Master's thesis

Fall 2004

Företagsekonomiska institutionen

Creating Lock-in for Trelleborg Shamban DK

- *an industrial company on a mature market*

Authors
Maria Eriksson
Tobias Johansson
Anna Malmberg

Professor
Lars Bengtsson

Summary

Title	Creating Lock-in for Trelleborg Shamban DK *- an industrial company on a mature market*
Date	January 25, 2005
Course	Master's thesis in business administration, 10 Swedish Credits (15 ECTS). Major: Strategic Management.
Authors	Maria Eriksson Tobias Johansson Anna Malmberg
Advisor	Lars Bengtsson, associate professor
Company	Trelleborg Shamban DK as part of Trelleborg AB
Key words	Lock-in, Lock-out, Delta Model, mature market, win-win
Purpose	Illuminate how current theories on Lock-in may be adapted to apply on and be of use for an industrial company acting on a mature market.
Methodology	A qualitative study of an industrial company selling both *innovative* and *mature products* to a *mature market*. The case study has a hermeneutical approach for understanding and interpretation. The empirical material has been analyzed using a theoretical frame of reference examining the company's possibilities for creating different kinds of Lock-In. The study has an abductive character, allowing us to use historical theory whilst concurrently creating our own conclusions from the empirical material.
Theoretical perspective	Mainly theories developed by N. Singh, A. Hax, and D. Wilde II have been used when examining the empirical data. Moreover, notions from such authors as S. Söderman, E. Gummesson and P. Klemperer have been utilized.
Conclusions	If adequately adapted, different sources of Lock-in provide new opportunities for companies on mature markets. Neglecting the importance of creating Lock-in in win-win situations could possibly make them victims of their external environment.

INDEX

1 Introduction

The introductory chapter aims at presenting the objectives of this study as well as the problem discussion that has led to the final question at issue. Furthermore, the intention is to give a first insight in the chosen subject. We therefore commence this chapter with a general problem discussion, presenting fundamental information leading us to contemplate the urgency of the subject. The main question of this thesis is then presented. To further clarify the thesis' structure, the last section presents the disposition.

1.1 Background

"Mature businesses, with stable development, act in a known and easily predictable industry".[1] This has for long been a notion reigning encountering little or no opposition. However, *globalization*, *deregulations* and the *IT-revolution* have changed the competitive landscape for a long time to come.[2] It is no longer only the small businesses in introduction and growth markets that are affected. Predictable futures have become unpredictable, ensured sales have become unsure and stable development is a long gone truth. With the rapid development of today, competitive advantages are soon eroded and companies are left to compete over a more demanding, better informed and aware customer base.[3] This development has lead to a rapidly growing interest of *Lock-in opportunities*.[4]

The term Lock-in was at first often linked to notions regarding complementors and economies of scale and scope and it was first observed in the middle of the eighties. Nevertheless, the term is still controversial and companies often undertake strategies, deliberate or emergent, to create *Customer* and *Complementor Lock-in* and *Competitor Lock-out*. Locking in customers is not an official strategy but rather an underlying (and not outspoken) aim to create a connection with the customers as unique as possible. The uniqueness of the relationship serves the purpose of raising the switching costs for the customer and therefore making him/her loyal to the company for a long time coming. The best Lock-in activities are said to be undertaken without the customer's awareness. The theoretic literature and empiric investigation have however until now mainly depicted the effects of Lock-in on emerging e-commerce businesses. The novel relevance for more established

[1] Dess, G.G., Lumpkin G.T., (2003), "*Strategic Management – Creating Competitive Advantages"* , p. 180.
[2] Söderman, Sten, (2002),*"Affärsutveckling-med exempel från H&M, IKEA, ABB och Volvo"* p. 13
[3] Day, George, *"Strategies for surviving a shakeout"*, p. 94
[4] Hax, A., Wilde II, D. (2001) *"The Delta Model – Discovering New Sources of Profitability in a Networked Economy"* European Management Journal Vol 19, no 4, August, p. 379 pp.

industries' development and strategic options on a mature market is still highly ignored.

Trelleborg Shamban DK, hereafter referred to as TSDK, is member of the Swedish group Trelleborg AB and manufacturer of sealing solutions to businesses in mature markets. TSDK is one of the industrial companies experiencing the more and more challenging competitive climate, and has encountered increased customer demands on quality, security and environmental consciousness. The company has at the same time experienced a trend towards *commoditization* and even though quality, special features and guarantees are added to the sealing solutions there is an increased anxiety of losing the customers.

TSDK sells its products on mature markets as both first and second-tier supplier, and is often a part of a larger value-chain with end consumers constantly demanding lower prices as well as improved conditions. These conditions make the situation all the more complicated since the company is often dependent on many parties in the value-chain. With this background, the company wishes to find new strategic options to satisfy and retain customers, i.e. to create *customer bonding*.[5]

1.2 Problem discussion and problem formulation

From a theoretical perspective, the notions on Customer Lock-in were originally developed for e-businesses. However, the theoretical contribution of this study will be expanded beyond e-business, providing insights and developing the theories on Lock-in to also include how and why an industrial company active on a mature market should create Customer Lock-in.[6]

On a more practical level, the case company mainly aims at satisfying and retaining current customers that are often few but large and thus individually very important. It focuses on selling high-quality products and although originally differentiated, these are subjected to downward price pressure on its original markets, forcing TSDK to reduce prices.[7] The executives of the company have also expressed a concern about the customers' increasing disloyalty.[8] Yet, TSDK offers more ancillary services than ever before, and also shows a devotion to live up to commitments guaranteed by obtained certificates. Thus, Customer Lock-in effects could be of use. What kind of customer bonding does the company practice today? How can TSDK exploit the full potential of Customer Lock-in?

---

[5] Meeting with Winther, J., Sales and Marketing Manager, Product Management, and Ehnhuus, H., Sales and Product Manager, Commercial Department, TSDK, Helsingør, 2004-11-16
[6] E-mail correspondance with Singh, N., December 5, 2004
[7] Meeting with Lars Olof Nilsson, Senior Vice President, Business Development & Treasury, Trelleborg AB, 2004-10-06
[8] Meeting with Winther, J., Sales and Marketing Manager, Product Management, and Ehnhuus, H., Sales and Product Manager, Commercial Department, TSDK, Helsingør, 2004-11-16

Hence, the main question posed is:

Why and how should TSDK, an industrial company on a mature market, create Customer Lock-in?

The question will be discussed from both a theoretical and practical point of view.

1.3 Purpose

Illuminate how current theories on Lock-in may be adapted to apply on, and be of use for an industrial company acting on a mature market.

1.4 Disposition

The essay is structured as follows:

Chapter 1 - Introduction
The background of our study is presented, followed by the problem discussion and formulation. The objectives of our thesis are then described and put forward.

Chapter 2 - Method
Chapter two presents the procedure used when carrying out the study, interpretation strategies as well as form and method of examination. Furthermore, the way of collecting primary- as well as secondary data is discussed. The procedure of obtaining reliable data is also illuminated, followed by this study's limitations.

Chapter 3 - Theoretical framework
In chapter three a theoretical framework is built, forming the basis for the analysis. Earlier studies and published theories regarding the new economy and the rapidly changing world are depicted. Furthermore, theories and models presenting Lock-in and Lock-out are put forward. Main contributors to this chapter include: A. Hax and D. Wilde II, N. Singh, S. Söderman, E. Gummesson and P. Klemperer.

Chapter 4 - Empirical material
In the fourth chapter, data relevant for TSDK regarding its organization, business objectives, products and customers is presented. The information stems from primary data such as meetings, interviews and surveys, and secondary data namely company specific publications, press releases and financial reports.

Chapter 5 - Analysis
In chapter five the theoretical framework is linked to the empirical material. The empirical material is thus analyzed using the theories presented in chapter three. These are applied to the specific situation of the enterprise.

Chapter 6 - Conclusions
Finally, the sixth chapter presents and summarizes our conclusions. We also give suggestions on future research in the subject.

2 Method

This chapter gives further information about the procedures for collecting, arranging and interpreting the data. It also gives a statement of what method and form of research used for the examination of the thesis. A description of how primary and secondary data have been collected and how interviews have been conducted follows. The overall objective is to render it possible for the reader to obtain information on the study's validity, reliability and relevance. The chapter is concluded with a discussion concerning the credibility of the sources as well as our possibilities to generalize.

2.1 Choosing a method

In this study the qualitative method is the main method to be adopted since it will contribute with a greater understanding of the strategies of Lock-in and Lock-out as well as of the company TSDK and the company-specific situation. The qualitative examination will make a rich *interpretation* of individuals, situations and courses of events possible.[9]

Even if conducting a qualitative study, the quantitative approach is not completely ignored. The customers' responses are partly of quantitative, partly of qualitative nature. They have all been put in diagrams and schemas, facilitating the understanding and making them easier to overlook. The aim is nonetheless to develop qualitative arguments and understanding. Hence, the qualitative method used in this thesis is only a mean to make qualitative information easier to grasp, this in order to facilitate the interpretation. We do not aim at measuring, but at understanding the factors leading to Customer Lock-in and Competitor Lock-out, and the questionnaires are used as one part of the whole assessment. Hence, the qualitative approach is the most suitable.

To minimize our influence on the results certain measures have been taken. A great variety of sources have been studied in order to increase the insight in the phenomena. Furthermore, not only researcher's written findings have been taken into consideration. These researchers have sometimes also been contacted to ensure a correct interpretation of their results and findings. Meetings as well as telephone interviews have been held and questionnaires have been sent out, not only to the employees of the company but also to customers giving their distinct opinion. These questionnaires are included in the empirical work in order to help the reader form his own opinion. We have been three persons with different backgrounds conducting this study, where all have Strategic Management as our major but thereto have either

[9] Lundahl, U & Skärvad, GH, (1999) *"Utredningsmetodik för samhällsvetare och ekonomer"*

marketing, accounting or a deeper knowledge in strategy. This should minimize the influence on the study, since the different backgrounds allow different angles and thus different points of views.

2.1.1 Mode of examination

The study is based on the *abductive* approach which may be described as a fusion of the *inductive* and the *deductive* methods. By using this mode of procedure, we can consecutively use historical theory in the thesis but at the same time create our own conclusions from our empirical material. When we commenced writing this thesis, empirical material was obtained not only from primary sources such as the company's representatives, but also from using secondary material such as company specific information and industry figures. Thus, we initially studied the object inductively, without establishing the study in existing theories. The gathered information was then compared not only to existing notions and models of Lock-in and Lock-out but also to theories regarding different factors that could be expected to affect companies like this. The aim was to make the study interesting for other companies in similar situations as well. Thereafter, we consequently added newly acquired empirical material (e.g. emanating from customer questionnaires) and compared it to the adequate theories found. A regular contact was upheld with the case company in order to evolve a correct picture of its situation and needs. The customers were contacted rather late in the process, this since a genuine understanding of both the situation of TSDK and the concept of Lock-in would be needed to pose relevant questions. Furthermore, the customers' expressed desires would rather illuminate what would be needed to create a situation of win-win than of locking them in, and other information showing how the Lock-in could be created were first taken into consideration. The abductive approach allowed us to work more freely than would have been the case if we had chosen a strictly inductive or deductive approach.[10] Nevertheless, by using the abductive approach we also risk being more subjective and influenced by our experience and knowledge, and therefore run the risk of excluding interesting aspects and theories, possibly making the working process and conclusions drawn biased.[11] However, as already mentioned an attempt has been made to minimize this risk.

2.1.2 Case study research

Case studies of one or many objects are most suitable when "how" or "why" question is being asked about a contemporary set of events, over which the investigator has little or no control"[12]. Hence, this thesis' main questions evolve around these

[10] Davidson, Bo, Patel, Runa, (2003), *"Forskningsmetodikens grunder"*, p. 21.
[11] Ibid
[12] Yin, R. K. (2003), *Case Study Research - Design and Methods*, third edition, Sage Publications, p. 9.

questions. Such questions are explanatory, and draw on a wide array of documentary information, histories in addition to conducting interviews.[13]

A case study copes with the technically distinctive situation in which there will be many variables of interest. As a result it relies on multiple sources of evidence and on benefits from prior development of theoretical propositions, which could guide data collection and analysis.[14] Case studies are also used to explore situations in which the intervention being evaluated has no clear, single set of outcomes. Hence, a more complex case like ours aiming at explaining calls for a case study. Surveys are often conducted as a part of a case study and are then considered as one component when assessing the whole study. Finally, it is important to notice that program sponsors, in this case TSDK rather than research investigators alone may have a prominent role in defining the evaluation question.[15] In this case study the main question has been developed by the group, after inquiring the company's representatives in order to obtain relevant information regarding contemporary problems. One can then say that the final question, at least initially has been influenced by the program sponsor.

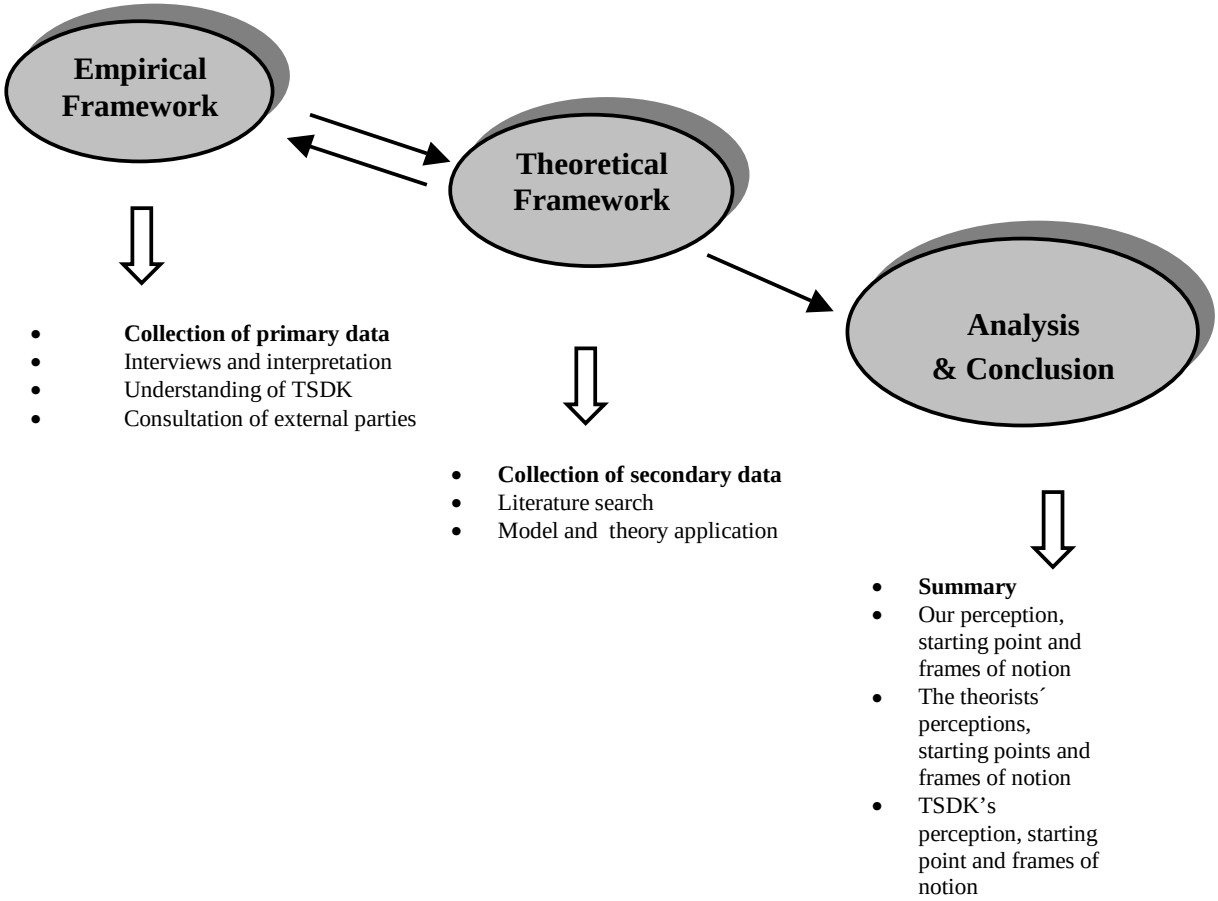
2.2 The work process

The purpose of this study is, as mentioned earlier, to examine the possibilities of an industrial company on mature markets to create Lock-in. Thus, the most relevant mode of procedure is the hermeneutic way.

Choosing TSDK was an exceedingly simple process; we were presented to a problem, and agreed that solving it would be interesting. Since the study will be based on qualitative research, it is highly important that the integration between both parties is good. This was ensured from the beginning since a mutual interest in collaboration was expressed, making negative effects on the study caused by this kind of friction negligible. Primarily, our task was to collaborate with Trelleborg AB. A meeting at the company's office in Trelleborg instead led to the suggestion of working with TSDK. After being introduced to TSDK at a meeting at their office in Denmark, we started an identification process of the aspects that highlight the company, namely a company in an industrial context, which is a part of a large group and acts as both first and second-tier-supplier on a mature market. These aspects helped form a base for our investigation and our collection of primary and secondary data.

[13] Yin, R. K. (2003), *Case Study Research - Design and Methods*, third edition, Sage Publications, p. 14.
[14] Ibid
[15] Ibid

The following model has been created to summarize the process of carrying out the study. It clarifies how the different parts act together to create a solid foundation for the final analysis.



Model 2:1. *Summarizing model of the study procedure*

The theory normally splits a study's parts into two groups; *primary data*, which is data, collected by the researcher himself/herself and *secondary* data, the material already known from research collected by others.[16]

2.2.1 Collection of primary data

When it concerns the collection of primary data, *one* case company was chosen to form the base for the study, namely TSDK. The choice was also not to treat other companies in order to make a comparison, since we considered that working with only one company could make it more inclined to share information than when studying for example two competitors. A mutual trust could thus be gained. This mode of procedure has also proved to be fruitful since the company was ready to

[16] Lundahl, U & Skärvad, GH, (1999), *"Utredningsmetodik för samhällsvetare och ekonomer"*

provide us with important information. To focus on one company has also made a deeper study possible. The collection has, as mentioned earlier, contained interviews with external parties such as customers. These interviews have given us a broader insight into how TSDK can work to increase its customers' satisfaction.

Personal interviews are the main method used when collecting primary data. The method of interviewing is an important tool for the integration between the researcher and the source of information. When investigating a company it is of great importance to create a personal contact to be able to obtain inside, otherwise hidden information as well as to get access to and help with finding published company specific sources.

The primary data of this study consists of interviews with the members of the direction of TSDK, the direction of Trelleborg AB, employees of Busak+Shamban Sweden and the director of the division Trelleborg Sealing Solutions in Stuttgart. Questionnaires sent to customers as well as to employees of TSDK have also functioned as an important source of primary data. Furthermore, researcher and Professor Nirvikhar Singh and Professor Christer Kedström have assisted in the finding and interpretation of sources, allowing otherwise ignored perspectives to be highlighted. Material handed to us by TSDK and Trelleborg AB, such as annual reports, sales figures for the actual products as well as company presentations have also been investigated.

The interviews with the direction of TSDK took place at their office in Helsingør, Denmark. Since we were given a guided tour at the site and in the production facilities, a deeper and more complete understanding of the company and its products have developed. The meeting with the direction of Trelleborg AB took place at the head quarter in Trelleborg, Sweden. This meeting contributed to a good understanding of Trelleborg AB's intentions and aspirations concerning the group's, and thus TSDK's, future development and our role in this collaboration process. The rest of the interviews, that is with Busak+Shamban Sweden, the head office in Stuttgart and the customers have been performed via telephone and e-mail connections. One might reflect upon the implications this may have on the answers from both a positive and negative perspective. A positive effect could be that the interviewer is less influenced by the interviewees, whereas a negative effect could be that nuances in expression, which could have a meaning, could go lost.

When conducting case studies, multiple strategies are possible, such as conducting a survey within the case study in order to obtain quantitative data as part of the case study evidence.[17] Hence, six employees at TSDK and six customers at four different companies were questioned. In order to ensure a high response rate, they were all telephoned before receiving the questionnaire. This proved to be a successful strategy, since the response rate attained was 100%. Some internal fall-off (some customers not answering all questions) occurred. However, this problem was minor

[17] Yin, R. K. (2003), *Case Study Research - Design and Methods*, third edition, Sage Publications, p. 91.

and only affected the open questions, and is thus not believed to have had a significant impact on the results. The questionnaires and their results are attached in the empirical chapter. The charts shown in this chapter all derive from the questionnaires' findings and aim at illuminating interesting aspects and important findings. Since some customers have given multiple replies, especially to the open questions, the replies have been compared and calculated using a relative scale in order to always obtain a total sum of 100%. In cases where the total sum of respondents does not reach 100%, this is due to rounding off differences.

The aim was to interrogate as many customers and employees as possible, in order to increase the reliability. However, due to certain restrictions, this was not possible, and this could have affected the reliability of the study negatively. However, our aim with pursuing a survey within a case study is rather to illuminate certain aspects. The answers acquired through the survey are not taken as a measure of the actual situation. Instead, they are considered as only one component of the overall assessment of the study.[18] Thus, the customers' responses are used and visualized in order to understand and either reinforce or contradict noticed tendencies and trends.

The acquisition of knowledge through questionnaires is supposed to contribute with a broader insight in what features of products and adherent services are valued the most. In a wider perspective these will be used to see what factors that could help when trying to create a Customer Lock-in and what factors that are actually used today. The questions of the survey, developed by us as a group, are divided into the Delta Model's approaches (further explained in the theory chapter) of *Best Product*, *Total Customer Solutions* and *System Lock-in*. This is done to render an in-depth analysis of what TSDK has achieved/implemented today possible, and to see whether customers consider this important. This is a tool leading us to conclusions regarding the possibilities of Lock-in creation in order to obtain a win-win situation. It should be mentioned that the categorization of questions into Best Product, Total Customer Solutions and System Lock-in only is preliminary. As shown in the analysis, different tools may support different approaches depending on how well their ability of creating customer bonding is exploited. The customers' answers have also been compared to those of the employees, seeking a broader picture regarding their knowledge and awareness of the customers' needs and wants, fundaments when creating Customer Lock-in.[19]

The case company's three major customers, namely Bosch, TRW and Sachs have been studied and analyzed. Together they represent 22% of the company's total turn-over and their opinions could thus be suspected to be of importance to TSDK. However, relations already shaken due to delivery problems to first and foremost one major customer, Bosch, made the head office in Germany stop our intention of contact with this and other major customers. We have therefore been unable to obtain valuable input from them by sending them the questionnaire. Nevertheless, they are

[18] Yin, R. K. (2003), *Case Study Research - Design and Methods*, third edition, Sage Publications, p. 91.
[19] Gummesson, E., (1998), *"Relationsmarknadsföring: Från 4P till 30R"*, Liber Ekonomi, p. 290

considered to be of such importance, and are hence still included in the form of company presentations in the chapter examining the empirical data and in the analysis.

It should also be added that an attempt has been made to acquire further empirical data concerning the value of Customer Lock-in and Competitor Lock-out. However, due to the subject's novelty and the fact that it has before, as far as we are concerned only been applied to e-businesses, other empirical research promoting the value of Lock-in relevant to this study has not been found. This further adds to the need of theoretical development in this genre.

