Success in Supplier Alliances

-a customer perspective

by

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Master thesis

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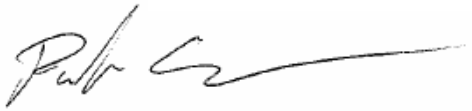

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Abstract

Problem and purpose

Alliances and close collaborations with suppliers offer Alfa Laval a cost efficient and fast way to get new products to the market, yet keeping risk exposure low. However setting up an alliance requires considerable time and effort and potentially sensitive information must be shared with outside actors. A failed endeavour to engage in an alliance may therefore be a costly experience and there are no guarantees for success.

The purpose of this thesis is firstly to define a strategic supplier alliance and moreover to aid Alfa Laval in future alliance ventures by determining the requirements for success in strategic supplier alliances. To achieve this, aspects like situations suitable for alliances, partner selection and attributes characteristic for a successful alliance have been studied. Additionally some general recommendations on how to maintain competitiveness within an alliance are given.

To be able to answer the questions stated, a comprehensive literature study has been conducted. The established frame of reference has served as basis for analyses of four different case studies including different suppliers. The analyses have thereafter resulted in general conclusions on alliance practice and implementation from an Alfa Laval perspective.

Conclusions

For the purpose of this thesis, a strategic supplier alliance is defined as "*a long term, cooperative relationship designed to leverage the strategic and operational capabilities of individual participating companies to achieve significant ongoing benefits to each party*".

Prior to any alliance project it is imperative to evaluate the business opportunity at hand and properly evaluate and select the right supplier. From an Alfa Laval perspective, more effort should be spent on identifying and evaluating potential partners. In addition there are a number of factors crucial to success, once an alliance opportunity has been identified. An alliance needs to be characterized by commitment, trust and coordination between parties, sufficient information flow and proper sharing of rewards and involved risks. Such factors often derive from interdependence between parties. It has also been seen that excessive presence of these factors may be a risk to alliance success. Consequently, Alfa Laval should strive to establish a balance of interdependence and commitment to alliances in order to ensure success at a reasonable cost.

Strategic supplier alliances seem to be of interest to Alfa Laval as means to expand the current product portfolio at low cost and with minimal risk. However since the financial importance of such expansion is limited, so must the resources spent on alliance development and management be. Since the nature of the purchased product is decisive to the type of interorganizational relationship most suitable, the attractiveness of closer relationships with component suppliers seems fairly limited.

Sammanfattning

Problem och syfte

Allianser och nära samarbeten utgör l en möjlighet för Alfa Lava att snabbt och kostnadseffektivt nå marknaden med nya produkter, med en låg riskexponering. Alliansskapande är dock en mycket tids- och resurskrävande aktivitet och potentiellt känslig information måste delas med utomstående aktörer. Ett misslyckat alliansprojekt kan därför vara kostsamt och det finns inga framgångsgarantier.

Syftet med denna studie är att definiera en strategisk leverantörsallians samt att skapa förutsättningar för Alfa Laval att lyckas i framtida alliansförsök genom att identifiera de viktigaste framgångsfaktorerna. För att uppnå detta har aspekter såsom lämpliga situationer för strategiska leverantörsallianser, leverantörsval och viktiga relationsattribut studerats. Vidare ges några allmänna rekommendationer om hur man upprätthåller konkurrenskraft inom en upprättad allians.

För att kunna besvara de frågor som rests har en omfattande litteraturstudie genomförts. Den därigenom fastställda referensramen har legat till grund för analys av fyra olika fallstudier av nära samarbeten med Alfa Lavals leverantörer. Utifrån dessa studier har en övergripande analys resulterat i ett antal generella slutsatser om alliansarbete ur Alfa Lavals perspektiv.

Slutsatser

I denna avhandling har en strategisk leverantörsallians definierats som *”ett långsiktigt samarbete designat att förstärka de strategiska och operationella förmågorna hos involverade företag i syfte att uppnå betydande kontinuerliga vinster till alla parter”*.

Inför ett alliansprojekt är det av avgörande betydelse att den förestående affärsmöjligheten utvärderas ordentligt och att rätt leverantör väljs. I Alfa Lavals fall bör mer tid och resurser läggas på att hitta och utvärdera potentiella leverantörer. Vidare finns ett flertal faktorer som har en avgörande inverkan på framgången med ett alliansprojekt. En allians bör karaktäriseras av engagemang, förtroende och koordination mellan parterna, ett öppet flöde av information och en passande fördelning av vinster och risker. Sådana karaktäristika härstammar ofta från ett ömsesidigt beroende mellan parterna. Dock kan konstateras att för höga nivåer av vissa av dessa framgångsfaktorer även kan utgöra ett hot mot framgång. Följaktligen bör Alfa Laval söka balans i beroendeförhållandet och engagemanget till allierade leverantörer i syfte att begränsa kostnaderna för allianshanteringen.

