it as uncomfortable. They also argue that due to this they rarely or never use the seat belt. Three Volvo drivers (two with Isringhausen seats and one with unknown seat brand), want the BIS to be movable so that it could fit more drivers, independent of weight and length. As it is now you can only use the belt in one position.

66% of the Truck Drivers have answered this question.

Question 12

Would you like to have Removable seat cushions?

Yes	35
No	13
Already have it	2 (1 Volvo ?, 1 Volvo Recaro)

Most of the truck drivers interviewed would like to have removable seat cushions. Three Volvo drivers (Isringhausen seat) consider this being excellent because then you can choose other cushions and get softer seats. This gives the driver an opportunity to choose what he or she wants for himself/herself. Two Scania drivers (seat brand unknown) argue that it is easier to only replace the cushion than change the whole seat when the cushions are worn out. (According to them this always happens before the whole seat is worn out). One driver with a Scania truck (Isringhausen seat) says that it will be much easier to clean the seat if the cushions are removable.

Some drivers also have negative remarks on removable seat cushions. Three drivers, one Volvo (seat brand unknown), one Scania driver (seat brand unknown) and one Renault driver (seat brand unknown), do not see any point in having removable cushions and those also wonder if it would really work for heavier men? Will the cushions be as stable as in the past? Will the chassis be of the same quality and will it hold?

94% of the Truck Drivers have answered this question.

Question 13

What other features would you like to have in your future seat?

Volvo Isringhausen

Four drivers want the seats to be softer. Two drivers want to have better sitting comfort and better upholstery. Two drivers argue that the seats have bad quality and that the seats wear out too fast. Three drivers want the adjustments buttons on the seat to be more clear and easier to find. Today it is sometimes hard to find the right button when making a certain adjustment. They argue that it would be easier to find the right button if they looked different. Three drivers also want to have continuously adjustable adjustments.

Volvo, seat brand unknown

Two drivers want to have softer seats.

Volvo Recaro

This driver wants to be able to adjust the seat cushion extension further forward towards the steering wheel.

Scania Isringhausen

One driver wants to have ventilation and coldness in the backrest cushion. Two drivers want to have better shoulder adjustments, since today they are totally worthless. Three drivers want the seats to be of better quality as today they wear out way too fast. Two drivers also want massage features in their seats.

Scania, seat brand unknown

Two drivers want electrical adjustments (they do not seem aware about that this already exists in some seats). These drivers also want AC in their seats and another driver wants memory functions so he does not have to make all adjustments when entering a cab.

Scania, Bostrom

This driver does not think there is anything to do about the seats. The cab is too little in order to do the changes he considers necessary.

Renault Isringhausen

This driver wants the shoulder adjustments to be more adjustable and be able to adjust them more forwards.

Comments

An overall opinion, regardless of truck- or seat brand, is that the seats need to be more comfortable in the future. Another opinion is that the seats need to be easier to adjust. A couple of drivers also complain about the shoulder adjustments and they want this to be better in the future. Most of the things the drivers want in the future are functions that already exist and only need to be better. The only “new” thing that occurred was a desire for massage in the seats.

Question 14

What brand will the next truck seat that you purchase have?

- Ten drivers want to have the same seat brand they have today. Out of these ten drivers six drive a Volvo truck and four drive a Scania truck.
- Four drivers with Volvo trucks (Isringhausen seats) want to have the same seat brand in the future.
- Three drivers with Scania trucks (Isringhausen seats) want to have the same seat brand in the future.
- One driver with a Scania truck (Bostrom seat) wants to have either a Bostrom- or an Isringhausen seat in the future.
- One driver with a Scania truck (Isringhausen seat) wants to have a Bostrom seat in the future.

- The driver with the Volvo truck (Recaro seat) wants to have the same Recaro seat in the future.

There are quite a few drivers who have not answered this question. Our conclusion is that they do not know what seat they have today and in general they do not have very much knowledge about seats. Because of this they simply do not know what seat brand they want to have in the future. The drivers that have the strongest opinion about what seats they want to have are the test drivers at Hällered outside Gothenburg.

Conclusions

The average time the truck drivers spend in their trucks before break is between four to five hours. It depends on what activity of business the truck driver has and 58 per cent of the truck drivers are long haul distance drivers. Even though the drivers are rather satisfied with their seats, most drivers do not know what brand their seats have. It is mostly Volvo and Scania drivers that do not know their seat brand but this is probably due to the fact that these two truck brands are over represented in our survey. Isringhausen is the most common seat brand and we assume that the drivers who do not know their seat brand have Isringhausen seats. The drivers are in general satisfied with their seats, and the seat features that they are particularly satisfied with are all the different adjustments on the seats, the adjustable air suspension and the good sitting comfort.

The drivers also have quite a few negative remarks on their seats and the most common is, in contrast to what has been written above, the uncomfortable sitting comfort. It seems like the drivers are either satisfied or not with the

comfort in the seats. There is almost no more neutral opinion in between. It is Isringhausen, together with Bostrom, that are ranked to have the best sitting comfort in their seats. Overall, the drivers appreciate the seats and most drivers have

not had a better seat in the past. However, an overall opinion is that in the future the seats need to be softer and more comfortable. They also need to be easier to adjust and it should be easier to find the right buttons.

Most truck drivers have a positive attitude towards changing to removable seat cushions. By having this drivers can choose for themselves what cushions they want. It is also an advantage that they are able to replace the seat cushions when they are worn out. However, some drivers are negative towards this function, and quite a few of them are Danish. Our survey has not found out why this is the case. What seats the truck drivers want to have in the future is not very clear, but most drivers that have answered this question claim they want to have the same seat brand in the future as they have now. Most drivers today have Isringhausen seats.