2.2.2 Collection of secondary data

The secondary data used in this study consists of statistics, press releases and reports from researchers as well as other external publications. The ambition has constantly been to remain critical towards all sources and in order to realize this, different theories and statements have been put against each other, confirming or disputing facts. Collecting the secondary data has implied screening numerous reports and articles in order to obtain the most relevant information. Rather often information has been chosen and later on when writing the report have been excluded due to their irrelevance concerning the creation of Lock-in and Lock-out. The intention has thus been to rather collect and analyze a large amount of data instead of narrowing the search from the beginning, and thus risk missing interesting aspects. This part of the work process also involves examining the existing theories. Theories are the scientific studies' final result and with their help the reality is explicable.[20] However, one single theory can rarely fulfill the strict constraint of explaining all the qualities of the existing phenomenon. A theoretical framework where the existing theories exist side by side is therefore developed.[21]

2.2.3 Exploited theories

Hax and Wilde's Delta Model serves the purpose of clarifying the difference of a Lock-in and Lock-out strategy compared to others. These researchers define what they call the "System Lock-in" approach. This strategy includes Complementor Lock-in, Competitor Lock-out and Proprietary Standard.[22] Our approach is however somewhat different, as will be discussed in the theory chapter. The main differences are that we include complementors only when customers could be considered as such, and that we explicitly include *Customer Lock-in*. The notion Customer Lock-in, which will be further explained in the theory chapter, derives from Nirvikhar Singh's

[20] Lundahl, U & Skärvad, GH, (1999), *"Utredningsmetodik för samhällsvetare och ekonomer"*
[21] Patel, R. & Davidsson, B., (1994),*"Forskningsmetodikens grunder - Att planera, genomföra och rapportera en undersökning"*
[22] Hax, A., Wilde II, D. (2001) *"The Delta Model – Discovering New Sources of Profitability in a Networked Economy"* European Management Journal Vol. 19, no 4, August, p. 381 pp.

theories of different sources of Lock-in. According to Singh, seven different sources work alone or in combination to create Customer Lock-in. These were originally developed for e-businesses, but could if properly adapted also provide insights in and develop theories regarding how mature businesses should create Customer Lock-in.[23] This adaptation of the concept of Customer Lock-in and Competitor Lock-out is, as stated, one of the study's greatest contributions. For example, Singh's seven sources of Lock-in, earlier only applied on e-businesses have thus been critically examined and adapted to comply with our case company, working with mature customers on completely different markets. This has been done in order to examine how applicable different Customer Lock-in and Competitor Lock-out strategies are under completely new conditions.

Different theories regarding the challenges and factors from the surrounding world affecting the case company are also presented. These are collected to specifically clarify the situation of TSDK acting as first and second tier suppliers of industrial products on mature markets.

2.3 Delimitations

As mentioned earlier, we have chosen to explore the opportunities of TSDK, and hence not of the whole division or corporation.

The future opportunities of the company are summarized in terms of Customer Lock-in and Competitor Lock-out. The terms Best Product and Total Customer Solutions should merely be seen as a way of illuminating what strategies the company today conduct and to illuminate in which ways Customer Lock-in and Competitor Lock-out show similarities to or differ from these other positioning strategies. Furthermore, Complementor Lock-in will not be evaluated in this essay (except when customers can be considered to act as complementors, please see the theory and analysis chapters for a further discussion). However, the advice with the theoretical discussion in mind would still be for companies to exploit the full potential of Lock-in and Lock-out.

2.3.1 Choosing a perspective

In the context of research and investigation, the word *perspective* often is given the same meaning as *approach* or *starting point* for the investigation. It often includes, except for the viewpoint itself, the "glasses" through which the reality ought to be seen. The researcher chooses the aspects estimated as valuable and important and

[23] E-mail correspondance with Singh, N., December 5, 2004

interprets the reality.[24] The role of the perspective within a thesis is to delimit, focus and create awareness and support for the study.[25]

The intention with this thesis is also to study TSDK's surroundings through two perspectives; the *external perspective* and the *internal perspective*. The external perspective includes theories of the surrounding, fluctuating environment, in other words the factors affecting the company. The investigation of this perspective is helped by the Delta Model and other definitions that may give a structured explanation of the phenomenon and its implications. The internal perspective includes common theories on how companies can create sustainable competitive advantages. Hence, a constant consciousness of the existence of different possibilities for creating customer value has been held.

2.3.2 Criticism of sources

The sources have, as already mentioned, continuously been examined and critically evaluated throughout the process. This concerns the written as well as the oral sources.

The criteria of *validity* questions whether the information one has studied is suitable and if the source describes what it is supposed to describe. A researcher must question whether the interviewed source has an incentive for intentionally excluding and/or angling the information. This critical approach is applicable to all types of collection of primary data. This is why we reflect upon why some of TSDK's customers may be contacted while we have been demanded not to contact others. We were, due to delivery problems not allowed access to the company's largest customer, Bosch. Moreover, access was also denied to other important customers on the German market, such as Sachs and TRW. Nevertheless, these customers are considered to be of such high importance, and are hence still included in the empirical material and analysis. The information from these customers is mainly obtained from homepages, annual reports and interviews. In order to obtain primary data from questionnaires and interviews, smaller customers, such as Sauer-Danfoss, Atlas Copco and Tetra Pak were contacted. This selection was made by TSDK, possibly giving us access to only satisfied customers, and thus possibly making our findings biased. Only the opinions of content customers, already enjoying good relations to the case company (as proved in the questionnaires, since 100% of customers questioned consider the relation to be of importance) are believed to be represented in the survey. With that said, we still believe that these customers could provide us with interesting information, helping us uncover important aspects.

The Reliability, that is the authenticity of a source, is often difficult to measure and secure. Unpublished sources such as websites and similar material should be examined with great carefulness. The sources should also be compared to other

[24] Lundahl, U, & Skärvad G H, (1999), *"Utredningsmetodik för samhällsvetare och ekonomer"*
[25] Halvorsen, Halvorsen K, (1992), *"Samhällsvetenskaplig metod"*

published sources in order to secure a greater reliability. This is why we have put different theories and statements against each other, so that the facts could be confirmed or questioned by other parties. This has been made throughout the study, that is in all chapters and not only when summarizing the analysis. Furthermore, the reliability of the questionnaires could also have been negatively affected by a low degree of internal drop-off. However, this was so small and hence its impact is regarded as insignificant. The reliability of the questionnaires could also have been negatively affected if customers had an implicit message to TSDK when answering the questions. Thus, customers might for example not consider prices to be above average, but by promoting such a view in the questionnaires, they might implicitly try to work towards decreased prices. The customers might thus have political reasons when answering the questionnaires. This is impossible to verify, but is nevertheless a source that could have a negative impact on our study.

The third constraint, *relevance*, implies that the source must be essential to the question the study is based on. For this qualitative collection of data, a great amount of literature, reports and articles have been read and analyzed. A thorough screening has been made with the consideration of lack of space in hindsight. This has been necessary not the least since our original problem formulation rather treated business development in general and rejuvenating of products than creation of Customer and Complementor Lock-in and Competitor Lock-out. Nevertheless, we consider the treating of the great amount of information to ultimately have been favourable, since aspects that otherwise could have been neglected have been put forward, for example possible internal and external threats to a Lock-in.

If the by TSDK suggested customers are unrepresentative and unusually content, this could make the study biased. Hence, our study lacks first hand information (in form of questionnaire replies) from some and even a major, discontent customer. This is likely to affect the results of the study. Nevertheless, the customers interviewed all have a close relation with TSDK and thus good insights in the company, giving them the ability to reply adequately. Furthermore, the interviewees at the customers' companies all have important positions, involving not only a frequent contact with our case company, but also a good general overview of their companies' processes and needs. This adds to the relevance of their replies.

2.4.3.1 Theory criticism

It is problematic to assure the scientific truthfulness of the applied models and theories. As mentioned earlier in this chapter a theory can never describe the whole truth, it can only constitute a framework that makes room for ones' own reflections. To grant the quality of the coming theory chapter, we have mainly utilized material published by scientifically, well-established researchers and at this moment commonly accepted theories within the product field. Nevertheless, some less well-established sources have been consulted with great consciousness of their relevance. Like professor Sten Söderman explains, this may be necessary since the latest discoveries often are presented in magazines, such as the American Start up-

magazine Inc. and the British business magazines Financial Times and The Economist. Our critical approach has therefore been underlined by a continuous comparing of different professors' points of views, giving us a more accurate picture of the prevailing views of today.

2.4 Ability to generalize

Our analysis serves as the melting pot for all the ideas that have arisen when collecting both the primary and the secondary data as well as the theories. How can the theories serve as a support for the company? How can the work of the company serve as a support for the theories? How can our ideas serve as a support for both the company *and* the theories?

One of the greatest concerns when conducting a case study is in fact that it provides little basis for scientific generalization,[26] a statement reinforced by questions during the opposition such as "Is it really pertinent to base your work on only one company? How could you generalize from only one case?[27]" The short answer to this questions is that case studies, like experiments, are generalizable to theoretical propositions but not to populations or universes. The goal with a case study is to expand and generalize theories, also called analytic generalization, and not to specify frequencies.[28] Hence, we do not aim at generalizing. Instead, the aim of this thesis is to compare the empirical results of the case study to previously developed theories.

It is therefore highly up to the reader to take a contingent approach and to be aware of that the proposed theories and notions are adapted to the case company. The theoretical ability to generalize lies in critically evaluating existing theories and adding the appropriate knowledge gained by these to the recommendations for TSDK.

The fact that this subject is relatively new and has, as far as we and Singh[29] are concerned, in the past only been applied to e-businesses further adds to the need of theoretical development in this genre.

[26] Yin, R. K. (2003), *Case Study Research - Design and Methods*, third edition, Sage Publications, p. 3.
[27] As expressed in an evaluation by Lindström, R., at the opposition, 2005-01-18
[28] Yin, R. K. (2003), *Case Study Research - Design and Methods*, third edition, Sage Publications, p. 10.
[29] E-mail correspondance with Singh, N., 2004-12-05

3 Theoretical framework

In this chapter a theoretical framework will be presented in order to make use of research already made. The challenging world with its specific factors affecting TSDK will thus be described from a theoretical point of view and known phenomena pointed out. Hence, the conditions facing TSDK are explained. Accordingly, the increasing importance of customer bonding is illuminated. Different researchers' definitions of diverse forms of Lock-in are presented, as well as our definition of it and its implication for our future work. It is also explained why companies may have use of it and how they could create it.

3.1 The challenging world

Companies need to understand that the surrounding world is dramatically changing. Söderman explains that the world is currently "shrinking" with *deregulations, privatizations and technology* (above all IT). This development renders it possible for small as well as big companies to act on a global market.[30] Such fundamental changes present great challenges for the enterprises of today and indirectly increase the need of creating *customer bonding* and thus obtaining loyal customers. The prevalence of such issues and the need for the latter is confirmed by the case company.[31]

Another way of describing the surrounding world is from a *system point of view*. According to the *Complexity Theory,* a system is composed by two or more elements, where each element affects the totality and where each element's effect on the totality is depending on the other elements. This theory further explains the difficulties of analyzing and explaining the surrounding world, and thus to act in an advantageous direction.[32] Furthermore, competition from very small enterprises around the world makes the competitive climate even more severe[33]. The effects small companies around the world may have on the totality also make an analysis difficult.[34] A thorough analysis is thus needed in order to understand the different forces working together.

In the following section, some factors describing the situation of TSDK are expressed in terms of different kinds of relations. Due to the complexity of the surrounding

[30] Söderman, Sten, *"Affärsutveckling-med exempel från H&M, IKEA, ABB och Volvo"* (2002), p. 13
[31] A situation also confirmed by E-mail correspondence with Winther, J., Sales & Marketing Manager, TSDK, 2004-12-21
[32] Lecture in Complexity Theory with Professor Allan T. Malm, Lund University, 2004-10-18
[33] Söderman, Sten, *"Affärsutveckling-med exempel från H&M, IKEA, ABB och Volvo"* (2002) p. 40 pp
[34] Lecture in Complexity Theory with Professor Allan T. Malm, Lund University, 2004-10-18

world and of the situation, these factors do not cover all aspects of interest. Rather, they put focus on some of the most relevant ones.

3.1.1 Mature business

The companies this study takes into consideration act on *mature markets*. A market becomes mature when the *line of business* ripens. A genuine understanding of what the term "mature" implies is thus needed. First of all, it may be specified what a *mature business* is. Some general features have been identified, which will be presented below.

A line of business is the totality created by companies offering the same products to a relatively homogeneous market.[35] In the following section a matrix will be presented focusing on *mature lines of business*. A mature business is usually signified by over-capacity, a state that is sometimes named as "a potentially sick industry".[36] This course can be illustrated by the following figure:

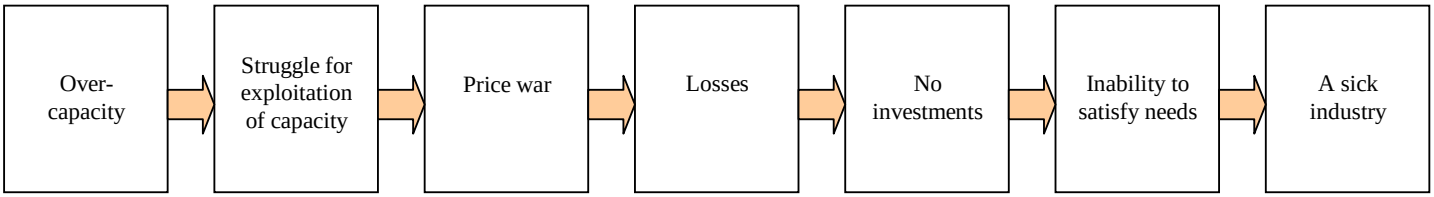


Figure 3.1: The steps towards a maturing line of business[37]

Furthermore, the characteristics of a mature business are as follows[38]:

- The growth of demand is low
- The base technologies are *commoditized* and relatively few changes occur
- The products are well defined and change slowly
- The customers are *experienced* and have a good knowledge about the product. The buyers' interest no longer lies in whether or not to buy the product but which brand to choose[39]
- New products and applications are difficult to bring about. The *costs* and the *risks* that accompany product innovation increase heavily along with the maturing of the industry[40]
- A highly developed industry infrastructure and powerful distributors make it easy to attack established firms occupying certain strategic niches[41]

[35] Söderman, Sten, *"Affärsutveckling-med exempel från H&M, IKEA, ABB och Volvo"* (2002), p. 198
[36] Ibid, p. 194
[37] Ibid, p. 195
[38] Ibid
[39] Ibid, p. 231
[40] Ibid, p. 232
[41] Grant, Robert, "*Contemporary Strategy Analysis"*, p. 368

- The number of companies within the line of business is diminishing
- The cost advantages become more *vulnerable* to exchange rate fluctuations and low-cost producers overseas[42]
- Lines of distribution, service offerings and after-sales gain greater importance
- Venture capital flees

A mature business has a relatively slow development and has normally been around for a long time. Important to notice is that the development towards maturity is *a gradual process* and different symptoms appear during different phases and turbulent periods replace more calm periods of convergence. A company within a mature business can itself show signs of "immatureness", but since the line of business is mature the company gets affected.

Since mature lines of business and mature markets have the same impact on a company, the word *market* will hereafter be used to as an expression for both business and market.

3.1.2 The trend towards shorter product life-cycles

When discussing "maturity" one may also refer to the *product life-cycles*. The belief that products follow a certain pattern over their life is a generally accepted theory, discussed by many researchers. Every product is thus believed to follow certain stages, appearing in a certain order; from *introduction* to *growth* followed by *maturity* and then eventually to *decline*. While the sales increase during the first stages they start to decline once the products are becoming mature. To develop new products may be an extensively expensive process and the companies tend, in addition, to lose money during the introduction stage. This is why companies in general try to slow down the process towards maturity.[43]

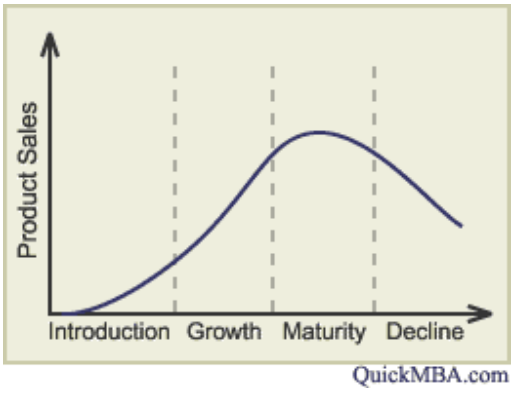


Figure 3.2 The Product Life-Cycle[44]

The new challenging world, with the constant emergence of new competitors, tends to shorten each product's life-cycle since new products and services constantly emerge.[45] The risk of losing customers therefore increases and it may be a costly process to keep them, since a constant innovativeness is needed.

[42] Grant, Robert, *"Contemporary Strategy Analysis"*, p. 371
[43] Armstrong, G., Kotler, P., (1999) *"Marketing- An Introduction"*, fifth edition, p. 276
[44] http://www.quickmba.com/marketing/product/lifecycle/, 2004-12-20
[45] Grant, Robert, *"Contemporary Strategy Analysis"*, p. 370

Maturing markets and less diversified products affect the length of the product life-cycles. There is a need to make a distinction between different terms. The fact that a company sells certain mature products does not automatically mean that it is purely mature. A company may sell products having reached different stages of maturity. Furthermore, a company may act on different kinds of markets, mature markets where it sells mature products or new, developing markets where it sells innovative products that have not yet been *standardized* and affected by *commoditization*. A distinction may thus be made between *mature products* and *mature businesses* where the concept of mature markets perhaps is the most interesting for this study. It should be noticed that the Lock-in effects are supposed to rule no matter what stage of the product life-cycle the products are in.

3.1.3 The trend towards commoditization

Another interesting factor is the trend towards *commoditization*. During the growth and maturity phases, products are often *standardized* and the *uniformity* of different products increases. The result is thus that the products and services tend to become affected by commoditization unless producers act efficiently in developing new dimensions for *differentiation*.[46]

A commoditized product is stated to often be chosen by the customer due to its *low price*, putting pressure on suppliers to mainly focus on this issue. To be able to defend the price level but all the same keep the customers, it is therefore of great importance for companies selling mature products to offer customers *ancillary services* and relationships that are something out of the ordinary.[47]

3.2 What is Lock-in and why create it

Hax and Wilde define what they call a "System Lock-in" positioning. This strategy includes Complementor Lock-in, Competitor Lock-out and Proprietary Standard.[48] Customer Lock-in is not distinctly included, although the customer is stated to still be most important. However, our thesis' focus differs to some extent from the System Lock-in, this since the customer is more in focus:

Customer Lock-in is the main focus of our thesis. Seven different "sources" of Lock-in are presented, linking to Singh's research. In order to work properly, these sources are in the analysis adapted to fit the case company, an industrial company on a mature market (this is in fact one of the thesis' largest contributions). Customer Lock-in

[46] Grant, Robert, *"Contemporary Strategy Analysis"*, p. 370
[47] Ibid
[48] Hax, A., Wilde II, D. (2001) *"The Delta Model – Discovering New Sources of Profitability in a Networked Economy"* European Management Journal Vol. 19, no 4, August, p. 381 pp.

always leads to Competitor Lock-out, this since a locked in customer can not switch supplier.

Competitor Lock-out is always a consequence of Customer Lock-in, however the opposite is not the case. Patents create Competitor Lock-out but when a patent expires, so does the Competitor Lock-out. This shows the importance of strengthening the customer bonding and create a supporting Customer Lock-in in order to keep the customer after the expiry date. When pursuing a Customer Lock-in strategy, it is also crucial for companies to recognize the importance of win-win situations. If the customer is not satisfied, he will aim at leaving the supplier once alternative suppliers emerge or when the switching costs are believed to have reached a surmountable level.

Complementor Lock-in, involving complementors as such, is not treated in this essay. However, many major customers aim at closer supplier relations and long-term contracts, especially when the case company acts as a second-tier-supplier. They are thus trying to lock themselves in, which is not a normal customer behavior. This is believed to be due to the companies' common aim of satisfying the end customer, stemming from advantages of having a specialized supplier. Hence, in this case customers see TSDK rather as complementor than as a supplier. This is the only definition of Complementor Lock-in used in this essay. The idea to consider customers as complementors will be further explained in the following chapters, with help from the empirical material.

Proprietary Standard will in this study only be treated in the form of patents. The aim is not to explain how proprietary standards may be achieved. Hence, they will only be discussed from a Customer Lock-in point of view.

To give the reader a comprehensive picture of the different concepts the Delta model will be rather thoroughly discussed and furthermore complemented with other researchers' definitions of Customer Lock-in. However, our definitions and the use of the model's different contributions differ to some extent. Customer Lock-in is added, and the definitions of Competitor Lock-out, Complementor Lock-in and proprietary standards are only considered as interesting as means to create or support to created Customer Lock-in. When only the term *Lock-in* is mentioned, this refers to Customer Lock-in and, as a consequence, Competitor Lock-out. Please also note that these notions and our statements above will be further developed in the theory chapter and further commented and scrutinized in the analysis chapter.

3.2.1 The Delta Model – defining and advocating System Lock-in

The surrounding world may thus represent a great challenge for companies facing it. These challenges could be of a special kind for companies acting on mature markets, facing more severe competition further stressing the importance of loyal customers.

The *Delta model* may help the companies with just that[49] and that serves as a tool for managers in the articulation and implementation of effective corporate as well as business strategies. This model is composed by four components; the Triangle, the Adaptive Processes, the Metrics and the Experimentation and Feedback. The contributions of each component are stated to be[50]:

- *The Triangles*: Opening the mindset to new strategic positions
- *The Adaptive processes*: How to really link strategy with execution
- *The Metrics*: Aggregate Metrics are not enough. They should be complemented with granular metrics
- *The Experimentation and Feedback*: Experimentation and feedback are key adaptive mechanisms

3.2.1.1 The Triangle

We have chosen to focus our research on one of the Delta model's contributions; The Triangle. The Triangle distinguishes three main strategic positionings showing how industrial organizations may operate on mature markets; *System Lock-in*, *Total Customer Solutions* and *Best Product.* These focuses are explained below.[51]

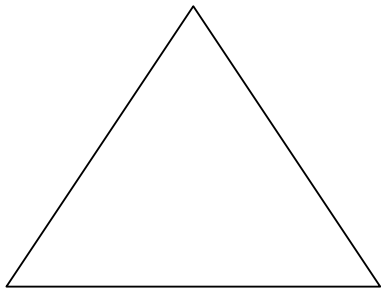


Figure 3.3: Business model – Three Distinct Strategic Options[52]

[49] Hax, A., Wilde II, D. (2001) *"The Delta Model – Discovering New Sources of Profitability in a Networked Economy"*, European Management Journal Vol. 19, no 4, August, p. 379 pp.
[50] Ibid, p. 381
[51] Ibid
[52] Ibid

This model is an attempt to capture the essence of how the firm chooses to compete in its relevant market place or, in other words, how the firm attracts, satisfies and retains its customers. The three distinct strategic options imply very different approaches to achieve customer bonding, and a varying degree of the very same.[53]

The Best Product approach builds upon the classical form of competition and the products tend to be *standardized and unbundled*. The focus of this positioning may be summarized as follows;[54]

- *Strategic focus*: The single product is at the core of the strategic focus
- *Relevant benchmarking*: Competitors are to be benchmarked, and their best approaches are to be studied and possibly copied.
- *The customer value proposition*: Concentrating on the product
- *Product offerings*: Products are standardized
- *Relevant supply chain*: Focusing on the internal supply chain
- *Relevant channels*: Generic (general) channels, mass distribution and no direct focus
- *Impact on brands*: Product oriented
- *Innovation focus*: Internal product development
- *IT role*: E.g. SAP
- *Degree of customer bonding*: Very small. Dependent on the product characteristics

According to Hax and Wilde there are some important limits with this approach: it generates the minimum amount of customer bonding and often leads to imitation and price war, which we earlier referred to as a problem on mature markets. Thus, it focuses on product economics, and the outcome is often a standardization of products.[55]

The Total Customer Solutions approach, on the other hand, is a complete reversal from the Best Product approach. Instead of commoditizing the customer, the company seeks an intimate and deep customer understanding and a relationship that allows the development of value propositions that bond to each customer. The focus of this positioning may be summarized as follows;[56]

- *Strategic focus*: The corporation is at the centre, i.e. the firm, its customers and its suppliers
- *Relevant benchmarking*: Customers
- *The customer value proposition*: Focus is on the customer, customer economics
- *Product offerings*: Customized composition of products and services

[53] Hax, A., Wilde II, D. (2001) *"The Delta Model – Discovering New Sources of Profitability in a Networked Economy"*, European Management Journal Vol. 19, no 4, August, p. 381 pp.
[54] Ibid
[55] Ibid
[56] Ibid

- *Relevant supply chain*: Focusing on the integrated supply chain, i.e. on the suppliers, the firm and the customers
- *Relevant channels*: Targeted direct channels
- *Impact on brands*: Brands are harmonized around the customer. A coherent portfolio of brands is sought after
- *Innovation focus*: Joint product innovation with customers
- *IT role*: Customer and supplier support, e.g. e-business and E-commerce
- *Degree of customer bonding*: Potentially high, reinforced by customization and mutual learning

The strategic option *System Lock-in* has nonetheless the widest scope and includes the *extended enterprise* – the firm, the customers, the suppliers and the complementors.[57] When looking at the Triangle, Hax and Wilde also make an interesting remark: The best product does not always win[58]. The Best Product position is nonetheless stated to be by far the most widely adopted[59]. A great concern for TSDK[60], and many other industrial companies acting on mature markets, is the risk of losing customers[61]. Since *the Best Product* approach does not contribute with solid customer bonding but rather stimulates price war, the advice when considering Hax and Wilde's triangle model would therefore be to explore the opportunities of System Lock-in, a strategic option that enables bonding in a rather distinct way. This strategy includes Complementor Lock-in, Competitor Lock-out and Proprietary Standard.[62]

Some interesting dimensions of *System Lock-in* are, according to Hax and Wilde, as follows[63]:

- *Strategic Focus*: Choosing as a strategy to focus on *The Extended Enterprise*, that is the firm, its customers, its suppliers and its complementors
- *Relevant Benchmarking*: Constantly following every move of the complementors to be able to offer matching products/services
- *The Customer Value Proposition*: Concentrating on System Economics
- *Product Offerings*: Offering a portfolio of products and services extended by complementors
- *Relevant Supply Chain*: Choosing a system supply chain consisting of suppliers, the firm, customers and complementors
- *Relevant Channels*: Massive Direct Channel

---

[57] Hax, A., Wilde II, D. (2001) *"The Delta Model – Discovering New Sources of Profitability in a Networked Economy"*, European Management Journal Vol. 19, no 4, August, p. 382 pp.
[58] Ibid
[59] Ibid
[60] Meeting with Winther, J., Sales and Marketing Manager, Product Management, and Ehnhuus, H., Sales and Product Manager, Commercial Department, TSDK, Helsingør, 2004-11-16
[61] Day, George S. (1997) *"Strategies for Surviving a Shakeout"*, Harvard Business Review, March-April 1997, p. 93 pp.
[62] Hax, A., Wilde II, D. (2001) *"The Delta Model – Discovering New Sources of Profitability in a Networked Economy"* European Management Journal Vol. 19, no 4, August, p. 381 pp.
[63] Ibid, p. 383

- *Impact on Brands*: The brands harmonized around the system through brand integration
- *Innovation Focus*: Working with an open architecture where the complementors are key innovators
- *IT Role*: Using a total network support, e.g. e-systems
- *Degree of Customer bonding*: Potentially the highest among the three approaches suggested. The degree of bonding is reinforced by Competitor Lock-out and Complementor Lock-in

The key to the System Lock-in is to identify, attract and nurture the complementors, who are often external but who may as well be internal. A System Lock-in strategy must start with *a full corporate scope* – not just for one product or business – and has to continue with the identification and incorporation of *all the key external players that can become complementors*. Maybe most important to remember, this strategy strives for customer bonding.[64]

3.2.2 Switching costs and customer value

There are more researchers who have explained and developed the concept of Customer Lock-in. One definition is presented by Nirvikar Singh. He defines it as a situation in which a customer is dependent on a vendor for products and services and cannot move to another vendor without substantial costs, real and/or perceived. Singh states that a way of opposing the rising competition is by increasing the customers' switching costs. If the switching costs are high enough, the customer is "locked in".[65] Thus, Lock-in constitutes a barrier to entry, a Supplier Lock-out,[66] and may be defined as:[67]

The suppliers' profit from a current customer = the customer's switching costs + the customer's (actual or perceived) quality/cost advantage

Interesting to note is that Singh considers the customer's actual or perceived advantages as being important. Thus, he advocates actions favoring a *win-win* situation which in turn will increase the supplier's profit. However, the aim of increasing the customer's switching cost could be seen as a *win-lose* situation, favoring the company. Thus, this equation favors both win-win and win-lose (where the customer is the loser) situations, but most importantly considers the company as the winner in both situations. Simultaneously, as trying to increase the customer's quality/cost advantage, the integrated overall goal of the firm must thus be to promote the integration of switching costs into the overall strategy of managing Lock-in. Worth emphasizing is that when pursuing this strategy, a preferable scenario for the

[64] Hax, A., Wilde II, D. (2001) *"The Delta Model – Discovering New Sources of Profitability in a Networked Economy"* European Management Journal Vol. 19, no 4, August, p. 382 pp.
[65] Wikipedia, http://en.wikipedia.org/wiki/Vendor_lock-in, 2004-11-30
[66] Singh, N., *Economics of E-Commerce, Customer Lock-In*, University of California, 2001
[67] Ibid

vendor is that the customer is not aware of the efforts of creating Lock-in. It is naturally not in the customer's interest to get locked in, facing increased switching costs as a consequence.[68]

An author further developing the concept of switching costs is Paul Klemperer. He argues that switching costs arise when a customer makes investments by buying different goods at different dates from a vendor with the purpose of creating *economies of scope*. The customer then values the *compatibility*, the ability of taking advantage of the same investment, between his purchases.[69] Switching costs create market dynamics and strategic opportunities. They tie together trades that are not already controlled by the same contract. Moreover, they often make competition and new entrants less threatening.[70]

It is often assumed that switching costs are measured in *non-monetary terms*, but *contractual* or purely *financial* switching costs also exist. Switching costs do not only apply to repeat-purchases of identical goods. However, if bought from another firm, follow-on goods may not be compatible with the original purchase, which creates switching costs.[71]

When attached to the first purchase, start-up costs are similar to new investments. These start-up costs may also be included in the term switching costs. Furthermore, if products are *undifferentiated* and firms therefore only compete on prices, as the case often is on mature markets, the only way of earning profits is the presence of switching costs.[72]

3.2.3 Other factors advocating Customer Lock-in

The following part presents other researchers' studies on strategy taking other aspects into consideration, making the picture more nuanced.

As the competition's severity increases, it is no longer enough to offer only products or services. Advanced marketing methods and offerings like enlarged and/or adjusted products or services are needed. Nowadays "expert knowledge" is further stated to be a supplementary product that must be included in the *service offer* of the enterprise.[73] The problem of *commoditization*, as discussed by Söderman[74], confirms what Hax and Wilde state, namely that the best product does not always win and that there is a

[68] Singh, N., *Economics of E-Commerce, Customer Lock-In*, University of California, 2001
[69] Klemperer, P., (2001), *"Coordination and Lock-In: Competition with Switching Costs and Network Effects"*, Oxford University
[70] Ibid
[71] Klemperer, P., (2001), "Coordination and Lock-In: Competition with Switching Costs and Network Effects", Oxford University
[72] Ibid
[73] Söderman, Sten, *"Affärsutveckling-med exempel från H&M, IKEA, ABB och Volvo"* (2002) p. 48
[74] Ibid

need for a more complex strategy.[75] Lock-in could be such a strategy. In times of turmoil and insecurity, Eneroth and Malm state that competence, aided by visions, lead the company implying that these "mediate the fluctuations and represent constraints on the evolutionary process"[76]. Lock-in, on the other hand, ensures a continuous stream of cash flow and preserves customer fidelity, even in difficult times. Hence, competencies and clear and developed visions could be seen as leading the company in difficult times, whereas Lock-in preserves customers and complementors, ensuring their support.

When discussing and determining the reasons for using a particular strategy, such as a Lock-in strategy, some general positive and negative consequences associated with following a distinct strategy may be put forward[77].

The *positive aspects* of strategy according to Björk are that the strategy:

- *Puts up a direction*: the organization is given a distinct course to help it navigate through a tough environment
- *Focuses the efforts*: co-ordinates the activities and steers clear of chaos
- *Defines the organization*: facilitates the understanding of the own organization's peculiar nature and of what the organization does
- *Creates consistency*: reduces insecurity and impels order as a theory, i.e. a cognitive structure simplifying and explaining the world, facilitating action

The *negative aspects* are that the strategy:

- *Puts up a direction*: choosing the wrong course may be lethal, it is therefore better to take one small step at a time
- *Focuses the efforts*: "group thinking" precludes peripheral visions
- *Defines the organization*: too much strategy may lead to stereotypes which make the rich business complexity disappear
- *Creates consistency*: creativity leads to inconsistency, a strategy is a simplification that may be misinterpreted

When choosing a strategy, for example Best Product, Total Customer Solutions or System Lock-in mentioned by Hax and Wilde, the positive and negative aspects of following the different strategies, or in other words choosing the different types of positioning, should be considered. Clearly, an enterprise should strive for minimizing the negative aspects and reinforcing the positive ones. The Best Product approach implies, as stated, an exclusive focus on the product. This is clearly a narrow focus amplifying some of the negative aspects with following a distinct strategy, such as preclusion of peripheral visions and a simplification that makes the complexity

[75] Hax, A., Wilde II, D. (2001) *"The Delta Model – Discovering New Sources of Profitability in a Networked Economy"* European Management Journal Vol. 19, no 4, August, p. 381
[76] Eneroth, K., Malm, A. T. *"Strategic Identity- Visions as catalysts for competence dynamics"*, Advances in Applied Business Strategy, p. 139, JAI-Press, volume 6A, 2000.
[77] Björk, S. IKEA. *Entreprenören, affärsidén, kulturen* (1998)

disappear. The Total Customer Solutions approach puts focus on more than the product and emphasizes problem solving. The complementors are nevertheless excluded which implies that a wider perspective still could be taken, namely the System Lock-in approach.

Söderman, who stresses the importance of retaining customers, further emphasizes the importance of Lock-in. It is five times more expensive for a company to recruit a new customer than to keep an already recruited. Figure 3.6 is a simplified description of the relation between costs and customer approaches:

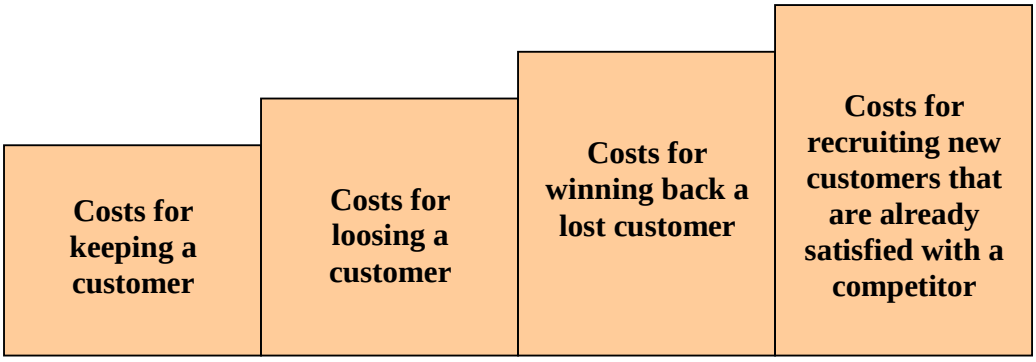


Figure 3.3: Classification of the customer base - the value of satisfied customers[78]

The strategy of System Lock-in is stated to open the minds for new strategic positions. If the strategy of Lock-in could really redeem this promise, it would create a solid platform, helping the industrial companies in the mature markets to better withstand competition.[79]

For companies that have not yet adopted Lock-in as a strategy, different strategies are now presented.

3.3 How to create Customer Lock-in

3.3.1 Seven sources of Lock-in

According to Singh, there are seven main sources of Lock-in or, expressed differently, seven ways of creating Lock-in. One may reflect upon if the different

[78] Söderman, Sten, *"Affärsutveckling-med exempel från H&M, IKEA, ABB och Volvo"* (2002), p. 218 pp.
[79] Ibid, p. 60

sources of Lock-in could show different degrees of fragility. Nevertheless, the sources are as follows:[8081]

1) Contractual Commitments

Contractual commitments provide not only certainty for the buyer and the seller but also create Lock-in. The supplier and the buyer make commitments in the form of contracts and the switching costs are then defined as the costs for breaking this contract. These switching costs increase over the whole time period of the contract and may concern both goods and/or services.

2) Durable Purchases

The value of most purchases declines and depreciates over time. Switching costs are here defined as the net cost of replacing durable goods or equipment. However, a service contract is an attempt to make customers perceive non-durable services/goods as durable, and thus binding the customer. The service itself does not imply any switching costs, but the contract does.

Furthermore, the leasing of durable goods makes these non-durable from the buyer's perspective. Contracts are thus written to make non-durable goods into durable or the opposite, to turn durable goods into non-durable dittos.

3) Product specific training

Costs of learning to use a product or service are regarded as switching costs since the training, which calls for resources, is product-specific. Such costs include direct costs of learning a new system, plus indirect costs in the form of lost productivity. The lost productivity could be suspected to last during the time the switch from one product to another is made, this until the personnel has learnt and adjusted to the new product or service. Due to an increased importance of complex information and systems in the society of today, this kind of Lock-in effects have become more commonly used. Product-specific switching costs, associated with learning, rise over time just like the familiarity with the existing system does. Moreover, complementary products are often installed, further enhancing these switching costs.

4) Information and databases

Data is stored in specific formats and systems. The switching costs occur as a converting cost when turning data into a new format. As the database grows in size,

[80] Singh, N., *Economics of E-Commerce, Customer Lock-In*, University of California, 2001
[81] E-mail correspondance with Singh, N., 2004-12-05

along with time and money invested, so does the created Lock-in. Even if automation is possible and transfers are quickly carried through, a company switching systems would still encounter unavoidable costs in the form of risk of losing data and thus temporarily losing the opportunity to use it, and costs of adjustment and transfer (including labor costs).

5) Specialized suppliers

Singh states that a specialized supplier is "the back side of a customized product or service".[82] Switching costs are, in this case, the costs of finding a new supplier and, in the specific case of business-to-business, perhaps the funding of a new supplier. In a more complex and technically advanced world, this is not always a rapid process. Furthermore, these costs may often rise over time if other potential suppliers do not maintain their capabilities. For companies facing this potential Lock-in, *dual sourcing* is a commonly used strategy seeking different sources for their supplies. In addition, the dominance of one product or service may increase Customer Lock-in over time, as the customer gets used to it. Involving the customer as at an earlier stage in the development process could also help enhancing this Lock-in. As stated by Thomke and von Hippel, this is especially relevant to shrinking market segments. A majority of innovations derive from customer suggestions', and by incorporating the customer as "innovator" at an early stage, the supplier can obtain a specific specialization, difficult for competitors to copy.[83]

6) Search Costs

To search for a different seller or supplier than the incumbent, may involve comparing all sorts of features, and may easily become a costly process, whether done on-line or off-line. Not only the prize, but also the product features and the conditions are considered. The cost increases even further if the company has a specialized supplier – that is, specialized in providing company specific goods or services and thus difficult and money consuming to replace.

7) Loyalty Programs

Loyalty programs are stated to be most useful and most important for business-to-customer commerce. However, loyalty programs exist in the business-to-business world as well – where large, frequent business customers may expect better service over time. The essence of loyalty programs is that they reward customers for the loyalty shown through accumulated purchases. These rewards are tied to the specific seller and are not portable. They could therefore be considered as a way of creating

[82] Singh, N., *Economics of E-Commerce, Customer Lock-In*, University of California, 2001
[83] Thomke and von Hippel, "*Customer as Innovators – A new way to create value"*, Harvard Business Review, April 2002.

Customer Lock-in, since changing supplier would imply loosing accumulated benefits and possible future advantages. This Lock-in is becoming more and more commonly used, as consumer information becomes more easily collected, stored and processed.

3.3.3 The importance of different kinds of relations

Söderman recounts that during the 1990's a notion grew within companies and at universities emphasizing that partnerships, relations and networks, rather than competence, were decisive for a company's success. Furthermore, it is stated to have been hard or even impossible, to make the concept "competence" operational.[84]

The following presentation of certain relations is made with the case company in mind. All kinds of relations are thus not discussed, only a small but relevant selection.

1) The classical network - physical distribution

The physical distribution networks are often complex systems. They entitle not only the distribution and exchange of *goods*, but also of *services* and *information*.[85]

Logistics entitles the flow of goods, from the premier supplier to the end producer and final customer. (This term has also been further developed to include the *recycling* of used goods in compliance with current *environmental* laws and regulations) Logistics strives to overlook the production and distribution. It aims at improving processes, and making the flow of goods more efficient. The objective is to improve customer satisfaction through *overall solutions*, *customized solutions* or *distribution alliances* with other suppliers.[86] Distribution also includes the possibilities to quickly and efficiently get in contact with the supplier when requesting information and support.[87]

Efficient logistics is further emphasized by the term *Just-in-time*, advocating the importance of not stocking goods, but to deliver them exactly when they are needed. JIT could also create a close relation between supplier and customer, since a close cooperation of systems and processes is needed. In order to obtain this, many companies are decreasing the number of suppliers rather than increasing it.[88] Relations between manufacturers and customers are often based on strong *social ties*. Trust and reciprocal understanding is crucial.[89]

---

[84] Söderman, Sten, *"Affärsutveckling-med exempel från H&M, IKEA, ABB och Volvo"* (2002) p. 41 p.
[85] Gummesson, E., (1998), *"Relationsmarknadsföring: Från 4P till 30R"*, Liber Ekonomi p. 64
[86] Ibid,, p. 67
[87] Ibid
[88] Gummesson, E., (1998), *"Relationsmarknadsföring: Från 4P till 30R"*, Liber Ekonomi, p. 68
[89] Ibid

2) The relation to the customer's customer

Industrial companies often promote products that are to be put together by a second or even a third manufacturer, before being provided to the end-customer. These suppliers then have an indirect relation to the customer's customer. There are thus different customers in the value chain that may have different needs. The supplier must determine whose needs to fulfill, and whether these could be correlated to become more similar.[90] Hence, the manufacturer and the first customer in the supply chain must have an open relation and share relevant information in order to reach the common goal: to supply the best possible product to the end customer. The supplier should help its customers satisfy their customers. A separation between "customers" (those who buy the product) and "consumers" (those who buy the final product) could thus be adequate.[91]

This relation could be added to the main factors affecting the company, treated in the beginning of this chapter. It is a relation that later on will be discussed in terms of the difference in being a *first-tier* versus a *second-tier-supplier*.

3) The environmental relation

A company's way of handling environmental and health related issues creates relations to specific target groups. A larger percentage of customers are today aware of these issues compared to twenty years ago, and the environmental issues' importance keeps increasing.[92] Companies pursuing deliberate environmental strategies, often have customers demanding high environmental consciousness. Thus, these companies incorporate the green issues into their *business idea* and make them a basis on which to form *competitive advantages*.[93]

4) TQM - relations between the market function and technical functions

Quality and quality management aim at making companies more market oriented. Two extremes may be noticed; *market orientation* and *product orientation*, two dimensions already discussed in the Delta model. Quality management may thus be discussed from either an *external perspective* (the market) or an *internal perspective* (the enterprise, governed by technology such as internal tools, systems and IT-resources). Together, these two concepts constitute *Total Quality Management*, TQM.[94] A company should not only "Do things right" (internal perspective) but also "Do the right things" (external perspective). The quality concept is in this way

[90] Gummesson, E., (1998), *"Relationsmarknadsföring: Från 4P till 30R"*, Liber Ekonomi, p. 93
[91] Ibid
[92] Ibid, p. 140
[93] Gummesson, E., (1998), *"Relationsmarknadsföring: Från 4P till 30R"*, Liber Ekonomi, p. 140
[94] Gummesson, E., *Relationsmarknadsföring: Från 4P till 30R*, Liber Ekonomi (1998), p. 231 pp

believed to strengthen the relation between *technology* and *market* which implies that the notion "relations" today not only refers to relations between individuals.[95]

3.3.4 Alliances change the market mechanisms

An alliance is a *formal* or *informal* relation between different customers, suppliers or competitors. These alliances make companies dependent, and often involve a high degree of participation from both parties. However, many alliances are "silent", and carried out through consensus and predictable behavior. These are often developed over time, and based on a common ground such as culture and understanding of each other's needs.[96]

The company's efficiency in its building and maintenance of relations can be calculated using different measurements. These include: *duration* (how long a customer stays in the relation), *retention* (the percentage of customers still in a relation after a given time) and *defection* (the number leaving the relation), concepts that may be linked to Söderman's discussion regarding the value of satisfied customers. These are numbers that should be improved by creating Customer Lock-in. Often too few resources are spent on retaining existing customers compared to finding new ones.[97] A study shows that 82% of the customers leave a supplier due to poor maintenance of the relationship (defined as the supplier disregarding complaints or being uninterested in the relation).[98] Especially on mature markets, where customers are often big and few, the retention of customers may be crucial due to their size and thus individual importance, and the difficulties in finding new ones on a saturated market.

3.3.5 The need for security

The aim of customer relationship management is to increase retention and duration, decrease defection as well as improve processes to become more efficient. The main reason for companies to build relations and alliances is the need for security, counteracting an unpredictable world by making it more foreseeable. In this way, companies seek to *increase predictability*, *stability*, *trust*, *honesty* and *resurrection*. At the same time, they seek to *minimize risk* and *uncertainty*.[99] However, strong relations are not the only means to obtain security. Security is also initialized and maintained by regulations and contracts, a less sustainable source according to Gummesson, and a high degree of supplier knowledge and expertise.[100] When taking the Customer and Complementor Lock-in and Competitor Lock-out perspective there

[95] Gummesson, E., *Relationsmarknadsföring: Från 4P till 30R*, Liber Ekonomi (1998), p. 231 pp
[96] Ibid, p. 175 pp.
[97] Ibid, p. 244
[98] Gummesson, E., *Relationsmarknadsföring: Från 4P till 30R*, Liber Ekonomi (1998), p. 244
[99] Ibid
[100] Gummesson, E., *Relationsmarknadsföring: Från 4P till 30R*, Liber Ekonomi (1998), p. 290

is a need to not only consider positive effects that a relation may create, even though these are important too not the least when trying to create a win-win situation, but to also reflect upon the Lock-in or Lock-out the relation actually creates.

3.3.6 The importance of creating Customer Lock-in in time

It has been established that most strategies are never implemented. A general flaw is stated to be the *lack of mobilization*, which means that both the will to mobilize and the mobilization technique itself are insufficient or imperfect in the companies.[101] If a company decides to adopt the strategy of Lock-in and no matter what kind of Lock-in the company aims to create, there is a need to take action and create this Lock-in in time. This is important not the least when considering *first-mover-advantages*, which have been discussed regarding the generation of relations and networks. Moreover, just like a company could create Competitor Lock-out by for example the creation of Customer and Complementor Lock-in, its own competitors could do the same thing. This is what could be called the *external perspective*, considering external factors that make it necessary to create the Lock-in or Lock-out in time. Connected to this is also the discussion earlier concerning *early adopters*, where one customer group's adoption could have positive effects on the preferences of another group.[102]

Another factor promoting early implementation concerns pure *costs*. The difference in costs when trying to recruit new customers compared to when trying to retain existing ones can not be ignored. Since it is much more expensive for companies to recruit new customers than to retain existing ones there is a clear incentive for the companies to take action and implement Customer Lock-in and Competitor Lock-out before they have started to lose customers.[103] The same could be suspected to apply regarding complementors.

A technique that could help companies act in time is *Time Pacing*, which is the opposite of *Event Pacing*. Using this technique, companies could face the challenges the external world presents (the external perspective), while also helping prepare the employees for changes (the internal perspective). The concept of *Time Pacing* implies that a company prepares itself for changes and act proactively by finding its own rhythm. The company follows its own "clock", which signals when it is time for product development and similar activities. *Event Pacing*, on the other hand, is a reactive strategy, until now often used by companies acting on mature markets.[104] The opportunities of Time Pacing should, nevertheless, not be neglected for these companies.

---

[101] Söderman, Sten, (2002) *"Affärsutveckling-med exempel från H&M, IKEA, ABB och Volvo"*, p. 49
[102] Klemperer, P., (2001), *" Coordination and Lock-In: Competition with Switching Costs and Network Effect"s*, Oxford University, p. 33
[103] Ibid
[104] Eisenhart, K., Brown, S. (1998) *"Time Pacing: Competing in markets that won't stand still"*, Harvard Business Review, March-April 1998, p. 59 pp.

3.4 How to sustain Customer Lock-in

After having created a Lock-in or Lock-out, the subsequent question is how to sustain it. The difficulties this represents are discussed in terms of *internal* and *external threats* (the latter coming from the surrounding world). Once again we would like to put focus on the possibility that different kinds of Lock-in could show different degrees of fragility, which is why a company having chosen this strategic positioning already from the start should consider this matter.

3.4.1 Internal Threats

Söderman states that in order to face the changes in conditions, the enterprise must posses a *readiness and flexibility* in all its functions in order to render a quick and effective adaptation possible within *the existing organizational structure*.[105] To be able to face the challenges the surrounding world presents and sustain the created Lock-in or Lock-out, an adaptation could thus be necessary if the organization is currently poorly adapted to face changes.[106]

There is also the need to keep the enterprise and the created Lock-in or Lock-out *independent of the leader*. A persistent enterprise must be constructed in a way, which does not make it dependant on one or few executives, in case he/she/they decide to quit[107]. This is important when considering the strategy of Lock-in. If a company builds relations with other companies creating Customer or Complementor Lock-in or Competitor Lock-out, these relations must not be dependent on one or a few persons uniquely. This could affect the companies' control of created Lock-in or Lock-out. Another factor affecting the company's means of control is *outsourcing*. Outsourcing *affects the means of control, the development of competence* and many other factors.[108] One might thus consider the effects outsourcing could have on the possibilities of creating, but mainly sustaining, Lock-in or Lock-out. If the core competencies form a basis for the company's Lock-in activities, then outsourcing these and thus lose control certainly is a risk.

3.4.2 External Threats

Even if the internal perspective is of great importance, the motives for business development often come as a response to changes in the market. External threats against strategies could come in the form of *changes in technology* or in the form of *competitors' actions*[109]. Common reasons are accordingly that the *competitors*

[105] Söderman, Sten, (2002), *"Affärsutveckling-med exempel från H&M, IKEA, ABB och Volvo"* p. 58
[106] Ibid
[107] Ibid, p. 45
[108] Ibid, p. 55
[109] Ibid, p. 50

borrow or steal product-/market solutions. Another reason is that they *develop better and*, for the customer, *more attractive solutions*. Innovation is here essential.[110]

Customers' continuously changed needs make innovation difficult. Customer Lock-in is supposed to help the companies increase the switching costs and reinforce the customer bonding, making it harder for the customer to leave and for the supplier to gain ground.[111] The focus on product innovativeness may thus seem to be rather product oriented, contradicting the chosen strategy of Lock-in and Lock-out. Nevertheless, it could be fruitful to reflect upon if innovation would help the company when creating relations that in turn could create Lock-in or Lock-out.

3.5 Concluding discussion linking to the empirical study

A theoretic framework has now been developed, which will help when analyzing *the need* and *the opportunities* of TSDK to create Customer or Complementor Lock-in or Competitor Lock-out. Each company striving to increase the customer bonding must create an awareness of the factors affecting its particular situation. To be able to identify and present these, an interaction has taken place between the development of this theoretic chapter and the following treating empirically collected material. Some general tendencies in the surrounding world have been presented:

- *deregulations*, *privatizations* and *technology*, increasing competition severity
- The *complexity* of the world, describing the world as a *system* where even small changes around the world may affect the totality.
- Acting on a *mature market*
- The trend towards *shorter product life-cycles*
- The trend towards *commoditization*

Furthermore, a relation affecting companies acting as a *second-tier-supplier* has been identified:

- The relation to the customer's customer

The implications this relation may have will be further explained in the empirical chapter and the analysis.

After having discussed the surrounding world, the concept of Lock-in and Lock-out were put forward from different authors' points of view. The strengths of the strategies were at the same time presented. The concept was extended to include:

[110] O'Reilly III, C.,A., Tushman, M., L., (2004) *"The Ambidextrous Organization"*, Harvard Business Review, April, p. 75 pp.
[111] Söderman, Sten, (2002),*"Affärsutveckling-med exempel från H&M, IKEA, ABB och Volvo"*, p. 58

- Customer and Complementor Lock-in and Competitor Lock-out
- Lock-in as a consequence of the customer's switching costs and the customer's (actual or perceived) quality/cost advantage, where the importance of a win-win situation was emphasized.

Furthermore, seven sources of Lock-in were presented including:

- Contractual commitments
- Durable purchases
- Product specific training
- Information and databases
- Specialized suppliers
- Search costs
- Loyalty programs

These were complemented with different kinds of *relations* and *networks*, put forward as promoters of the implementation and duration of the strategy.

Finally, the need for a sustainable Lock-in/Lock-out was emphasized, and possible internal and external threats were identified.

4 Empirical Material – TSDK

In the following chapter, empirical material collected for the specific case company, TSDK, will be presented. Even though this information has been developed to illuminate the situation of this particular company, other companies could for example find interest in seeing what aspects have been taken into consideration to evaluate Lock-in opportunities. As an attempt to facilitate the comprehension for the reader, fundamental aspects such as organizational structure, business objectives and product categories will be initially illuminated. A presentation of different strategic components, commencing with different product features and ending with ancillary services, will follow. Ultimately some important customers will be presented and the results of the questionnaires sent to the customers as well as the employees will be shown. These questionnaires are meant to illuminate new strategic possibilities.

4.1 Organizational Structure

TSDK is part of a rather vast organization, which might, at first, seem complicated and hard to grasp. TSDK is only one of the parts in a *division* called *Trelleborg Sealing Solutions*.[112] It employs 370[113] of the division's total 6000 employees.[114] Trelleborg Sealing Solutions is a global supplier of precision seals for the industrial, automotive and aerospace markets[115]. Within this division there are units, specializing on different functions, *see appendix 1, picture 1*.[116]

As seen in the appendix, TSDK is part of a smaller unit called Global Operations Engineered Plastic, where Carsten Hoeg is president. This unit is a *production unit*, just as Global Operations Elastomers. Furthermore, there are marketing units, such as Marketing Europe, Marketing Americas and Marketing Asia Pacific. The marketing is thus divided according to geographic affiliation. This implies that if TSDK intends to sell a product in France, the company contacts *Busak+Shamban* in France, which in fact is a company and not just a small unit.[117] Even though the production and the marketing according to this scheme are separated, the units work closely together having the same target of expanding the business. Their task is to further develop the business. Furthermore, the Busak+Shamban marketing companies are educated by

[112] Power Point Presentation, Busak+Shamban, 2004-11-16, slide 13
[113] Ibid, slide 21
[114] Ibid, slide 9
[115] www.trelleborg.com, 2004-11-17
[116] Power Point Presentation, Busak+Shamban, 2004-11-16, slide 13
[117] Ibid

the production companies three to four times per year in order to increase their product specific knowledge.[118]

In excess of the co-operation with the marketing units, the production unit TSDK also co-operates with other units within the same division. An example is the collaboration with the company in Indiana, US, which is an attempt to promote research and development. Another example is a co-operation with the head office in Stuttgart, Germany. TSDK also, to some extent, uses out-sourcing and the managers express the dilemma and the importance of keeping the know-how within the company despite this out-sourcing.[119]

The head office of the division, Trelleborg Sealing Solutions, is located in Stuttgart, Germany, where all logistics emanate. The production units are located in Brazil, Canada, Denmark, France, India, Italy, Japan, Malta, Mexico, Poland, Sweden, the UK and the US. TSDK is the unit in Denmark.[120]

Looking at the organization from a greater perspective, Trelleborg Sealing Solutions is, despite its complexity and size, only one of the parts of the group Trelleborg AB. This group consists of Trelleborg Automotive, Trelleborg Wheel Systems, Trelleborg Engineered Systems and Trelleborg Building Systems. [121]

4.2 The Business and its Objectives

TSDK, situated in Helsingør, Denmark, was founded in 1965.[122] Shamban was established in the US in the beginning of the fifties, making seals primarily to the aerospace industry[123]. Before the acquisition effected by Trelleborg AB, the entire Sealing Solutions division was owned by the UK-based Smith's Group.[124]

Trelleborg AB's acquisition of this division, and thus TSDK, was the consequence of a decision made in the group regarding a new strategic direction. The repositioning of the Trelleborg group was decided in April 1999. The strategy adopted was named "*concentration and expansion*". In this context, *concentration* meant that Trelleborg AB would divest the non-core operations and focus on the industrial competence at its disposal.[125] The company would develop, manufacture and market functionally oriented products, systems and services based on its extensive knowledge of polymer

[118] Meeting with Winther, J., Sales and Marketing Manager, Product Management and Ehnhuus, H., Sales and Product Manager, Commercial Department TSDK, Helsingør, 2004-11-16
[119] Meeting with Winther, J., Sales and Marketing Manager, Product Management and Hoeg C, President, TSDK, Helsingør, 2004-11-05
[120] www.trelleborg.com, 2004-11-22
[121] Power Point presentation, Busak+Shamban, 2004-11-16, slide 3
[122] Ibid, slide 21
[123] Ibid, slide 25
[124] Fredrik Arp, President and CEO of Trelleborg, press release 2003-07-21
[125] Ibid

technology, markets and customers.[126] Several divestments were thus pursued.[127] The remaining holding (49 percent) in the Trenor Group (Ahlsell, Bröderna Edstrand, Reynolds) was divested in 2004[128], as well as the possession of the metal-recovery company Metech in 2002.[129] The strategy of *expansion* was completed with the acquisition of the UK-based Smith's Group Plc's precision seal business, which became a new separate business in Trelleborg AB, Trelleborg Sealing Solutions. The President and CEO, Fredrik Arp, has stated that they saw good opportunities since it was "a well-run business with leading positions and high technology products within market segments that Trelleborg AB knows and understands".[130]

The acquisition and the adherent explanation to why this acquisition was made seems to be in line with the group's stated objective, namely to "capture leading positions and to create economies of scale within the areas of research and development, production, marketing and service".[131] Approximately 90 percent of the whole group's sales derives from products with leading (first, second or third) positions.[132] Trelleborg Sealing Solutions is market leader in not only industrial polymer seals but also in aerospace polymer seals in Europe. Furthermore, it holds the second position in America concerning the aerospace polymer seals. The division has leading-edge competence in premium automotive seals.[133] Managers of TSDK express the same will to obtain leading positions and to innovate and lead the development. They emphasize the benefits with being the first one to act.[134] The company strives to be "best-in-class in sealing solutions in PTFE (plytetrafluoroethylene) and other engineering plastics".[135] This may be taken into consideration together with the *business philosophy* expressed by Busak+Shamban Marketing Europe, namely to be a marketing driven organization by providing customers with the most appropriate, cost effective sealing solutions.[136]

The fact that TSDK today is owned by Trelleborg AB, instead of by the Smith's Group, is said to have greatly affected the company's strategy.[137] As opposed to Smith's Group Plc, which held back innovations and aimed at *short-term profits*, Trelleborg AB aims at *long-term profits* and has presented a growth in recent years achieved by acquisitions.[138] After a period of strong *acquisition-driven growth*, the

[126] www.trelleborg.com, 2004-11-22
[127] Fredrik Arp, President and CEO of Trelleborg, press release 2003-07-21
[128] Press release, "Divestment of Trelleborg's Trenor holding completed", 2004-05-17
[129] Press release, "Trelleborg signs final agreement for sale of the operations within Metech", 2002-07-04
[130] Fredrik Arp, President and CEO of Trelleborg, press release 2003-07-21
[131] www.trelleborg.com, 2004-11-29
[132] Ibid
[133] Power Point presentation, Busak+Shamban, 2004-11-16, slide 9
[134] Meeting with Winther, J., Sales and Marketing Manager, Product Management, Hoeg Carsten, President, TSDK, Helsingør, 2004-11-05
[135] Power Point presentation, Busak+Shamban, 2004-11-16, slide 20
[136] Ibid, slide 18
[137] Meeting with Winther, J., Sales and Marketing Manager, Product Management and Ehnhuus, H., Sales and Product Mangarer, Commercial Department, TSDK, Helsingør, 2004-11-16
[138] Fredrik Arp, Årsredovisning Trelleborg (2003), p. 2

priority of the whole group has now shifted to complementary acquisitions that offer synergies as well as the potential to meet group profitability goals.[139] With the acquisition of Trelleborg Sealing Solutions however, the group aimed at becoming more innovative since they considered *organic growth* to become more and more important.[140] Essential to notice is the differences between the situations of TSDK, as a part of Trelleborg Sealing Solutions, and the group as a whole. Whereas the group has grown through acquisitions and now strives to start growing organically[141], TSDK and Trelleborg Sealing Solutions have already grown organically with the help from first and foremost automotive products. In fact, TSDK had already in November this year (2004) presented a growth of 16 percent in turnover, see *figure 4.3*. Whereas the turnover for 2003 was €38, 5 million (ex. factory sales), the expected sales for 2004 are thus approximately €44 million. The annual production rate is 110 millions seals.[142]

4.3 Product categorization

TSDK provides advanced sealing solutions in specialty materials for a range of industrial applications.[143] The products may be divided into three categories; *industrial*, *automotive* and *aerospace products*, contributing to 64%, 31% and 5% of the total value of the company's turnover.[144] See *appendix 1*, *picture 3*.[145]

4.3.1 Industrial Products

The industrial customers consist of major industries, and the products consist of components to e.g. power shovels and wind power plants[146].

TSDK most often acts as a *first-tier-supplier* within this sector. This implies that the company sells directly to the customers that produce the end-products.[147]

[139] www.trelleborg.com, 2004-12-02
[140] Fredrik Arp, Årsredovisning Trelleborg (2003), p. 2
[141] Meeting with Meuller, F., Vice President, Business Development, Nilsson, L-O., Senior Vice President, Business Development & Treasury, de Tavernier, S., Busniess Development, Trelleborg AB, Trelleborg, 2004-10-06
[142] Power Point presentation, Busak+Shamban, 2004-11-16, slide 21
[143] Ibid, slide 9
[144] Ibid, slide 27
[145] Ibid, slide 34
[146] Ibid, slide 8
[147] Meeting with Winther, J., Sales and Marketing Manager, Product Management and Ehnhuus, H., Sales and Product Mangarer, Commercial Department, TSDK, Helsingør, 2004-11-16

4.3.2 Automotive products

The automotive products consist of high performance, security-critical seals for steering, fuel control, air conditioning and drive line systems.[148]

As presented the Automotive segment represented a share of total turnover of 31% in 2003. The share of output however was much higher, namely 87%.[149] The difference is explained by the fact that cars in the automotive industry require a large amount of low margin (of profit) seals as opposed to the industrial sector where the machines most often require a smaller amount of high margin seals.[150] The low margins of profit are a result of the higher price pressure in this sector and, despite the high volumes produced and sold, this segment's profitability remains relatively low.[151]

Another trend is the recently increased amount of activities. Whereas this sector flourishes today, it was insignificant for the company ten years ago.[152] *See appendix 1, picture 5*[153].

TSDK most often acts as a *second-tier-supplier* in the automotive sector, as opposed to the case in the industrial sector. This implies that it does not sell directly to the customers producing the end-products, but to the subcontractors of the car industry.[154] As an example, TSDK sells sealing solutions to the German producer Bosch, which in turn sells its products to Volvo. Volvo then puts the units into the end-products, the cars, and sells them to the end-customer.[155]

4.3.3 Aerospace Products

The aerospace sealing solutions are claimed to be used in practically every big commercial and military flying program. Important areas for application are motors, steering equipment, landing gears, wheels and brakes.[156]

Within the aero space sector the company acts both as a *first-tier-supplier* as well as a *second-tier-supplier*.[157]

---

[148] Trelleborg AB's Annual Report 2003
[149] Ibid
[150] Ibid
[151] Meeting with Winther, J., Sales and Marketing Manager, Product Management and Hoeg C, President, TSDK, Helsingør, 2004-11-05
[152] Ibid
[153] Power Point presentation, Busak+Shamban, 2004-11-16, slide 26
[154] Trelleborg AB's Annual Report 2003
[155] Meeting with Winther, J., Sales and Marketing Manager, Product Management and Ehnhuus, H., Sales and Product Manager, Commercial Department, TSDK, Helsingør, 2004-11-16
[156] Trelleborg AB's Annual Report 2003
[157] Meeting with Winther, J., Sales and Marketing Manager, Product Management and Ehnhuus, H., Sales and Product Manager, Commercial Department, TSDK, Helsingør, 2004-11-16

4.4 "Strategic tools"

In order to get a clearer picture of TSDK's product strategies, one may study a scheme where the product positioning is illustrated.[158] *See appendix 1, picture 5. Commodities* and *low-tech products* are connected to *low margins of profit* whereas *branded products* and *engineered seals*, with more technical support, are connected to *high margins of profit.* As opposed to the ordinary mass-produced o-rings, the Turcon ® Vane Seals for example are branded and engineered seals with technical support and high margins of profits. These Turcon ® Vane Seals are stated to be one of Trelleborg Sealing Solutions "success stories", installed in the "Powered Automotive Torque Bar" of a luxury BMW-model.[159] The development in sales of these seals has in fact increased from a negligible amount in 2000 to estimated sales of almost €1,5 millions in 2004.[160]

Executives explain that depending on the case, the company uses a *low cost* or a *differentiation* strategy. Carsten Hoeg, president of the company, gives a clarifying example, explaining when each strategy is used; When the ABS-Brakes were originally sold, these were considered as luxury items. Thus, ABS-Brakes were installed only in expensive cars, such as some Mercedes-car models, and the customers of these cars were willing to pay more for this extra feature. As a consequence, the producers could attain a high margin of profit, which in turn provided also producers of the small components, installed in these brakes, with high margins of profit. At this point, the ABS-Brakes were differentiated. As the consumers started to take ABS-Brakes for granted and the competition grew stronger, these were no longer differentiated but rather a *commodity*. Hence, producers were forced to lower the margins of profit, and a low profit strategy emerged. However, *innovation* is believed to solve this problem, and the whole Trelleborg Sealing Solutions division releases around 5 new products per annum (including India and the US) whereas the company, TSDK, releases around one of these new products.[161]

TSDK strives to keep a high value creation in order to stay competitive and to be able to keep rather high margins of profit on its products. The company utilizes what may be called different strategic "tools" to make this possible. In the following, some of these will be presented.

[158] Power Point presentation, Busak+Shamban, 2004-11-16, slide 42
[159] Ibid, slide 50
[160] Ibid, slide 53
[161] Meeting with Winther, J., Sales and Marketing Manager, Product Management and Hoeg C, President, TSDK, Helsingør, 2004-11-05

4.4.1 Material and Design

TSDK is specialized in PTFE (polytetrafluoroethylene) materials. It is a low friction material, resistant to chemicals and high temperatures. In order to meet the highest performance standards and the most stringent environmental and safety demands, TSDK continually performs on-going research to ensure that the company is in the forefront of development concerning the creation of new materials.[162] TSDK's proprietary material, trademarks and patents are as follows:

- **Turcon®:** outstanding sealing compounds based on PTFE
- **Zurcon®:** proprietary polyurethane compounds and engineered plastics
- **Turcite®:** highly wear-resistant, low-friction bearing compounds based on PTFE for low duty[163]

The company's proprietary products counts a. o. the following:

- Stepseal® 2K
- Glydring® T
- Excluder®
- AQ-Seal
- Slydway®

Whenever possible the designs are protected by patents, i.e. Stepseal® 2K and Glydring® T.

The company possesses advanced in-house capabilities and test resources that permit extensive testing on materials and finished components. The advanced testing enables the company to meet increasing demands regarding pressure and temperature, to provide leading edge performance and eliminate the risk of sealing solution defects.[164]

An aspect worth mentioning regarding material and design is that TSDK does not have the same opportunities to protect leading-edge competence in both areas. When it concerns innovations in product design, such as a product's rectangular instead of round form, the company may protect them by way of patents, a possibility that is also used. When it regards material composition, the same possibility of protection from competition does not exist. As a consequence, no-one unauthorized is allowed to enter the laboratory and production facility where these materials are being developed and produced.[165]

[162] www.busakshamban.com, 2004-11-18
[163] Trelleborg Shamban Company Presentation , September 2004
[164] www.busakshamban.com, 2004-11-18
[165] Meeting with Winther, J., Sales and Marketing Manager, Product Management and Ehnhuus, H., Sales and Product Manager, Commercial Department, TSDK, Helsingør, 2004-11-16

By consequently developing the product's design and material, TSDK pursues a strategy of constant quality amelioration, an important aspect when it comes to creating a customer Lock-in.

4.4.2 Joint product development

TSDK sells both *standardized* sealing solutions and differentiated *customer solutions*. The split between standard solutions and customized solutions is approximately 50/50 (sales value). The release of a new customer solution is often triggered by the customer itself. The customer turns to the company to get a problem solved and a joint product development is commenced. TSDK then starts to elaborate possible solutions and bears all the costs when doing this. These costs are often high and in order to make it profitable, large volumes of the new product need to be sold. The company nevertheless sees the value of this co-operation since its renders a product differentiation possible, which in turn helps the company to avoid having constantly low margins of profit.[166]

An example of a successful co-operation like this is the one with the customer Monroe. In order to remove a risky step in the customer's production, namely manual installation, a process product, the "combi-slydring", was replaced by a "skirt", being mounted in a new process, "skirted piston". Instead of letting the customer handle it manually, TSDK's machines were sold to the customer and installed as a part of their assembly line.[167] Another "success storiy" is stated to be the "Fold Seals" for Andritz Ahlstrom's "Paper Processing Equipment", the sealings produced for Danfoss' "Hydraulic Steering Unit" and Bosch's "Common Rail" and "ABS-Brakes".[168]
This kind of process between TSDK and its customers serve as a "tool" strategically since a common process connects the company further with the customer.

4.4.3 Certificates

When you stroll around in the facilities of TSDK in Helsingør, the feeling of the certificate's importance strikes you. In offices as well as in production areas, posters remind employees of four quality certificates with standards that the company is committed to keep. These certificates are *ISO 9001*, *TSO – C150*, *ISO 14001* and *QS 9000*.[169] The certificate considered to be the most difficult to obtain is QS 9000, a

[166] Meeting with Winther, J., Sales and Marketing Manager, Product Management, Hoeg C, President, TSDK, Helsingør, 2004-11-05
[167] Meeting with Winther, J., Sales and Marketing Manager, Product Management, Hoeg Carsten, President, TSDK, Helsingør, 2004-11-05
[168] Power Point presentation, Busak+Shamban, 2004-11-16, slide 51
[169] Ibid, slide 72

quality program concerning the automotive products. This specific certificate includes the four following areas of focus[170]:

- Zero defects
- 100% of the deliveries in time
- Stable processes
- Continuous improvements

The certificates are believed to play an important role in TSDK's strategy since the sealings are often used in areas critical to security, such as steering and fuel control. The certificates may thus be a prerequisite for further sales and the loyalty of a customer.[171] The Sales and Marketing Manager, Jan Winther, claims that the company would not be unable to do business with some of its clients, such as Bosch, without them.[172]

The main focus is stated to be the commitment to "zero defects", a commitment that ought to affect the whole organization, with all its procedures. The advanced testing, earlier mentioned, enables TSDK to eliminate the risk of sealing solution defects.[173] The commitment to "continuous improvements" is stated to not only demand an ameliorated quality but also a constant striving to reduce costs.[174]

Whereas the QS 9000 certificate concerns the quality of the products and services, the ISO 14001 certificate concerns a completely different issue, namely the environment[175]. TSDK's development and test facilities are compliant with EC and EPA environmental regulations.[176]

4.4.4 Delivery System

TSDK's delivery systems serve as a strategic "tool" by offering the customer the best, as well as the most convenient, solution possible. The delivery system consists of six categories depending on how urgent the order is for the customer[177].

Category 4: Delivery within 20 working days. *The number of order lines is unlimited.*

---

[170] Meeting with Winther, J., Sales and Marketing Manager, Product Management, Hoeg C, President, TSDK, Helsingør, 2004-11-05
[171] Trelleborg Shamban Company Presentation , September 2004
[172] Meeting with Winther, J., Sales and Marketing Manager, Product Management, Hoeg C, President, TSDK, Helsingør, 2004-11-05
[173] www.busakshamban.com, 2004-11-18
[174] Meeting with Winther, J., Sales and Marketing Manager, Product Management, Hoeg C, President, TSDK, Helsingør, 2004-11-05
[175] Ibid
[176] www.busakshamban.com, 2004-11-18
[177] Power Point presentation, Busak+Shamban, 2004-11-16, slide 78

Category 3: Delivery within 15 working days. 25% of the customer's number of order lines per week.
Category 2: Delivery within 10 working days. 10% of the customer's number of order lines per week.
Category 1: Delivery within 5 working days. 10% of the customer's number of order lines per week.
Turcon ® Express: The orders need to be received before 8 a.m. and are *produced and delivered the next day*. *The number of order lines is unlimited*.
Emergency: The orders need to be received before 8 a.m. and are *produced and delivered the same day*. *The number of order lines is unlimited*.

TSDK is the only company within the division offering the Turcon ® Express and the Emergency delivery within 24 hours. The company executes approximately 150 express deliveries annually. Worth emphasizing is that no matter the size of the order, the company offers delivery the very same or the following day, all depending on what classification the customer has chosen. The guarantee to keep this promise is also one of the QS 9000 certificate's areas of focus, "100% of the deliveries in time", a commitment considered to be of such importance that a helicopter is sometimes used.[178] Some managers claim that the company does not directly increase turnover through these services. However, they do not exclude the possibility that these services help the company earn money in indirect ways. The customers could choose TSDK, knowing that this supplier will be able to deliver what they need within short notice.[179]

TSDK's actual delivery times (number of days from order entry to invoicing per order line) were as follows in December year 2003:[180]

5.1% of order lines are delivered within 2 days
8.6% of order lines are delivered within 5 days
11.3% of order lines are delivered within 10 days
19.0% of order lines are delivered within 15 days
23.1% of order lines are delivered within 20 days
9.6% of order lines are delivered within 25 days

These figures show actual delivery times. Please note that they have not been compared to demanded delivery times. Thus, no conclusion can be drawn regarding whether TSDK has actually lived up to the high demands of on time delivery.

[178] Meeting with Winther, J., Sales and Marketing Manager, Product Management, Hoeg C, President, TSDK, Helsingør, 2004-11-05
[179] Meeting with Winther, J., Sales and Marketing Manager, Product Management and Ehnhuus, H., Sales and Product Manager, Commercial Department, TSDK, Helsingør, 2004-11-16
[180] Trelleborg Shamban Company Presentation , September 2004

4.4.5 Stock-keeping

In excess of the ordinary warehouse, TSDK has different kinds of stock-keeping supporting its delivery system.

4.4.5.1 Safety Stock and on time delivery

In order to satisfy the customers in emergency situations (that is Turcon ® Express and Emergency deliveries), the company has a strategy that consists of keeping a "safety stock" of tubes ready for production in its production facility in Helsingør. In this warehouse, some of the most demanded materials are always on the shelves.[181] *Supplier Managed Stock*, SMS, is a system developed to obtain flexibility and increased efficiency in production output, and describes it as follows:

In order to satisfy the customers even in emergency situations (that is Turcon ® Express and Emergency deliveries), the company keeps a "safety stock" in its production facility in Helsingør. In this warehouse, some of the most demanded parts are always on the shelves.[182] The company calls it a *Supplier Managed Stock*, SMS, and describes it as follows:[183]

Purpose:	- To give production a higher degree of flexibility - Level out peak periods
Benefits for the market:	- Shortening delivery times - On-time delivery
Benefits for us all:	- Maintain our valuable and knowledgeable work force
Our responsibility:	- No sold out SMS part numbers
How much?	- 600 of our most sold part numbers - 20% of our industrial sales to the SCM member countries

The production facility in Helsingør is thereto *modular*. If, in emergency cases, there are not enough products neither in the ordinary warehouse nor in the safety stock the production could rather easily be switched over to produce the demanded product.[184]

4.4.5.2 Consignment stock

In excess of the ordinary warehouse and the safety stock the company keeps, for some of its customers, a so called consignment stock. This implies that the customer has a stock of TSDK's products at its facility. The customer pays only when products

[181] Meeting with Winther, J., Sales and Marketing Manager, Product Management, Hoeg C, President, TSDK, Helsingør, 2004-11-05
[182] Ibid
[183] Power Point presentation, Busak+Shamban, 2004-11-16, slide 81
[184] Meeting with Winther, J., Sales and Marketing Manager, Product Management, Hoeg C, President, TSDK, Helsingør, 2004-11-05

from this stock are used, and the wares are until then considered to be the property of the supplier. This co-operation is often instituted on the initiative of the customer.[185]

4.4.6 Order handling - Electronic Quotation System

Another strategic "tool" is the electronic quotation system that is currently being developed in order to support the existing delivery system. The new system has been described as a strategic solution facilitating the process for the customer in distinction of the paper based quotation system used today. The future system is described as follows:[186]

Purpose: - Improve handling of quotations:
Quicker response and improved quality (documentation)
Present: - Paper based, sequential
Future: - Electronic, Parallel
Result:
- Consistency – re-use quotations / methods
- Quick tracking of inquiries = quick response
- "Transparency" – Overview of inquiries and status
- Improved documentation (drawings, explanations)
- Differentiated system (Key Accounts = "Golden Treatment")
- Improved future planning – e.g. sales per product, country, customer segment

4.4.7 Singh's seven sources of Lock-in

In the theoretic chapter seven sources of Lock-in were presented. The Sales and Marketing manager of TSDK was asked to describe to what extent the company uses these[187]. The answer was that *durable purchase*, *product specific training* and *information and databases* are not used at all whereas the other four to some extent are. *Contractual commitments* and *loyalty programs* are stated to sometimes be set up by the marketing companies, however only with large accounts, such as Bosch. These may for example concern minimum volumes, prices and service levels.

As already established, the company often acts as a *specialized supplier*, especially with large accounts where many resources are spent to reach an optimal solution. The Vane Seal developed with Sachs and BMW is given as an example. It is stated to often end with special equipment tailored to produce the particular part, calling for the customer's resources in form of time and money.

---

[185] Meeting with Winther, J., Sales and Marketing Manager, Product Management and Ehnhuus, H., Sales and Product Manager, Commercial Department, TSDK, Helsingør, 2004-11-16
[186] Power Point presentation, Busak+Shamban, 2004-11-16, slide 103
[187] E-mail correspondence with Winther, J., Sales and Marketing Manager, Product Management, TSDK

The search for a new supplier is stated to entail *search costs*. It involves new approvals and qualification tests to see if the parts can really be replaced by the ones of another supplier. Sometimes even the customer's customer needs to be involved.

4.5 Customers

Despite the management's efforts, a tendency is stated to have been noticed of customers becoming increasingly disloyal, focusing more on prices and less on quality, on-time delivery and services, threatening the company's differentiation strategy. Nevertheless, the company still believes customer relations to be of importance for the future and furthermore the executives express a will to create win-win situations.[188] Even Singh implies the importance of customer satisfaction when including the customer's perceived or actual advantages in the definition of Lock-in[189]. Hence, some of the company's most important customer's will be presented to illuminate their desires and demands.

As earlier mentioned, the customers of TSDK are divided as 64% (industrial segment), 31% (automotive segment) and 5% (aerospace segment) of the value of TSDK's total sales.[190] Noteworthy is that the largest customers are within the automotive segment. The industrial segment's customers are smaller, but more numerous.

[188] Meeting with Winther, J., Sales and Marketing Manager, Product Management and Ehnhuus, H., Sales and Product Manager, Commercial Department, TSDK, Helsingør, 2004-11-16
[189] Singh, N., *Economics of E-Commerce, Customer Lock-In*, University of California, 2001
[190] Power Point Presentation, Busak+Shamban, 2004-11-16, 27

The company's main customers include[191]:

	Sales 2004	Sales 2003	Growth	Sales % of total turnover
Bosch	25417	22554	13%	12%
MM Sachs Vane Seal	7773	4409	76%	4%
Monroe	7706	6423	20%	4%
MM Sachs[192]	5747	7518	-24%	3%
TRW	4132	4263	-3%	2%
Bilstein	4596	4764	-4%	2%
Power Packer	4930	3311	49%	2%
SFD	1932	2299	-16%	1%
Koni	1776	1703	4%	1%
Unitech	1250	754	66%	1%
Danfoss	1988	1782	12%	1%
Polmetasa	1193	1429	-17%	1%
Total	70326	63031	12%	35,5%
% of total turnover	32%	33%		

4.5.1 Bosch

4.5.1.1 Presentation

The customer contributing the most to the turnover of TSDK is Bosch, contributing with 12% of the company's total sales. The production facilities in Helsingør have even been adjusted to fit the needs of this specific customer and some parts of the production only handle this customer's orders.[193]

Bosch is the world's second largest provider of automotive technology[194]. The company acts on a market with severe competition and recently encountered difficulties mainly in the NAFTA-countries and thus grew with only 2% in sales the previous year[195]. To safeguard the fulfillment of high demands on quality – Bosch aims at quick standardization of the production processes to meet a global standardization: For each product, the manufacturing process is developed for subsequent implementation at all locations of the manufacturing network.[196] In each

[191] Power Point presentation, Busak+Shamban, 2004-11-16, slide 33
[192] Excluding Vane Seal
[193] Meeting with Winther, J., Sales and Marketing Manager, Product Management and Ehnhuus, H., Sales and Product Manager, Commercial Department, TSDK, Helsingør, 2004-11-16
[194] Bosch today Information, http://www.bosch.com/en/download/Boschtoday2003_EN.pdf, p. 8, 2004-12-09
[195] Bosch today Information, http://www.bosch.com/en/download/GB2003_EN.pdf, p. 24, 2004-12-09
[196] Bosch – Global supplier, http://www.bosch.com/en/docenter/index.htm, 2004-12-02

manufacturing location, the same production and quality standards are used[197]. These new standards are then installed in cars as soon as possible to ensure scale production, the latest technology and quick public acceptance.[198]

4.5.1.2 Supplier strategy

One of the company's main aims for the coming years is to further strengthen and intensify its relations with suppliers. Moreover, the company intends to further enhance its research and development in order to stay at the technological forefront[199] and to protect the company facing stronger and more severe global competition. By investing heavily in research and development, Bosch aims at creating specified products and innovations.[200]

Demands on safety and environmental impact are constantly increasing, and Bosch has therefore implemented the 3-S program, aiming towards making the products safer, eco-friendlier and more economical. These are believed to be important features and advantages that could be decisive for the customer when selecting supplier.[201] Since manufacturing and putting together parts from multiple sub-contractors, suppliers are believed to play an important role in Bosch's overall strategies.

4.5.2 Sachs

4.5.2.1 Presentation

This customer contributes to 7% of TSDK's sales, and is thus the second largest customer considering its part of the total turnover. In co-operation with the automobile industry, Sachs develops strategies for transmitting power from the engine to the gearbox. Innovative power and expertise are cornerstones of its business and form the basis for new solutions.[202]

Sachs aims at increasing its international presence by commencing production in new low-cost locations. The growth in countries such as China has been "enormous" [203]

---

[197] Ibid
[198] Bosch, Annual Report 2003
[199] Bosch, Annual Report 2001, p. 5, Corporate Planning Coordinator, Scholl, H.
[200] Bosch, Annual Report 2003, p. 5, Chairman Fehrenbach, F.
[201] Bosch Today Information, http://www.bosch.com/en/download/Boschtoday2003_EN.pdf, p. 8, 2004-11-25
[202] Sachs at a glance (2004), http://www.zfsachs.com/owx_medien/media243/24375.pdf, 2004-11-26
[203] Sachs Annual Report, 2003, p. 17, http://www.sachs.de/owx_medien/media241/24112.pdf, 2004-12-01

the last years and the company pursues this strategy with the aim of increased future cooperation and joint ventures.[204]

4.5.2.2 Supplier strategy

By creating joint ventures, Sachs aims at obtaining close relationships with its suppliers today and in the future. The company also aims at signing multi-year contracts to secure a continuous supply of goods to improve processes and final products. This seems to have worked since the company did not encounter any supply problem as it had before, after having signed contracts in 2003. The objective is also stated to be to avoid wasting time and money looking for alternate suppliers.[205]

Research and development are fundaments for the technologies Sachs provides. Together with its suppliers, the company aims at improving driving safety and comfort, increasing components' service life and reducing fuel consumption and costs.[206] Furthermore, Sachs has implemented a total quality management system (TQM) to ensure that products meet the high set standards of quality and long life.[207] Sachs considers environmental work to be important and a good way to improve the customer's perception of the company as a reliable and environmentally responsible actor.[208]

4.5.3 TRW Automotive

4.5.3.1 Presentation

TRW Automotive contributes with 2% of the sales of TSDK. The company is in the automotive safety business and operates a network of technical centers in major global regions.[209] This global network creates the latest in automotive technologies while improving existing products and systems by using computer-simulation equipment.[210]

4.5.3.2 Supplier strategy

In order to acquire global reach and innovative and up-to-date technology, the company aims at a network of specialized suppliers. A way to obtain this is by creating closer relations to the company's suppliers, rendering the supply chain leaner

[204] Ibid
[205] Ibid
[206] Sachs at a glance (2004), http://www.zfsachs.com/owx_medien/media243/24375.pdf, 2004-11-26
[207] http://www.sachs.de/owx_7_30781_2_0_0_00000000000000.html?, 2004-11-28
[208] Ibid
[209] TRW's homepage, www.trw.com, 2004-11-28
[210] TRW homepage, http://www.trw.com/whoweare/main/0,,1_512^2^512^512,FF.html, 2004-11-26

and more efficient.[211] TRW Automotive bases its supply management requirements on four key processes. These are the supplier selection process, new product launch, continuous improvement and supplier intensive improvement.[212]

4.5.4 Sauer-Danfoss

4.5.4.1 Presentation

Sauer-Danfoss contributes with 1% of the sales of TSDK. It is a company in the business of mobile motion and control production.[213]

The company has a focus on increasing its market share,[214] and is highly dependent on the specific economic conditions in the agriculture, construction and specialty vehicle markets and the impact such conditions have on the company's customers on such markets. Furthermore, the cyclical nature of some of the Sauer-Danfoss' businesses is essential to the production and thus profitability. [215]

The company aims at helping customers in given machine development projects – from the specification phase to prototyping, field-testing, and after sales support.[216]

4.5.4.2 Supplier strategy

The ability of the company to win new and maintain existing programs with customers as well as keeping prices down are important features. The price pressure is a result of Sauer-Danfoss being part of a highly competitive market, making business relationships highly important. Delays in manufacturing disturb these relations and are to be avoided. Another factor important to the future success of the company includes the composition of the product mix that might differ depending on cyclical trends and product demands, to which the suppliers must be attentive.[217]

---

[211] TRW's homepage, http://www.trw.com/whoweare/main/0,1003,1_11^2^11^11,00.html, 2004-11-28
[212] Global Supplier Quality Manual - TRW Automotive, http://vin.livmi.trw.com/gsqm/GSQM%20Rev%20E0%202004June.htm, 2004-11-28
[213] Sauer-Danfoss homepage, http://www.sauer-danfoss.com/Applications/index.html, 2004-12-11
[214] Ibid
[215] Sauer-Danfoss, Third quarter report, 2003, p. 2, http://www.sauer-danfoss-ir.com/media/041103_Q3_Results-English.pdf, 2004-12-11
[216] http://www.sauer-danfoss.com/Applications/index.html, 2004-12-13
[217] Sauer-Danfoss, Third quarter report, 2003, p. 2, http://www.sauer-danfoss-ir.com/media/041103_Q3_Results-English.pdf, 2004-12-11

4.5.5 Atlas Copco

4.5.5.1 Presentation

Atlas Copco contributes with less than 1% of TSDK's turnover. The company focuses on compressors, industrial tools and products in the construction and mining sector and aims at leading positions in each of its businesses through strong organic growth and product specialization.

Environmental responsibility is considered to be important and the company aims at minimizing its products environmental impact, both in the initial product development process and during the product's life-time. The company has attained the certificate ISO 9001 for its continued environmentally friendly efforts.[218]

4.5.5.2 Supplier strategy

Atlas Copco strives to achieve close relations with reliable and secure suppliers, ensuring its end-customers the best quality[219]. Furthermore, it aims at having a flexible organization where good service and products are considered as an important part.[220] This is believed to be fundaments for good relations. Accordingly, efficiency, on-time-delivery and fast testing of products are demanded from suppliers.[221]

The company expresses a wish to co-operate with its suppliers to increase the customer's productivity.[222] Price is only expressed to be decisive if similar products exist, and the supplier's specific knowledge is considered to be of more importance.

4.5.6 Tetra Pak

4.5.6.1 Presentation

Tetra Pak contributes, just like Atlas Copco, with less than 1% of TSDK's sales. It produces among other packages for beverages and cheese manufacturing equipment. The company aims at providing its customers with multi-product solutions, an aim achieved in close cooperation with its suppliers.[223] Its motto to "protect what's good" shows the company's commitment to develop its core strengths.

---

[218] Atlas Copco, www.atlascopco.com/getonboard/nasa/us_onboard.nsf/framebuilder, 2005-01-10
[219] Ibid
[220] Atlas Copco, www.atlascopco.com/websites/getonboard/nasa/us_onboard.nsf/pages/Kimberly-Clark, 2005-01-10
[221] Andersson, A., purchaser at Atlas Copco Construction Tools AB, 2005-01-10
[222] Atlas Copco, http://www.atlascopco.se, 2005-01-10
[223] Tetra Pak, http://www.tetrapak.com/ (The Company), 2005-01-10

4.5.6.2 Supplier strategy

Tetra Pak seeks to work in partnership with few, but innovative and committed, suppliers aiming to jointly promote product innovation. In this partnership, the supplier's specific knowledge is stated to be of importance. Partnership with suppliers is the company's "second core value",[224] with the intention of working proactively to meet end-customers needs by providing safe and well-packaged nutrition. Tetra Pak seeks to develop mutually beneficial long-term commitments to customers and suppliers. [225]

4.6 Questionnaires to customers

To further illuminate the needs of the customers from a Lock-in point of view, questionnaires were sent to a selection of these. Similar, but adapted questionnaires were then sent to employees of TSDK, asked to express what they thought the customers would state to be important.

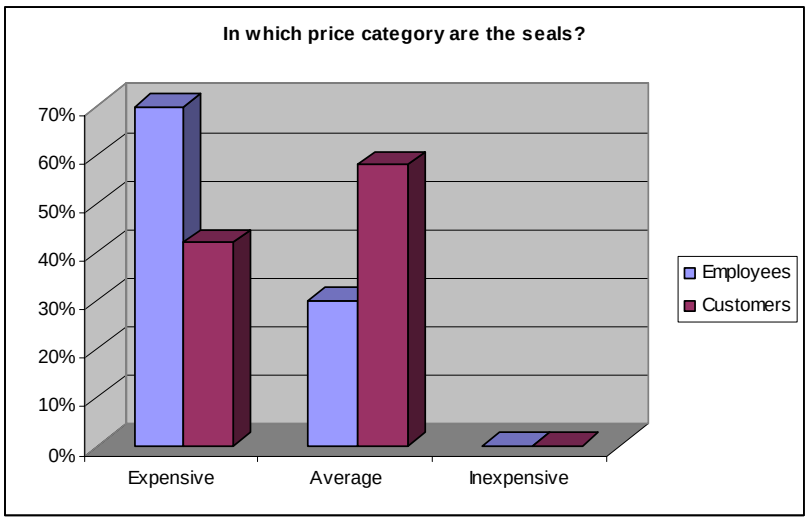
The company today performs a so called ”Customer Satisfaction Analysis”, an analysis that could be used to reinforce Lock-in effects by the achievement of a win-win situation. The analysis is conducted once a year by all marketing companies. These evaluate the offered products, services, R&D and technical material and are stated to take both quantitative and qualitative aspects into consideration. Furthermore, bench-marking against competitors are conducted,[226] an approach rather recommended by Hax and Wilde when applying the Best Product strategies. However, this bench-marking does not, according to Hax and Wilde, support the strategies of Lock-in and Lock-out.

A preliminary division of the questions into those referring to the Best Product, the Total Customer Solutions and the Lock-in/Lock-out strategies have been made. It should nevertheless be noticed that the division only is preliminary since, as the analysis will show, different product features may support different strategies depending on how well the opportunities they present are exploited. This which be further treated in the analysis.

[224] Tetra Pak, http://www.tetrapak.com/ (Core Values), 2005-01-10
[225] Tetra Pak, http://www.tetrapak.com/ (Protect What's Good), 2005-01-10
[226] Power Point presentation, Busak+Shamban, 2004-11-16, slide 91

4.6.1 Questions referring to The Best Product strategies

TSDK positions itself as a company providing advanced seals with advanced and appropriate technical support, accompanied with high margins of profit.[227] When asked which price category the seals are in, 70% of employees answering the questionnaire consider the products to be sold at expensive prices. This is not found among customers, where the majority (58%) considers the prices to be on an average level. In addition, as we will see later, some customers have not even compared prices between suppliers. Price is considered as "important" by 100% of employees, whereas only 50% of customers asked share the same opinion.



Although it was not given as an option, some customers developed the response (in Q4: Is price important?) and concluded that price is inferior in importance to quality and on-time-delivery. Price is only decisive, as one customer states, "if other similar alternatives exist".[228] Thus, it is possible that TSDK's prices are above competitors' levels, but these customers do not seem to be aware of this since they consider other things to be more important. However, basically the same number of employees (75%) and customers (59%) consider special features to be more important than price.

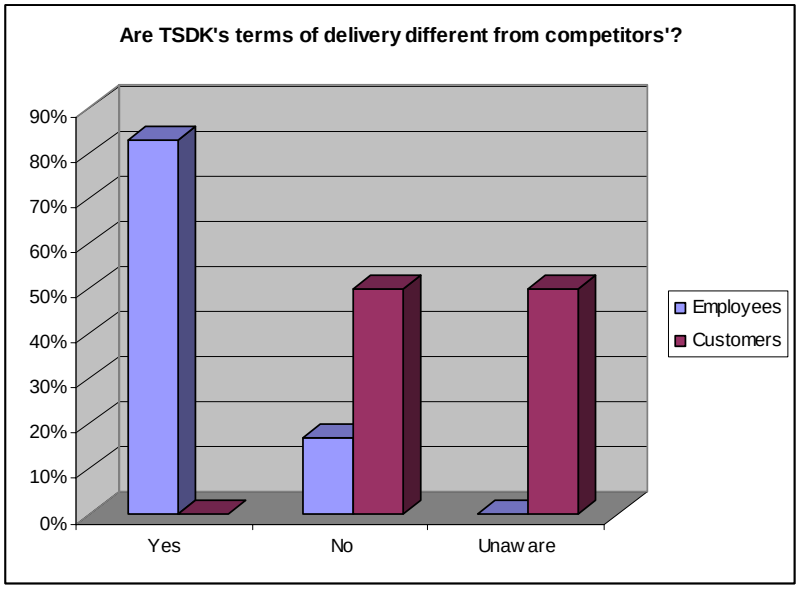
40% of customers asked claim that TSDK's products do not differ from competitors', whereas 20% state that "some of them differ"[229]. Worthy of note is that this opinion could possibly differ between customers buying standardized or customized seals. Nonetheless, this is opposite to the opinion of the employees, since 67% of the internal respondents claimed that there was a difference between the products of TSDK and the ones of the competitors. 33% believed it possible to find "some" similarities.

[227] Power Point presentation, TSDK, 2004-11-16, slide 42
[228] Andersson, A., purchaser at Atlas Copco Construction Tools AB, 2005-01-10
[229] Ibid

		TSDK	Customers
Best Product Approach – competition on product economics			
1. Do TSDK's products differ from competitors'?			
	Yes	67%	40%
	Some	33%	20%
	No	-	40%
2. Are special sealing features important?			
	Yes	83%	83%
	Sometimes	17%	17%
	No		
3. In which price category are the seals?			
	Expensive	70%	42%
	Average	30%	58%
	Inexpensive	-	-
4. Is price important?			
	Yes	100%	50%
	Other things more imp.	-	50%
5. What is more important?			
	Special feat.	75%	59%
	Price	25%	31%

4.6.2 Questions referring to The Total Customer Solutions strategies

All questioned customers believe the relation to TSDK to be important from a problem solving point of view. Service is also considered to be important when choosing supplier. 83% of customers fully agree on this statement, or as one says: “Service is important both during the devel-



opment phase and later, because there is no alternative sourcing"[230]. The company is well aware of this, since 100% of employees share the same belief. However, only a minority would consider services to be more important than the products.

TSDK seems to put a great focus on its services, delivery systems and guarantees. 83% of employees questioned consider the terms of delivery to be more advantageous than the ones of the competitors. The customers, however, do not share this view. 50% of customers consider the company's terms of delivery to be equal to those of the competitors, whereas 50% are unaware and thus unable to reply adequately. 0% of customers consider the company's terms to be better than those offered by competitors. Hence, TSDK's products might be commoditized to a higher degree than believed by employees.

Most employees (67%) questioned consider the product to be more important than the provided service, a view shared by most customers (58%).

		TSDK	**Customers**
Total Customer Solutions - Competition on customer economics			
6. Are TSDK's terms of delivery (time of delivery and guarantees) different from competitors'?			
	Yes	83%	-
	No	17%	50%
	Unaware	-	50%
7. Is the relation important from a problem solving view?			
	Yes	100%	100%
	No	-	-
8. Is service important when choosing supplier?			
	Yes	100%	83%
	Quite	-	17%
	No	-	-
9. Which is more important?			
The product	The product	67%	58%
The service	The service	33%	42%

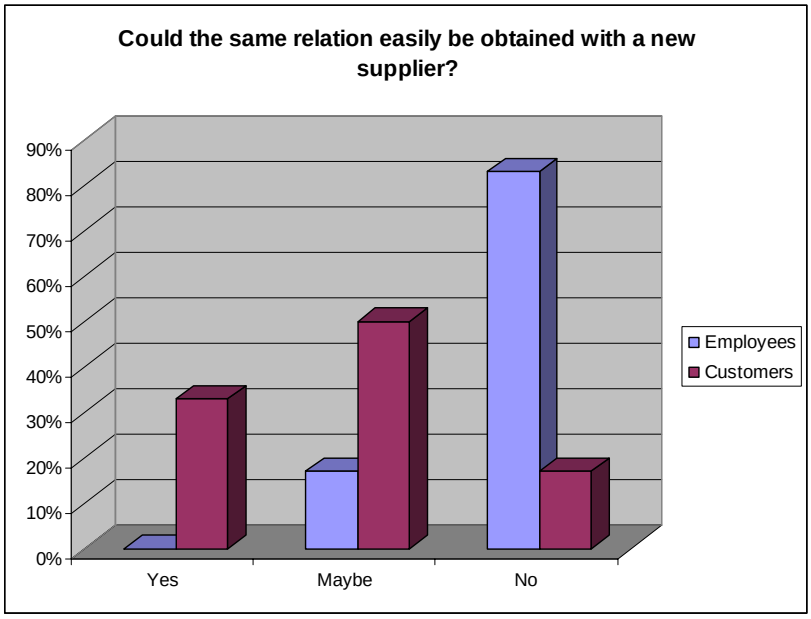
4.6.3 Questions referring to the Lock-in and Lock-out strategies

All questioned customers consider themselves to have an important relation to TSDK, generally maintained by "a few" people at each company. Most questions in this category are of a qualitative nature. Hence, the respondents have given replies that differ but still mention similar themes. Therefore, they are sometimes difficult to

[230] Sevelsted, N. E., Design Engineer at Sauer-Danfoss Aps, 2004-12-20

categorize. As discussed before, the aim is not to make them quantifiable, but by interpreting and categorizing them, they can be put into charts making them easier to comprehend.

When asked how they believe that customers want to develop the relation, a small number of employees suggest that customers would want more frequent contacts with TSDK. An equal number claims decreased prices would improve the relation, whereas 40% of employees believe a "closer co-operation" in general would be beneficial. This is expressed by 32% of customers, claiming that contact at an earlier stage of the development process would be suitable. 17% of customers do not see any need for improvement.



Most customers, or 83%, agree to some extent that it would be possible to create a similar relation to another company, although, as one suggests, it would "take time and involve certain risks"[231]. 83% of employees asked have an opposite view, claiming that it would not be possible for customers to easily create similar relations.

Regarding what end-customers value the most with TSDK, the answers often coincided. Vague statements like "reliability" and "quality" are combined with the importance of keeping up "good service" and "support". One customer claims the biggest advantage to be that the company is part of a bigger firm, and thus has the ability to provide a large range of products and overall solutions.

When asked what the end-customers generally want to improve, a wide consensus is spotted among employees, where 83% claim lower prices to be the most important customer issue. This view is somewhat shared by customers, however not to the same extent, since only 50% of those asked mention lower prices. Other important issues are improved delivery times and, as mentioned before, earlier company involvement in projects.

Most employees or 83% believe that customers would change supplier if the general price level increased. About half of that amount or 43% of customers agree on that

[231] Schött, E., Supply Manager at Tetra Pak, 2004-12-16

statement. Instead, an equal number of customers (43%) mention a decreased quality of products, services and support as reasons to change supplier. 15% of customers have apparently already reached an essential degree of Lock-in, indicated by the response "Would rather not change because of risks (involved) with new products and supplier relations"[232].

Finally, the question regarding what customers would view as important to stay in the relationship is posed. Again, the opinions of what is important differ between employees and customers. 61% of employees believe lower prices in general would make customers stay. Only a small number or 25% of customers share the same opinion. They, on the other hand, ask for retained expertise and more co-operations (75%). One customer even mentions the importance of "retained prices"[233].

		TSDK	**Customers**
System Lock-in - Competition on System Economics			
10. Do customers have a special relation to TSDK?			
	Yes	90%	100%
	Some	10%	-
	No	-	-
11. At the customer's company, this relation is depending on:			
	One person	17%	10%
	Few people	83%	90%
	Many people	-	-
12. At TSDK, this relation is depending on:			
	One person	8%	-
	Few people	92%	100%
	Many people	-	-
13. Is the relation important to the success of the customer's company?			
	Yes	100%	100%
	No	-	-
14. How would you like to develop this relation? *Qualitative question*			
	More frequent contacts	20%	
	Closer co-operation	40%	33%
	Decreased prices	20%	
	Involve TSDK at an earlier stage		33%
	Keeping up quality and delivery times		17%
	No improvments needed		17%

[232] Sevelsted, N. E., Design Engineer at Sauer-Danfoss Aps, 2004-12-20
[233] Nøhr, J., Project Manager at DanProcess AS, 2005-01-10

		TSDK	Customers
15. Could the same relation easily be obtained with a new supplier?			
	Yes	-	33%
	Maybe	17%	50%
	No	83%	17%

16. What do end-customers value the most regarding TSDK? *Qualitative question*		
Reliability on products, services and delivery	60%	
Part of a larger firm (B+S) and thus provider of total solutions		20%
General Reliability		20%
Performance and know-how		30%
Quality, support and services	40%	30%

17. What do end-customers want to improve? *Qualitative question*		
Lower general price level	83%	50%
Being innovative	8%	
Improve quality, i.e. decrease defective seals	8%	
Improved delivery times		25%
Earlier company involvement in projects		25%

18. For what reasons (if any) would end-customers change supplier? *Qualitative question*		
An increase in the general price level	83%	43%
Lower general quality of products, service and support	17%	43%
Not an option, due to risks involved in new products and relations		15%

19. What would make them stay? *Qualitative question*		
Lower prices	61%	25%
Retained quality and expertise	29%	50%
Joint development		25%

4.7 Concluding discussion - theoretic framework and empirical material – The situation of TSDK

TSDK is a company facing a challenging situation. The situation is however in no way unique, which is why other companies could find interest in this study's findings.

The knowledge about Trelleborg AB's history, together with information regarding sealing solutions and the competitive situation, initially led to incorrect and simplified

conclusions. However tempting to label TSDK a *mature business*, this is not the whole truth.[234] It is also a company annually introducing new products to the market. These products are originally *differentiated* which reduces price pressure, otherwise characteristic for a mature market. Although originally differentiated the products will due to a tough competitive situation eventually become exposed to price pressure, as competitors start to offer similar solutions, ultimately leading the business to *maturity*. This is when the company changes strategy and *standardizes* the products, which renders it possible to lower costs and thus prices. The executives state that these standardized products often have low profit margins. Therefore, new differentiated products with higher margins of profits will be offered to the market.[235] If we were to label the company we would therefore describe it as an industrial company selling both *innovative* and *mature products* to a *mature market*.

In the following chapter, an analysis will be made regarding the strategy followed and the strategic components implemented by TSDK. The importance to follow a more diversified strategy than simply differentiation versus standardization can not be exaggerated. First, conclusions regarding the new economy's challenges will be drawn, showing the need for and difficulties of innovation, leading to the relevance of strategies independent of the very same.

Deregulations, *privatizations* and *technology* make the competitive situation fiercer.[236] The removal of *isolating mechanisms* forces even big and well-established groups such as Trelleborg AB, to adjust to a fundamental change in the rules of their markets.[237] We have identified the trend towards shorter *product life-cycles* as being a consequence of this, which is a complex problem for the studied company, since it not only acts as a *first-tier-supplier* but sometimes also as a *second-tier-supplier*.[238] This implies that the company's product life-cycles are depending on the life-cycles of the customers' products. Furthermore, these customers are not always end-customers. There is thus an increasing pressure to constantly innovate.[239] The situation facing the company when acting as a second-tier-supplier is similar to the one facing companies acting as *complementors*, where the decreased sales of one party affect the sales of the other. The sales of TSDK are thus clearly affected by the sales of for example ABS brakes. Many major customers, who aim at close supplier relations with contractual commitments, further point this out. However, a normal customer behavior is not to seek to lock themselves in as such. Instead, this behavior is rather to be interpreted as a way of obtaining a complementor Lock-in. Thus, customers see TSDK rather as a complementor than as a supplier. Simultaneously, the trend towards *commoditization* (an opinion also shared by Professor C Kedström[240] and J Winther[241]) limits the company's possibility to innovate. Features

[234] Also confirmed by Winther, J., E-mail correspondence 2004-12-21
[235] Meeting with Winther, J., Sales and Marketing Manager, Product Management, Hoeg C, President, TSDK, Helsingør, 2004-11-05
[236] Söderman, Sten, *"Affärsutveckling-med exempel från H&M, IKEA, ABB och Volvo"* (2002), p. 13
[237] Day, George, *"Strategies for surviving a shakeout"*, p. 94
[238] Trelleborg AB's Annual Report 2003
[239] Grant, R., Contemporary Strategy Analysis
[240] Meeting with Kedström, C, Professor at the University of Lund, 2004-11-18.

such as certain services that could earlier differentiate products are nowadays taken for granted and are thus not something that the company may charge extra for.[242] Thus, the companies themselves seem to have raised the expectations of the customers without enjoying any extra benefits from them. Hax and Wilde describe a situation where computer programs handling logistics, such as SAP, have become an expensive necessity, raising the costs without raising the profits.[243]

What happens then if TSDK does not keep up with the accelerating development? As shown by the questionnaires, a majority of customers would consider changing supplier. A created Lock-in could be a way for the company to retain the customers even a year when innovativeness falters, and at the same time lock out the competitors. If the case company does not see the opportunities of creating Lock-in and Lock-out, the company could in the same way become a victim of the very same strategy. A year with faltering innovativeness, customers might seek other suppliers which in turn would Lock-in customers and thus Lock-out TSDK. Most customers questioned do not expect considerable cost would they change supplier, showing relations to be insufficient when retaining customers and thus further stressing the importance of Lock-in creation. With this in mind, if an industrial company, acting on a mature market, decides to begin to use some kind of Lock-in or Lock-out as a strategy, it is recommended that the implementation is commenced in time, before the company starts to loose customers and the crisis is a fact.

However, the concept of Lock-in and Lock-out has earlier most often been applied to telecom and e-businesses, companies being in a different situation than TSDK, selling other kinds of products on other markets. This is why the theoretic information to be found regarding Lock-in is not fully adapted. It has been adapted in order to be directly applied to industrial companies, acting on mature markets. In excess of challenges already mentioned, this company's ability to act is limited since it not only acts as a first but also as a second-tier-supplier. This must be taken into consideration when reflecting upon the opportunities of Lock-in creation. *The collected empirical material has shown what strategic tools TSDK makes use of. Hence, the theoretical contribution to Customer Lock-in and Competitor Lock-out is then expanded beyond e-business, now incorporating an industrial company active on a mature market.*

The tools' effectiveness will be discussed in the following chapter, the analysis. When evaluating these tools, the theoretical framework also helps to open the mind for not yet exploited possibilities. By analyzing the questionnaires sent to selected customers, it is illuminated what these customers consider as important, an indispensable tool when trying to create Customer Lock-in as part of a win-win situation.

---

[241] Meeting with Winther, J., Sales and Marketing Manager, Product Management, Hoeg C, President, TSDK, Helsingør, 2004-11-05
[242] Ibid
[243] Hax, A., Wilde II, D. (2001) "The Delta Model – Discovering New Sources of Profitability in a Networked Economy" *European Management Journal* Vol 19, no 4, August, p. 379 pp.

5 Analysis

The analysis aims at promoting our contributions from a theoretical as well as from a practical perspective. This base is an attempt to give the analysis a distinct structure, clearly connected to the other chapters, facilitating the comprehension of the reader. First of all, specific factors affecting the case company will be put forward. Different sources of Lock-in will then be discussed both from a theoretical point of view in addition to a company specific view. Thereafter, the Delta model will provide a more in-depth study of the case company, defining and illuminating the different "strategic tools" currently used by the company.

5.1 The seven sources of Lock-in

5.1.1 The factors affecting

The purpose of this study was to illuminate how current theories on Lock-in may be adapted to apply on, and be of use for, an industrial company acting on a mature market. The goal was thus to expand and generalize theories and not to specify frequencies or generalize. Hence, emerging empirical results were compared to previously developed theories.

Some general external factors affecting the case company were identified. The situation of the case company can thus be described as follows:

- *deregulations*, *privatizations* and *technology*, increasing the competition's severity
- The *complexity* of the world, describing it as a *system* where even small changes may affect the totality
- Acting on a *mature market*
- The trend towards *shorter product life-cycles*
- Producing *standardized* versus *specialized* products
- The trend towards *commoditization*
- Acting both as a *first* and *second-tier-supplier*

It was pointed out and explained why a company in this situation could have use of Customer Lock-in and Competitor Lock-out. The relevance of the discussion was further highlighted when 83% of questioned customers expressed that they could consider changing supplier, a view totally opposite to what the questioned employees expected. However, these factors not only explain the usefulness of the strategy but

also limit the usefulness of some of the sources for creating Customer Lock-in and Competitor Lock-out.

Singh identified seven main sources of Lock-in and emphasized the importance of reinforcing relations. The adequacy of the seven sources of Lock-in and their individual effectiveness, when affected by the certain threats and limitations facing companies acting under the specified conditions, will be further developed.

5.1.2 The usefulness of the seven sources of Lock-in

The seven sources of Lock-in were originally developed for e-businesses. However, when modified and adapted, they will also be relevant for a company acting on a mature market. In this section, each source will first be analysed and discussed from a theoretical perspective. Nota bene, this theoretical discussion is all the same highly relevant for TSDK since it illuminates the situation the company is in. Furthermore, some examples will be given concerning how TSDK uses or could use the different sources. The discussion regarding how the company today uses the different sources will thereto be further developed in a following section, where a distinction will be made regarding "strategic tools" referring to the Best Product, the Total Customer Solutions or the Customer Lock-in and Competitor Lock-out strategies.

1) Contractual commitments

Theoretical discussion

Industrial companies acting under the stated conditions need to find Lock-in opportunities adapted to shorter product life-cycles. Using contractual commitments, the threat of a technological development rendering previous knowledge obsolete would be counteracted. Hence, this source could create Customer Lock-in, even in a quickly changing competitive landscape. This is particularly important when customers are buying newly developed and perhaps even customized products, where the innovation costs for the supplier are high and the profitability needs to be guaranteed in the form of future sales. Furthermore, contractual commitments may be used both when offering standardized and specialized products.

A possible weakness of contractual commitments is that they may be perceived in a negative way by the customers. These may react against suppliers that too aggressively attempt to lock them in by way of contracts, leading them to switch supplier instead of being locked in. To the customer, this is also the most obvious source of Lock-in and it should therefore be used with prudence and caution.

Furthermore, the company must make sure to implement other sources of Lock-in, before the contract's expiry date. In the cases where a company acts as a second-tier-supplier, this source of Lock-in does not influence the customer's customer. Since a

supplier's success depends on the success of its customers, this would otherwise have been preferable.

TSDK

TSDK's customer Sauer-Danfoss is dependent on cyclical changes of product demand, affecting the composition of the product mix. Hence, contracts written with this customer must be flexible, taking the company's cyclical business into account.

Contracts may also be appreciated, adding to the customer's security and predictability. TSDK's customer Sachs had during previous years encountered supply problems. Due to this, the company signed multi-year contracts to ensure a stable flow of products.[244] It might seem perplexing that the customer in this way chooses to lock itself in, but the Lock-in is rather a consequence of the customer's deliberate and planned behaviour. TSDK could, in cases where it acts as a second-tier-supplier, be considered as a complementor to its customers. The fact that customers choose to sign long-range contracts may imply that a mutual dependency exists. The customer could thus consider itself to have created a Complementor Lock-in rather than having been locked in by its supplier. This will be further discussed in a following section of the analysis.

2) Durable purchases

Theoretical discussion

Durable purchases do in some ways coincide with contractual commitments, since both incorporate juridical issues. Nevertheless, the discussion may be further developed. An industrial company selling expensive products could offer its clients leasing, making a durable purchase behave like a non-durable, and thus helping the customer finance an otherwise too heavy investment.

For a company selling smaller components at a larger scale, such as TSDK, the contracts could also do the opposite. This concerns both standardized and specialized products. By binding the customer to buy a certain amount of products during a set time period, the contract could make non-durable goods act like durable, giving the supplier a certain guarantee and advantage. This form of Lock-in could be especially useful in cases where the customer buys standardized products, and otherwise rather easily could switch suppliers. However, it would also be interesting when selling customized products.

[244] Sachs Annual Report, 2003, p. 23 http://www.sachs.de/owx_medien/media241/24112.pdf, 2004-11-30

TSDK

By implementing contracts, Trelleborg Shamban could turn non-durable goods from the buyer's perspective into durable goods and create a Lock-in in order to ensure continuous supplies. The multiyear contracts signed by Sachs are an example. The problem of locking in the customer's customer, in the cases where the company acts as a second-tier-supplier, remains though.

3) Product specific training

Theoretical discussion

This source of Lock-in may seem less evident in this particular business, since products are non-technological and for industrial use as parts of larger machines. Nevertheless, product specific training may be a relevant source of Lock-in for other industrial companies producing more "technically advanced" products.

A pitfall of this source of Lock-in is though that it may be affected by the shorter product life-cycles on mature markets as well as the rapid technological development. As the products get outmoded, the product specific training may lose in value. Furthermore, it may be assumed to rather concern specialized than standardized products. Neither is the customer's customer, in cases where a company acts as a second-tier-supplier, affected.

TSDK

Even if not evidently useful for TSDK, there are in fact some cases where this source is applicable. The customer Monroe's "combi-slydring" process is again used as an example to illuminate a case where an adaptation of the customer's production has been necessary. In order to make use of special tubes with sealing solutions, the adapted production may have necessitated product specific training. The switch to another supplier, which does not sell this customer adapted solution, may once again make an adaptation of the production necessary implying new switching costs stemming from this source. Ensuring the training to be product specific and thus escalating the learning curve would probably make the customer less inclined to switch supplier.

If TSDK would implement this source, the customer would not only encounter switching costs due to product specific training but also due to an adaptation of its production processes. This would counteract the problem of the shortening product life-cycles.

4) Information and databases

Theoretical discussion

This source of Lock-in seems most relevant for e.g. e-businesses where a large software supplier may benefit from the customers' switching costs, occurring when data is switched into a new format. It could, however, be of some use even for an industrial company acting on a mature market, where stock keeping and information regarding the flow of goods could be regarded as adhering to this source. For example, the Lock-in a consignment stock provides could be strengthened by a supporting database, continuously informing the supplier of the customer's current stock status.

One of the strengths of this source of Lock-in is its independence of single products' life-cycles. Moreover, it may be suspected to concern both standardized and specialized products.

Updates and on-time-delivery are often critical features, but the switching costs in this case would be dependent on the customer's stock volumes and its need of immediate deliveries. Thus, this source of Lock-in is relevant mainly to larger customers, a fact that could also be considered to be one of its weaknesses. Furthermore, it does not affect the customer's customer, in the cases where a company acts as a second-tier-supplier. A question could also be raised concerning if not companies by e.g. dual sourcing attempts to break free from the risk of this kind of Lock-in, a concern also expressed by Jan Winther[245].

TSDK

Sachs aims at a global network of suppliers working closely together. On-time-delivery is considered as important for both this customer and Sauer-Danfoss. By implementing a database providing information concerning this customer's stock status, the supply stream would be kept constant, ensuring TSDK this important customer's continued loyalty. This source is however most efficiently used when combined with a consignment stock. Also Bosch, aiming to reach quick standardization of current products and production processes and subsequently implement them in the whole manufacturing network, could profit from this source. By stocking relevant information in databases, TSDK could help Bosch in this process and increase switching costs over time as the information gathered in the database grows.

[245] E-mail correspondence with Winther, J., Sales & Marketing Manager, TSDK, 2004-12-21

5) Specialized suppliers

Theoretical discussion

Please note that being a specialized supplier, is not necessarily the same as developing customized products. A specialized supplier produces differentiated products, but does not necessarily adapt them to the customers' needs. Customer solutions on the other hand are developed to do this. These are nevertheless one way towards becoming specialized and are given a great attention in this study since they are a source of Lock-in extensively utilized by TSDK.

When being a specialized supplier the customer's switching costs are the costs of finding and educating new suppliers and, in the specific case of business-to-business, perhaps the funding of new suppliers. These costs may be assumed to be higher when a company acts as a specialized supplier, than when it only sells standardized products. The reason is that the number of companies, and thus the number of competitors supplying the same product is small. One way of becoming specialized is to offer customized products. Singh's states that a "specialized supplier is the back-side of a customized product"[246]

One of the strengths of customization is the effect it may have on the customer's customer, in the case where a company acts as a second-tier-supplier. When improving the customer's product by way of customization, also the customer's customer's product may be improved. Furthermore, by helping the customer's product become unique the customer's possibilities of locking in its own customers may increase. This would also increase the security of the first supplier, assuming that this one has locked in the first customer.

Another strength of the customer solutions is that they may be difficult for competitors to imitate and thus create a Competitor Lock-out. This Lock-in is also believed to be easier to imitate at an early stage, since its specificity increases with time. The customer bonding may in the same way be assumed to be rather weak at the beginning but increase as the product develops. The fragility of the Customer Lock-in and the Competitor Lock-out may thus be different at different stages.

One of the limits of this source is that it is less useful regarding standardized products. Furthermore, a problem arising could be a constant need of innovation since equally specialized competitors otherwise could arise. Shorter customer solutions product life-cycles may also force customers to increase the pace of development, quickly making the solutions provided by the supplier obsolete. Hence, using this kind of switching costs as the only means to retain the customer could be risky. Thereto, this could be a quite expensive source of Lock-in and developing costs initially born by the supplier would not be paid back at a later stage would the customer choose another supplier.

[246] Singh, N., *Economics of E-Commerce, Customer Lock-In*, University of California, 2001

TSDK

In the case of TSDK, the specialization often takes the form of customer solutions. Acting as a key innovator has made the customer solutions harder for competitors to copy, reinforcing the Customer Lock-in and the Competitor Lock-out. TSDK is also locked in due to high switching costs stemming from costs of de-specializing its production systems and search costs when looking for alternate customers (in a mature market where the number of customers is shrinking). The customer and the supplier are thus interdependent due to the fact that finding and developing the relation to another specialized supplier or customer, by way of customer solutions, might be long and thus expensive. If facing such changes, the company would probably also have to adapt its production facilities to the new customer.

Another drawback with becoming a supplier of customized products is that it could risk TSDK's flexibility and adaptability to other customers and new trends. As mentioned before, becoming a specialised supplier is desirable, but many customers, such as Sauer-Danfoss aim at a flexible and adaptable production. The case company should also be aware of the risk of dual sourcing. A customer could provide a second supplier with product specific information, and thus gain a supplier that does not have to bear the development costs of a product, giving him the possibility to have lower prices and in turn create Lock-in. Confidentiality is thus important.

However, the development of customized products is not the only utilized mean of specialization; other research also adds to the specialization and it is thereto sometimes protected by way of patents. Since both these opportunities are extensively exploited by the company they will be further explained and analysed in a following section.

6) Search costs

Theoretical discussion

Due to the difficulties of the customers to find alternative suppliers, search costs are often the consequence of being a specialized supplier and thus less important when products are standardized. However, search costs may arise in other situations as well, but they are assumed to be higher when a manufacturer is specialised.

A weakness of this source of Lock-in is that it may be less efficient as the product life-cycles get shorter. A customer supplied with a product which is not outmoded (mature) may be reluctant to bear the search costs. However, it the customer is supplied with a product which has become outmoded it may feel forced to bear the search costs to keep up with the rapid development, possibly making it more difficult for the supplier to keep the Lock-in. A further weakness is that the customer's customer, in the case where the company acts as a second-tier-supplier, remains unaffected.

TSDK

Search costs are something TSDK may benefit from regarding its customer solutions. At the same time there is a gain for the customer and thus a contradiction; Customer solutions offered by specialized suppliers make it harder for the customer to find alternative products thus increasing the search costs. At the same time, the close relations and the customer adapted solutions may benefit the customer and make it unnecessary to search for alternative suppliers.

Thereto many of the company's customers create close relations and supplier networks. TRW Automotive aims at obtaining a network of specialized suppliers to ensure the company continued supplies in order to prevent production stops. This could be due to large companies' high alternative costs if production is disrupted. Their need for security and predictability can not be underestimated. These networks could be considered as an attempt to avoid search costs, under the assumption that more than one supplier could provide the same product, also called dual sourcing. Hence, this could counterwork the Lock-in created by TSDK.

7) Loyalty programs

Theoretical discussion

Since this Lock-in is achieved by the active participation of the customer, it creates for the customer new attractive features that the other methods may not. Loyalty programs is also a source of Lock-in closely connected to relations. It could both create and reinforce relations and thus be of great value to a company. With product life-cycles becoming shorter, loyalty programs would thereto be an option to increase customers' switching costs and make them stay in order to avoid losing future discounts and similar benefits.

Furthermore, this source of Lock-in may be exploited both concerning standardized and specialized products. Another advantage which does not apply to the other sources of Lock-in is that the supplier need not necessarily get locked in, as could be the case with for example contractual commitments and specialized supplier.

Loyalty programs must be flexible and adjusted to products/services over time, if not they risk excluding small companies/customers. These customers may not have the possibility to buy enough to benefit from the offered discounts. This would be unfortunate, since small companies may grow to become large and important customers in the future. An advice would therefore be to make the loyalty programs flexible, so that also small companies may benefit from them. Another weakness is that the customer's customer, in the case where the company acts as a second-tier-supplier, stays unaffected.

TSDK

Sauer-Danfoss is a company with very cyclical sales. Hence, also in this case loyalty programs need to be adaptable. They must be shaped in a way not to be product specific and thus discriminate against changed needs and modified customer requirements.

For a company being apart of a big group, such as TSDK, there are great opportunities of offering attractive loyalty programs for the customers. These may not only be offered quantity discounts when buying from this particular company, but also when buying from other companies within the group. This also seems to be in line with Trelleborg AB's objective; namely to benefit from synergies between the companies[247]. In addition, the other companies within the group produce complementary products, why the conditions for exploiting this source are extra advantageous.

5.2 Categorization of "strategic tools"

The Delta model constituted a solid platform when building up the theoretical framework, and is also of great help when analyzing the "strategic tools" and the opportunities today utilized by TSDK. The picture becomes even more nuanced when adding to the concept of Customer Lock-in and thus Competitor Lock-out other researchers' definitions regarding switching costs and customer value.

To be able to exploit the full potential of Lock-in and Lock-out, the company needs to increase the customer bonding. Simply using the Best Product or the Total Customer Solutions positionings are not enough. However, it is not always evident which of these positionings a "strategic tool" supports. This is due to the fact that a "strategic tool", such as a delivery system, may support different strategies depending on how well its opportunities of creating customer bonding are exploited. When using the strategy of Lock-in and Lock-out, the increased customer bonding should not only create customer satisfaction but also a genuine situation of Lock-in and Lock-out, making it more difficult for the customer to leave. This situation is sought to be developed in a win-win situation, advocated by both Singh and executives of TSDK. However, as the definition of Singh implies, this is not enough[248].

The case company might already benefit from some kinds of Lock-in and Lock-out effects. It might also have developed necessary prerequisites, facilitating the Lock-in and Lock-out creation. This further stresses the importance of a thorough analysis, helping the company not to "reinvent the wheel".

[247] www.trelleborg.com, 2004-11-25
[248] Singh, N., *Economics of E-Commerce, Customer Lock-In*, University of California, 2001

5.2.1 Best Product strategies

The Best Product positioning implies competition based upon product economics where low cost and differentiation are two optional strategies.[249] Both strategies are utilized by TSDK and each strategy is used considering the situation at hand; differentiation when the products are new and innovative and standardization followed by low costs once the products are maturing. The company shows an awareness of the important trade-off between price, product and special features. At the same time as the executives emphasize that quality rather than low costs is sought after, the certificate QS 9000 commits the company to a constant striving to reduce costs and the questioned employees express the importance of keeping this commitment. However only a minority of the questioned customers defines the seals provided as "expensive".

High profit margins is however sought after. Differentiation is a mean to obtain this, with unique material composition and design as important features. Research is a supporting activity and the co-operation with customers, leading to customized products, helps in the development of unique products. More abstract ways of differentiating the offerings to customers are different ancillary services, such as advantageous terms of delivery or technical support.

Discussing each mean of differentiation individually could assist when identifying features that alone make a product or service offering unique. However, it could also be suspected to lead to missed opportunities. Although a feature such as advantageous terms of delivery, or even material composition, did not alone differentiate a product, a product offering with many features uniquely combined could.

The discussion of features differentiating a product may also mislead one to believe that the only positioning these features support is the Best Product positioning. However, it has become clear that TSDK most often use them in more sophisticated ways, to support the customer's economy or even to create Customer Lock-in or Competitor Lock-out.

5.2.2 Total Customer Solutions strategies

The Total Customer Solutions positioning is a reversal from the Best Product approach and involves competition based upon customer economics, either by reducing the customer's costs or by increasing its profits.[250]

When considering value creation, many aspects are worth taking into account. Products may be adapted and different features, such as ancillary services, added to

[249] Hax, A., Wilde II, D. (2001) "The Delta Model – Discovering New Sources of Profitability in a Networked Economy" *European Management Journal* Vol 19, no 4, August, p. 381
[250] Ibid

support the customer's economy. TSDK obviously does this and expresses a desire to favour the customer. However, for the case company to benefit from them, these features must by the customer be considered as differentiated, and not commoditized. The case company is thus combining the Total Customer Solutions approach with high profit margins, consequently creating a win-win situation by providing 100% of questioned customers with a relation considered as important from a problem solving point of view (a fact contradicting the Delta Model, since a high profit margin does not improve but rather weakens the customer's economy). However, this figure could have been influenced by the fact that all questioned customers are believed to be satisfied with the products of TSDK.
Another conclusion to be drawn is that the Total Customer Solutions positioning could help reinforce a Customer Lock-in. Since the former positioning implies improvements of the customer's economy and Singh's definition of Customer Lock-in includes *the customer's actual or perceived quality/cost advantage*[251], "strategic tools" supporting the Total Customer Solutions positioning could also reinforce a created Lock-in. Nevertheless, its ability to create Lock-in on its own could be questioned.

5.2.2.1 Delivery system with supporting activities

A part from material composition and design, the *delivery system* is by TSDK expressed to be of premium class. Kept delivery times are considered to be of importance, and if well executed it would minimize the customer's need of keeping large quantities in stock, lowering the costs connected to stock-keeping. It also ensures the customer's production to run, even in peak periods when the material consumption is high. Production stops could be costly, and the customer's inability to keep promised delivery times could in addition hurt the customer's relation to its customers, in the cases where TSDK acts as a second-tier-supplier. In order to support its delivery system and satisfy its customers also in emergency situations, TSDK keeps a *safety stock* in its production facility in Helsingør. This allows the company to level out peak periods and shorten delivery times.[252] In addition, if the requested product is neither in the ordinary nor the safety stock, the *modularity* of the production helps the company switch over and produce the requested product.[253] Also the company's planned change from a *paper based* to an *electronic quotation system*, with improved handling of quotations in the form of quicker response and improved quality[254], could support the delivery system and benefit the customer. Thus, the delivery system, the safety stock, the modularity of the production and the electronic quotation system all support the Total Customer Solutions positioning.

[251] Singh, N., *Economics of E-Commerce, Customer Lock-In*, University of California, 2001
[252] Power Point presentation, Busak+Shamban, 2004-11-16, slide 81
[253] Meeting with Winther, J., Sales and Marketing Manager, Product Management, Hoeg C, President, TSDK, Helsingør, 2004-11-05
[254] Power Point presentation, Busak+Shamban, 2004-11-16, slide 103

Thus, these services all aim at facilitating for the customers, as well as at improving their economy. However, it is not obvious that these render it possible for TSDK to have high profit margins. This is the only company in the group offering "Turcon ® Express" and the "Emergeny" delivery, but this is not to say that competitors do not. There is thus a risk of these ancillary services being commoditized, due to many suppliers offering similar services. This could be what the questioned customers imply.

The fact that only 5,1% of the total order lines were delivered within 2 days and 8,6% within 5 days in 2003, could also make you question the value of these services to the customer. However, it can not be excluded that many customers would change supplier if these services were not offered, since when needed, they are very important. Furthermore, it could also be questioned whether a company striving for high margins of profit may offer fewer services than its competitors. The delivery system with supporting activities could thus be a commoditized necessity.

Hax and Wilde also describe computer systems as being such commoditized (but necessary) and expensive requirements[255]. The company's new electronic quotation system could be described in the same way. Even though the system aims at indirectly improving the customer's economy and thus supporting the Total Customer Solutions positioning, it is unlikely that it would lock in customers or lock out competitors, this since it does not seem to imply increased switching costs.

5.2.2.2 Certificates

Certificates are believed to be a necessity, and the company would be unable to do business with some major customers, e.g. Bosch, without them.[256] However, it is not evident how to label them. If not fully exploited but merely used as a mean to reach product differentiation, they would create minimal customer bonding and thus only support a Best Product positioning. However, the company's apparent devotion to keep the certificates' guarantees regarding 100% on-time-deliveries, zero defects and a continuous striving for improvements, where the two former indirectly affect the customer's economy and the latter explicitly includes a constant struggle to reduce costs[257], rather support the Total Customer Solutions positioning. Still, to some customers the certificates are necessities and could thus be considered as commoditized (an opinion shared by both Professor Christer Kedström[258] and Jan Winther[259]).

---

[255] Hax, A., Wilde II, D. (2001) "The Delta Model – Discovering New Sources of Profitability in a Networked Economy" *European Management Journal* Vol 19, no 4, August, p. 381

[256] Meeting with Winther, J., Sales and Marketing Manager, Product Management, Hoeg C, President, TSDK, Helsingør, 2004-11-05

[257] Ibid

[258] Meeting with Kedström, C, Professor at the University of Lund, 2004-11-18

[259] Meeting with Winther, J., Sales and Marketing Manager, Product Management, Hoeg C., President, TSDK, Helsingør, 2004-11-05

Gummesson develops the notion further when discussing relations that in a distinct way refer to two of TSDK's certificates; namely *the environmental relation* (ISO 14001) and *the quality management and market orientation relation* (*TQM*) (ISO9000). If the certificates could be used to reinforce relations, they could also indirectly facilitate the creation of Customer Lock-in, by making the customer more inclined to co-operate. Fully exploiting and thus using the whole potential of the certificates is recommended. However, a close co-operation and relations as such are not sufficient to create Lock-in, even though possibly increasing the customer's perceived value. The switching costs must be increased if the relation is to lead to a real Lock-in situation, supported (but not maintained) by the relation.

According to the questionnaires, customers consider the presented ancillary services to be of average value, and offered services in general to be of inferior importance to the product, where both the former and the latter are options unable to create Lock-in effects. Furthermore, certificates are according to some authors commoditized. To obtain Lock-in, the company must thus focus more on other matters.

5.2.3 Lock-in and Lock-out strategies

The Lock-in and Lock-out strategies considered in this study are, as stated, the ones leading to a Customer Lock-in or a Competitor Lock-out, and where the complementors merely are considered when customers could be regarded as such. The idea of considering some customers as complementors has developed through the thesis. Numerous customers express a desire to have "fewer, but closer relations" with suppliers. When TSDK acts as a second-tier-supplier, the sales of the customers clearly affect the sales of TSDK. The opposite may not be as obvious but the development of customer specific sealing solutions implies a certain symbiosis and thus a mutual dependence. Hence, since the company often acts as a second-tier-supplier, it co-operates with many of its customers just like two complementors may co-operate to satisfy the final customer. Furthermore, a normal customer behavior is often not to seek to lock itself in. Thus, the by many customers, such as Sachs, expressed desire to sign multiyear contracts with the supplier is rather to be interpreted as a way of obtaining a Complementor Lock-in.

As discussed, a Customer Lock-in may only be stated to occur in cases where a customer's switch to another supplier is made difficult due to both high *switching costs* and high *real or perceived cost or quality advantages*, where the latter rather should be seen as something reinforcing the Lock-in, by the creation of a win-win situation, than distinctly creating a Lock-in.

The Lock-in should be created as soon as possible, this to avoid becoming locked out by competitors. There could thus be substantial first mover advantages for industrial companies acting on mature markets, even though they should perhaps not primarily be discussed in terms of innovativeness, as they often are when referring to e-businesses, but rather in terms of being the first company to seize opportunities. By

developing procedures encouraging the company to become more proactive and thus follow the notion of *Time Pacing*, customer demands could be discovered in time, before first mover advantages go lost. The relevance of Time Pacing also on mature markets is thus obvious and would furthermore render a synchronization of the company's production to the customer's ditto possible, and if done correctly create a Lock-in. Moreover, this would ensure on-time-delivery, possibly improving the average terms of delivery.[260]

As Customer Lock-in is reinforced, barriers of entry arise and competitors get locked out.[261] However, it appears that a Supplier Lock-out may be created without increasing the customer bonding and thus without creating a Customer Lock-in. This will be further explained in the following.

5.2.3.1 Customer solutions

New material composition and design are developed in co-operation with the customer in order to increase its value, making high profit margins possible. These customer solutions were by Jan Winther expressed as means to differentiate products[262], drawing the thoughts to the Best Product positioning. At the same time, these customer solutions may improve the customer's economy, rather drawing the thoughts to the Total Customer Solutions positioning.

The development of customer adapted solutions is often triggered by the customer itself, which has perceived a need, acting in its own interest. TSDK starts then to elaborate possible solutions and the supplying company, not the customer, bears all the costs when doing this. This ameliorates the customer's economy. The customer solutions may also, as was the case with Monroe's "combi-slydring", lower the customer's running expenses by improving the everyday procedures.

These customer solutions do not only reinforce TSDK's position as a specialized supplier but they may also help making the customer's products more durable or even unique, a desire expressed by many of these. TSDK could thus make it possible to better satisfy the customer's customer and accordingly make it possible for the customer to have high profit margins. However, the costs for elaborating these solutions are often high and Jan Winter explains that great volumes need to be sold to render the research and development profitable.[263] By locking in the customer, a certain guarantee could be achieved, ensuring invested capital to be regained.

At first it did not seem like the procedure of developing customer solutions itself created any Lock-in effects. However, since it renders it possible for the company to

[260] Thomke and von Hippel, *"Customer as Innovators – A new way to create value"*, Harvard Business Review, April 2002
[261] Singh, N., *Economics of E-Commerce, Customer Lock-In*, University of California, 2001
[262] Meeting with Winther, J., Sales and Marketing Manager, Product Management, Hoeg C, President, TSDK, Helsingør, 2004-11-05
[263] Ibid

become a specialized supplier, a Lock-in effect occurs. Thus, the customer's switching costs including the costs of finding (search costs) and educating new suppliers increase. This "strategic tool" may hence be considered to refer to Singh's fifth and sixth source of Lock-in, namely specialized supplier and search costs as a consequence of this.

In excess of these costs, the Lock-in effect is sometimes reinforced by an adaptation of the customer's production facilities. The customer's switching costs are hence further increased. An example of this is the "combi-slydring", developed for the customer Monroe. In this case the production needed to be adapted to handle special tubes with sealing solutions.[264]

Nevertheless, the customer's economy could be improved by the customer solutions but this should rather be seen as reinforcing a win-win situation than simply supporting a Total Customer Solution positioning. After all, *the customer's actual or perceived quality/cost advantage* is an important component of a Customer Lock-in[265]. It should nevertheless not be assumed that a win-win situation always occurs, this since the customer need not always get satisfied, even though its economy is improved. The customer may for example be dissatisfied with the relation as such. A win-win situation should however be sought after since it may be assumed to reinforce the created Lock-in. Even though Singh emphasizes the importance of win-win one single researcher's findings should not be applied without having a critical mind. However, including the customer's perceived advantages in the definition of Lock-in seems logical since an unsatisfied customer could be assumed to attempt to break the Lock-in, if only the switching costs are considered equal or lower than perceived future gains.

5.2.3.2 Research

An already mentioned mean to differentiation is research. The company often uses it to develop new customer requested solutions thus increasing the supplier's specialization. As discussed, this creates Lock-in effects. However, research is sometimes pursued on the company's own initiative as well[266]. TSDK is stated to pursue on-going research to ensure it being at the forefront of development concerning the creation of new materials[267], an objective possibly showing the company's awareness of first mover advantages.

If this research leads to new discoveries that can not be imitated by competitors, a virtual Competitor Lock-out is created. Due to certain laws, innovations in material

[264] Meeting with Winther, J., Sales and Marketing Manager, Product Management, Hoeg C, President, TSDK, Helsingør, 2004-11-05
[265] Singh, N., *Economics of E-Commerce, Customer Lock-In*, University of California, 2001
[266] Meeting with Winther, J., Sales and Marketing Manager, Product Management, Hoeg C, President, TSDK, Helsingør, 2004-11-05
[267] www.busakshamban.com, 2004-11-18

composition can not be protected by patents.[268] At the same time, one of the identified external threats against a company is competitors stealing or "borrowing" innovations.[269] Thus, the difficulties of protecting innovations in material composition imply that this Competitor Lock-out could be of a fragile kind, in need of complementary activities.

The opportunities of protecting discoveries in product design are better[270]. Even if the new findings in practice could be imitated by the competitors, *patent protections* and similar activities could ensure that an, at least temporary, Competitor Lock-out was created.

However, even though research may give rise to a Competitor Lock-out, it could be questioned weather it creates any durable customer bonding. In the best case, it improves the customers perceived or actual cost or quality advantage and creates as such enough customer bonding to support the Total Customer Solutions positioning. However, if it does not it may only be assumed to support the Best Product positioning. In any case, it must be doubted whether it creates any Customer Lock-in. A customer could, with little switching costs, change to another supplier that has developed a more attractive product. Furthermore, when a patent expires so does the Competitor Lock-out. In addition, research is not included in any of Singh's sources of Lock-in. It has to make the supplier specialized in order to create such effects. This emphasizes the need of supporting activities and accentuates thus the issue that a Competitor Lock-out is not always similar to a Customer Lock-in.

However, TSDK states that its research is also pursued to meet the highest performance standards and the most stringent environmental and safety demands.[271] The research as well as the quality and environment certificates earlier discussed could strengthen relations and help the creation of Customer Lock-in. The same may thus be assumed regarding the research pursued to live up to these commitments.

5.2.3.3 Consignment stock

In excess of the ordinary stock-keeping and the safety stock in Helsingør, TSDK keeps for some of its customers a so called consignment stock[272] in order to cope with customer demands. This entails the company to keep a stock of its products at the customer's production facility. This is a mean to increase the customer bonding and

[268] Meeting with Winther, J., Sales and Marketing Manager, Product Management and Ehnhuus, H., Sales and Product Manager, Commercial Department, TSDK, Helsingør, 2004-11-16
[269] O'Reilly III, C.,A., Tushman, M., L., (2004) "The Ambidextrous Organization", *Harvard Business Review*, April, p. 75 pp.
[270] Meeting with Winther, J., Sales and Marketing Manager, Product Management and Ehnhuus, H., Sales and Product Manager, Commercial Department, TSDK, Helsingør, 2004-11-16
[271] www.busakshamban.com, 2004-11-18
[272] Meeting with Winther, J., Sales and Marketing Manager, Product Management and Ehnhuus, H., Sales and Product Manager, Commercial Department, TSDK, Helsingør, 2004-11-16

the procedure could even create a distinct Customer Lock-in. However, this is under the assumption that the consignment stock is complemented by a database, increasing the customer's switching costs. This "strategic tool" may thus be referred to Singh's fourth source of Lock-in, namely information and databases. The created Lock-in could be further reinforced by the customer's perceived benefit in having a consignment stock "always" satisfying its needs. A win-win situation would thus occur, keeping it in the customer's own interest to stick to one supplier only, a wish often expressed by many large corporations, seeking a closer "network of specialized suppliers".

However, each situation must be analyzed separately, and it might be that only a Total Customer Solutions positioning is supported if the benefits for the customer are increased but the switching costs occurring in case of a supplier change still are negligible.

5.2.4 The questionnaires

Even though having already, to some extent, referred to the questionnaires the results of these could be further discussed. As mentioned, due to their qualitative nature and the small selection of interviewees they should not be used to generalize among customers. Instead, they aim at illuminating interesting aspects for TSDK to take into consideration as a part of the whole assessment.

More than half of the questioned customers state that only some or none of the products of TSDK differ from the ones of the competitors. This may be compared to the answers of the employees who state that some or all of the products differ. One could therefore reflect upon what makes the customers stay. Low-costs versus differentiation are two different strategies connected to the Best Product positioning. All the questioned customers consider the price to be average or even high. However, only half of them consider price to be of importance, which could be the reason to why they do not leave. Instead, a majority state that the special features of the products are important, an opinion which also seems to be shared by most of the employees. This does not contradict an awareness of the importance of keeping costs down, which the employees are forced to do in order to keep one of the commitments in the certificate QS 9000. This could also be wise since half of the questioned customers believe their customers to require a lower general price level. This could of course show the customers unawareness of their customers' priorities. On the other hand, it should be taken into consideration that the end-customers could be supplied with rather expensive products due to accumulated (many tiers') costs and profit margins. Nevertheless, the product itself seemed to be more important.

When the customers were asked to rank the importance of the product compared to the ancillary services, a majority stated that the product was more important, an opinion shared by the majority of the employees. What differed was the perceived uniqueness of TSDK's terms of delivery (including time of delivery and guarantees).

Whereas a distinct majority of employees claimed them to differ from the ones of the competitors, half of the customers stated that they do not, whereas the other half expressed that they were unaware. Since a majority had expressed that the product was most important but that it did not differ from the competitors', the question remained thus why these customers choose to keep TSDK as a supplier. When asking if the relation between TSDK and the customer is important a striking concordance between the answers of the employees and the ones of the customers occurred. All of them expressed that it is. Furthermore, all of the customers expressed that the relation is important for the success of their company. This could be another reason to why they choose not to leave this supplier.

Thus, the results seemed at this point very promising for TSDK and there did not seem to be any reason for the company to doubt these customers' loyalty. However, a distinct majority of the questioned customers stated that the relation either clearly or possibly could be created with another supplier. This implies that neither the product nor the relation between TSDK and its customers are irreplaceable, which would explain why the executives are concerned about the customers becoming increasingly disloyal. Furthermore, even though the relation is considered as important it does not by itself create Lock-in. Nor does it create a win-win situation if another, to the customer, more attractive alternative arises. Since the offered products are not perceived to be different from the competitors' this could be a veritable threat. In the competitive landscape of today, with a rapid technological development the threats against a company's customer base are many.

6 Conclusions

This chapter aims at presenting our conclusions regarding how Lock-in effects could be created and exploited for TSDK. Our aim is to illuminate how current theories on Lock-in may be adapted to apply on, and be of use for, an industrial company acting on a mature market. Furthermore, the negative aspects of Customer Lock-in are put forward. Propositions on future research will then be subsequently presented.

6.1 Conclusion

Theoretical contribution

Different sources of Customer Lock-in may show different degrees of sustainability and fragility depending on the situation at hand. Originally applied on e-businesses, they have now been analyzed to fit to an industrial business acting on mature markets. Other companies aiming at adapting our conclusions should be aware that each of the proposed sources show different strengths and weaknesses, but may combined create an optimal situation. Furthermore, our research has shown that Competitor Lock-out is always a consequence of Customer Lock-in, however the opposite is not the case. Patents create Competitor Lock-out but when a patent expires, so does the Competitor Lock-out. This shows the importance of strengthening the customer bonding and create a supporting Customer Lock-in in order to keep the customer after the expiry date. When pursuing a Customer Lock-in strategy, it is also crucial for companies to recognize that the negative sides of Lock-in are hardly discussed in contemporary literature. However, if the customer is not satisfied he will aim at leaving the supplier once alternative suppliers emerge or when the switching costs are believed to have reached a surmountable level. This highlights the importance of creating win-win situations.

For an industrial company on a mature market, the most appropriate sources of Customer Lock-in would include specialized supplier, search costs, contractual commitments and loyalty programs. Promoting a win-win situation, the two latter sources seem to be the most suitable. Furthermore, contractual commitments and loyalty programs may also be expected to resist external factors such as the trend towards commoditization and the shorter product life-cycles, counteracting the threat of a technological development rendering previous knowledge obsolete. This is particularly important when customers buy specialized products where the innovation costs are high and the profitability needs to be guaranteed in the form of future sales. Nevertheless, also for companies selling standardized products, this source of Lock-in could prove important. A loyalty program further demands an active participation

from the customer, promoting a win-win situation and is perhaps especially appropriate for a company belonging to big groups and thus able to offer complementary products. Loyalty programs is also a source of Lock-in that could both create and reinforce relations. Furthermore, it may be exploited both concerning standardized and specialized products. Another advantage is that the supplier need not necessarily get locked in, as could be the case with for example contractual commitments and specialized supplier. Moreover, loyalty programs could counteract product life-cycles becoming shorter and increase customers' switching costs and make them stay in order to avoid losing future discounts and expected benefits.

For companies sometimes acting as a second-tier-supplier, the relation to the customer's customer is influenced regarding which Lock-in is chosen. Being a specialized supplier is the only source of Lock-in able to affect the customer's customer. By helping the customer's product become unique the customer's possibilities of locking in its own customers may increase. Due to the difficulties of the customers to find alternative suppliers, search costs are often the consequence of being a specialized supplier. However, search costs may arise in other situations as well, but they are assumed to be higher when products are not standardized.

Search costs are always involved to various extents when a customer attempts to find a new supplier; this is true also on mature markets. In addition, being a specialized supplier implies having fewer competitors, further increasing the customer's search costs. In some cases, there might be no alternative suppliers for the customer.

Other sources of Lock-in were identified to be less useful for an industrial company, acting on a mature market. However, they still show important features that should be taken into consideration. An industrial company selling expensive products could offer its clients leasing, making a durable purchase behave like a non-durable, and thus helping the customer finance an otherwise too heavy investment. This concerns both standardized and specialized products, but could be especially useful in cases where the customer buys standardized products, since it then rather easily could switch suppliers. Using information and databases as a source of Lock-in seems most relevant for e-businesses where a large software supplier may benefit from the customers' switching costs, occurring when data is switched into a new format. It could, however, be of some use even for industrial company acting on a mature market, where stock keeping and information regarding the flow of goods could be regarded as adhering to this source. A consignment stock could be strengthened by a supporting database, continuously informing the supplier of the customer's current stock status. One of the strengths of this source of Lock-in is also its independence of single products' life-cycles. Moreover, it may be suspected to concern both standardized and specialized products. Product specific training on the other hand may be a relevant source of Lock-in for an industrial company producing more "technically advanced" products than the investigated case company.

However, the different sources of Lock-in also show some distinct negative aspect that companies that adopt them must take into consideration. Too aggressively promoted contractual commitments may be perceived in a negative way by

customers, leading them to switch supplier instead of getting locked in. To the customer, this is also the most obvious source of Lock-in and it should therefore be used with caution. Furthermore, the company must ensure to implement also other sources of Lock-in, before the contract's expiry date. Loyalty programs on the other hand must be flexible and adjusted to products/services over time. If not, they risk excluding small customers as well as customers with cyclical sales. These customers may not have the possibility to buy enough to benefit from the offered discounts. This would be unfortunate, since small companies may grow to become large and important customers in the future.

Specialized suppliers are less useful regarding standardized products. Lock-in depending on specialized supplier and/or search costs may also become weaker as competitors emerge and the product life-cycles become shorter. Shorter customer solutions product life-cycles may force customers to increase the pace of development, quickly making the solutions provided by the supplier obsolete. Hence, using these switching costs as the only means to retain the customer could be risky. Thereto, this could be a quite expensive source of Lock-in and developing costs initially born by the supplier would not be paid back at a later stage would the customer change suppliers. Moreover, it may be questioned weather a win-win situation occurs. Hence, the customer risks looking for alternative suppliers since the only incentives to stay are switching costs.

Product specific training may also be negatively affected by the shorter product life-cycles on mature markets as well as the rapid technological development. As the products get outmoded, the product specific training may lose in value. Furthermore, this source of Lock-in may be assumed to rather concern specialized than standardized products.

Information and databases provide important updates and on-time-delivery, but the switching costs in this case would be dependent on the customer's stock volumes and its need of immediate deliveries. Thus, this source of Lock-in is relevant mainly to larger industrial customers.

Empirical contribution – advises for TSDK

The most relevant sources of Lock-in for TSDK would be specialized supplier, search costs, contractual commitments and loyalty programs. Furthermore, due to major companies' need of security and predictability, many of these often aim at closer relations with the intention of creating specialized suppliers and thus locking themselves in. Seeking Lock-in is not normal customer behaviour, and the customer's desire to sign multi-year contracts with the supplier is rather to be interpreted as a way of obtaining a Complementor Lock-in. Thus, customers see TSDK rather as a complementor than as a supplier. This also puts the focus on the dependent relations that exist between customer and supplier, creating mutual Lock-in. These work against increased competition, but could also include a risk for the supplier in the case of it losing a customer ordering specialized products.

TSDK promotes average and commoditized advantages such as deliveries, guarantees, certificates and product features. These strategies all promote improved products or aim at superior customer economics, which is not enough to create a Customer Lock-in but rather support a Best Product or Total Customer Solutions positioning. It may not be excluded that services are necessary, but they are rather commoditized necessities than real value-adders. Hence, TSDK should promote the suggested Lock-in strategies, which the company also to some extent does today. The question does not seem to be weather TSDK creates Customer Lock-in but weather the customers perceive the Lock-in as a win-win situation. The fact that the company develops customized solutions to solve customers' expressed problems may mislead one to believe that a win-win situation is secured. However, customers' needs change quickly and what started as a win-win situation may end up in a win-lose situation.

Furthermore, customized products may not be the only thing considered as important by the customers. Relations and security could be of equal importance. A distinct majority of the questioned customers stated that the relation with TSDK either clearly or possibly could be created with another supplier. Moreover, they expressed a wish of earlier and closer company involvement. A win-win situation is never definite. A company should not rely too heavily on its products and product features but must stay attentive to newly expressed or even unexpressed customer needs.
TSDK should therefore enter the customer's value-chain at an earlier stage, as well as promote the Lock-in strategies in time to avoid competitors taking advantage of inadequately locked in customers. It could also further exploit the four proposed sources of Lock-in; specialized supplier, search costs, contractual commitments and loyalty programs. As part of a big group composed by companies supplying complementary products, the latter source could represent unexploited possibilities, especially since it could promote a win-win situation. However, this must be done with prudence and attention. Lock-in strategies including too little customer value in combination with aggressive promotion and high switching costs could make customers more inclined to leave than to actually get locked in.

6.2 Proposals for future research

This thesis has treated and promoted diverse Lock-in strategies for an industrial company, acting on a mature market as both first and second-tier-supplier influenced by shorter product life-cycles and commoditization of products. During this work, other interesting aspects have been discovered and are hence proposed for future research.

Complementors are in this essay only considered in the guise of customers. Hence, adapting the Delta Model fully and benchmark against a company's "real" complementors in order to obtain Complementor Lock-in and thus Competitor Lock-out is another interesting aspect for future research. Our thesis could then illuminate important aspects regarding the customers, acting as clients as well as complementors.

Adapting the seven sources of Lock-in in order to examine their relevance, individual fragility and sustainability to other types of businesses, acting on dissimilar markets, is another interesting aspect that would further add to and enhance the theoretical development in this important subject.

More research is also needed to confirm or dispute our classification of companies' "strategic tools", adhering to the Best Product approach, the Total Customer Solutions approach or the System Lock-in approach. This would increase the theoretical understanding of Lock-in creation for similar businesses, active under comparable conditions.

Finally, more research is needed to illuminate the negative sides of creating Lock-in. In contemporary literature, the absence of this discussion is evident. Our thesis could hence possibly be regarded as an attempt to commence and develop this discussion.

Bibliography

Literature

Armstrong, G., Kotler, P., "*Marketing- An Introduction*", Femte upplagan, 1999

Björk, S., *"IKEA Entreprenören, affärsidén, kulturen"*, Svenska förlaget, Stockholm 1998.

Dess, G. G., Lumpkin G. T., "*Strategic Management – Creating Competitive Advantages"*, 2003

Grant, R., *"Contemporary Strategy Analysis"*, Fjärde upplagan, 2002

Gummesson, E., *"Relationsmarknadsföring: Från 4P till 30R"*, Liber Ekonomi, 1998

Halvorsen, Halvorsen K. *"Samhällsvetenskaplig metod"*, 1992

Holme, I. & Solvang, B., *"Forskningsmetodik*", Studentlitteratur, andra upplagan, 2001

Lundahl, U. & Skärvad, P-H., *"Utredningsmetodik för samhällsvetare och ekonomer"*, Studentlitteratur, 1999

Patel, R., Davidsson, B., *"Forskningsmetodikens grunder – Att planera, genomföra och rapportera en undersökning"*, 1994

Söderman, S., *"Affärsutveckling-med exempel från H&M, IKEA, ABB och Volvo"* (2002) Sten Söderman och Ekerlids Förlag, Falun 2002

Yin, R. K., *Case Study Research - Design and Methods*, third edition, Sage Publications, 2003

Articles

Day, George S., "*Strategies for Surviving a Shakeout*", Harvard Business Review, March-April, 1997

Eisenhart, K., Brown, S., "Time Pacing: Competing in markets that won't stand still", *Harvard Business Review*, March-April, 1998

Eneroth, K., Malm, A. T., *"Knowledge webs & generative relations- A Network Approach to Developing Competencies*", European Management Journal Vol. 9, nr 2, April 2001

Eneroth, K., Malm, A. T., *"Strategic Identity- Visions as catalysts for competence dynamics*", Advances in Applied Business Strategy, JAI-Press, volume 6A, 2000

Hamel, G., Välinkangas, L., *"The Quest for Resilience*" Harvard Business Review, September, 2003

Hax, A., Wilde II, D., "*The Delta Model – Discovering New Sources of Profitability in a Networked Economy*" European Management Journal, Vol 19, no 4, August, 2001

Klemperer, P., "*Coordination and Lock-In: Competition with Switching Costs and Network Effects*", Oxford University, 2001

O'Reilly III, C.,A., Tushman, M., L., (2004) *"The Ambidextrous Organization*", Harvard Business Review, April

Singh, N., *Economics of E-Commerce, Customer Lock-In*, University of California, 2001

Verbal and electronic contacts

Lecture in Complexity Theory with Professor Allan T. Malm, University of Lund, 2004-10-18

Meeting with Kedström, C, Professor at the University of Lund, 2004-11-18.

E-mail correspondance with Singh, N., December 5, 2004

Employees

Meeting with
Meuller, F., Vice President, Business Development
Nilsson, L-O., Senior Vice President, Business Development & Treasury
de Tavernier, S., Business Development

Trelleborg AB, Trelleborg, October 6, 2004

Meeting with
Ehnhuus, H., Sales and Product Manager, Commercial Department

Hoeg, C., President
Winther, J., Sales and Marketing Manager, Product Management

TSDK, Helsingør, November 16, 2004 and November 5, 2004

E-mail and telephone correspondance

Winther, J., Sales and Marketing Manager, Product Management, TSDK, currently November 7, 2004 until January 14, 2005

Duhring, B., Manager, Product Engineering, TSDK, December 15, 2004

Leth, J., Director, R&D, TSDK, December 12, 2004

Etrup Petersen, M., Genberal Manager, TSDK, December 2, 2004

Tarp, P., Head of Customer Service, TSDK, December 15, 2004

Hagen, H., Manager, Busak+Shamban Sweden, December 20, 2004

Axelsson, R., Manager, Busak+Shamban Sweden, December 9, 2004

Hahn, P., General manager, Busak+Shamban Germany, December 9, 2004

Customers

E-mail and telephone correspondance

Andersson, A., Purchaser, Atlas Copco Construction Tools AB, December 21, 2004

Schött, E., Supply Manager- Purchasing and Component Management, Tetra Pak Carton Ambient AB, December 10, 2004

Mattsson, J., Supply manager, Tetra Pak, December 8, 2004

Nöhr, J., Project Manager, Dan Process Engineering, December 20, 2004

Hansen, L-J., Manager, Sauer-Danfoss, December 15, 2004

Sevelsted, N-E., Design Engineer Steering, Sauer-Danfoss, December 9, 2004

Electronic sources

On the product life-cycle

http://www.quickmba.com/marketing/product/lifecycle/, December 20, 2004

On Lock-in definition

Wikipedia, http://en.wikipedia.org/wiki/Vendor_lock-in, November 30, 2004

Company specific sources

www.atlascopco.se, December 17, 2004

www.busakshamban.com, November 18, 2004

www.bosch.com, December 2, 2004

www.zfsacs.com, November 30, 2004

www.sachs.de, November 30, 2004

www.sauer-danfoss.com, 11 December, 2004

www.tetrapak.se, December 12, 2004

www.trelleborg.com, November 10, 2004

www.trw.com, November 28, 2004

Sources within the companies

Bosch Annual Report, 2003

Busak+Shamban Power Point Presentation, November 16, 2004

Press release, Fredrik Arp, President and CEO of Trelleborg, July 21, 2003

Press release, “Divestment of Trelleborg’s Trenor holding completed”, May 17, 2004

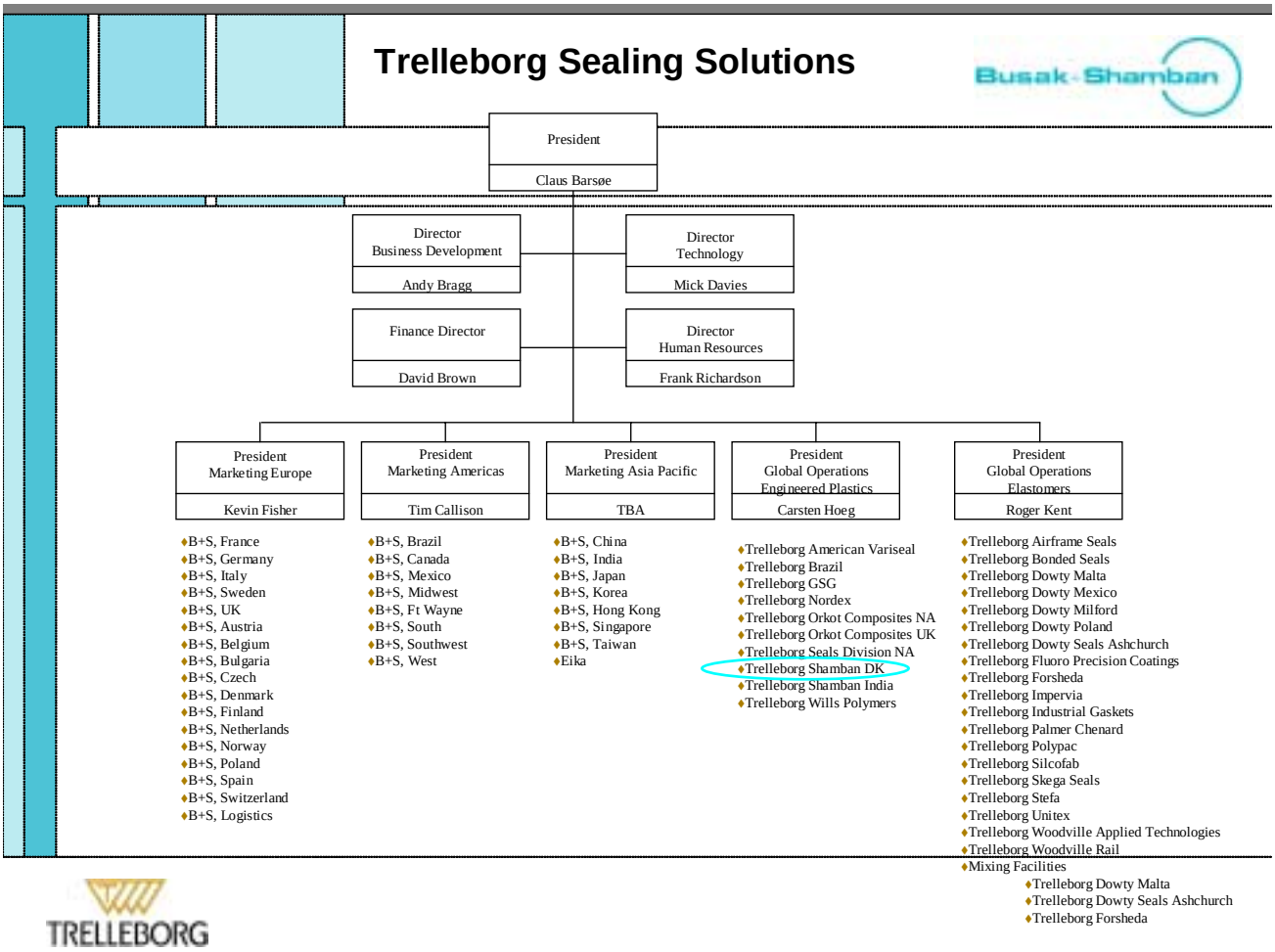
Press release, “Trelleborg signs final agreement for sale of the operations within Metech”, July 4, 2004

Sachs Annual Report, 2003

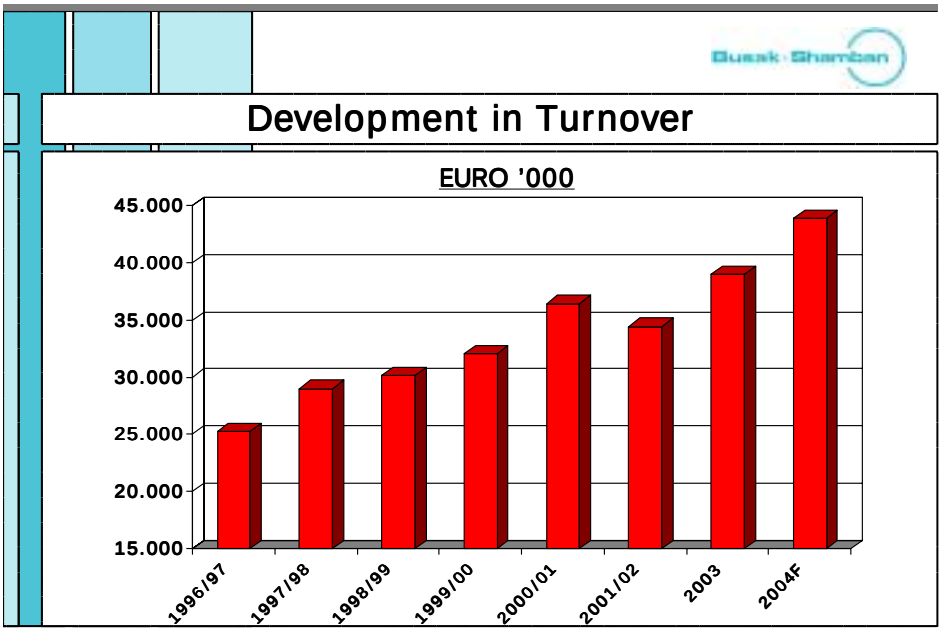
Trelleborg AB Annual Report, 2003

Appendix 1

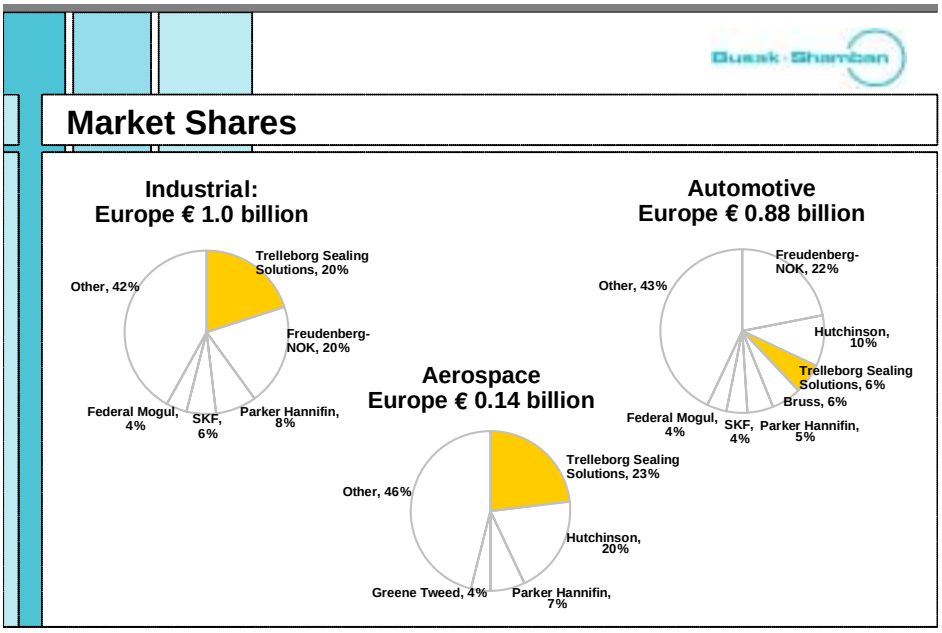
Picture 1



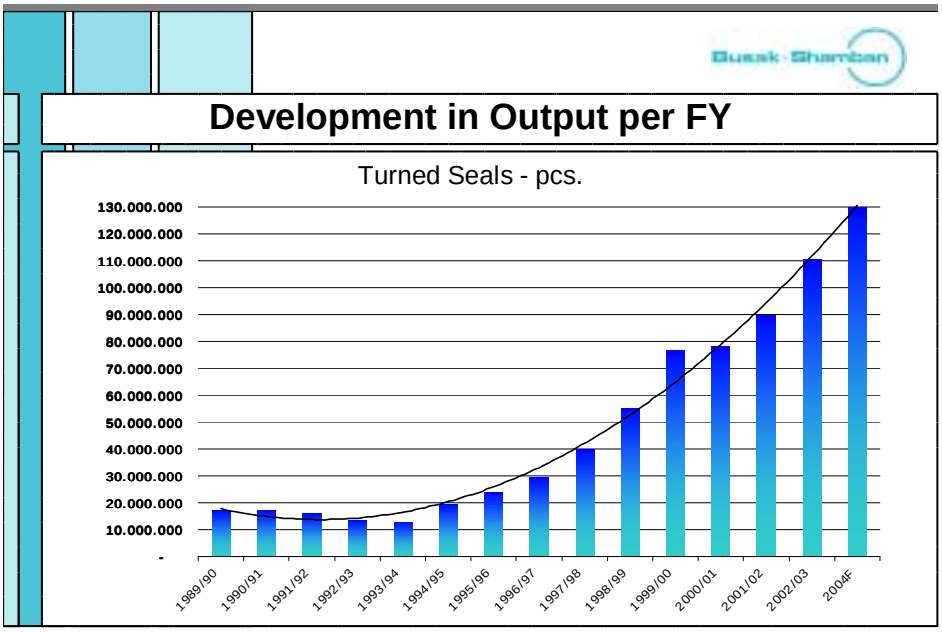
Picture 2



Picture 3



Picture 4



Picture 5