Strategiska leverantörsallianser förefaller således vara av intresse för Alfa Laval i strävan att bredda den befintliga produktportföljen till en förhållandevis låg kostnad och risk. Då den finansiella betydelsen av en sådan breddning är begränsad måste dock de nedlagda resurserna också begränsas. Egenskaperna hos de kärnkomponenter Alfa Laval köper leder också till slutsatsen att alliansliknande samarbeten med dessa leverantörer är av mindre betydelse för Alfa Laval.

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1 Introduction

The introductory chapter is aimed to provide a background and an overall comprehension of the problem underlying this thesis. To achieve this, the introduction includes background information as well as a definition of the identified problem. Purpose and delimitations of the study are also presented.

1.1 Background

The reality in which contemporary businesses work is rapidly changing. Many times changes are dramatic and directly affecting profitability and long-term competitiveness. A high level of globalization and increased interaction from low cost countries, such as China, India and Eastern Europe, with the western economies have increased competition, but at the same time opened up a lot of new opportunities. A fast development in information technology and computer networks also provides organizations with new possibilities to integrate and connect different parts of the company in ways not possible only ten years ago. In recent years this integration has taken yet another step. Not only is it possible for corporations to integrate internal functions but modern technology also allows an integration further along the supply chain, both in the suppliers' direction and towards the customers. A steadily increasing importance of services in the economy along with continuing shifts in customer demands are other factors modern businesses need to address.[1]

All of the changes described above, along with several others, have resulted in a greater need for flexibility and shorter response times. It can be seen as a natural result of a more fierce competition and shorter product life cycles.[2] Consequently contemporary businesses need to get their products out on the market faster and be able to adapt the production to a wider range of product variants and shorter series than before.

However, very few corporations possess sufficient resources to hold world-class competence in all fields necessary to function in such a rapidly changing environment. The solution for many companies has therefore been an increased focus on the organization's core competences, thus outsourcing activities that can be performed more efficiently by an external party.[3] Nevertheless, an aggressive outsourcing strategy comes with some major disadvantages. The risk for the outsourcing company to end up in an all too dependent position seems evident.[4] The separation of production and R&D activities, which is the result of many outsourcing decisions, may lead to unnecessary difficulties in producing new products.[5] The consequence being increased costs. These problems and

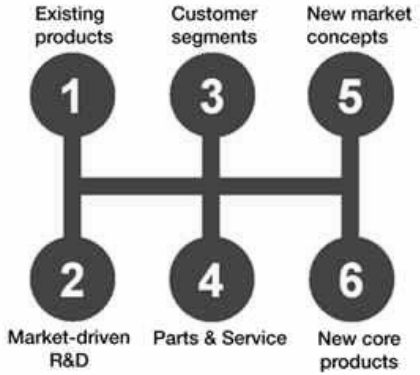
[1] Van Weele, A (2002), p. 5.
[2] Jin-Hai, L et al. (2003), p.171.
[3] Jonsson, S (1998), p. 156.
[4] Lonsdale, C (2001), p. 22.
[5] Berggren, C et al (2001), p. 32.

down sides have, along with several others, led to a widely spread re-evaluation of the outsourcing strategy among contemporary businesses.

To overcome problems with loss of control, and maximize synergy effects, many companies have allied themselves with their suppliers or customers. In these strategic alliances both parties work to maximize their mutual, overall performance, sharing information and knowledge. Involving competent suppliers at an early stage in the product development process and being susceptible to improvement suggestions from suppliers can drastically reduce a company's time to market.[6] Improvements in logistics and quality as well as possible cost reductions are other examples of reasons to enter a strategic alliance.[7] If successful, a strategic alliance can be of great value to the participating companies. Nevertheless, it is important to keep in mind that it requires a great deal of time and effort to build the trust necessary for an alliance to be effective.

1.2 Alfa Laval's mission and strategy

The principal of this thesis, Alfa Laval, has stated their corporate mission as follows; *"To optimize the performance of our customer's processes. Time and time again."*[8] This, along with an ambition to grow faster than their competitors, have resulted in a strategy based on six different steps, resembling a six-geared gearbox as depicted in Figure 1.1.



1st gear:	Our existing range of products
2nd gear:	Our market driven R&D
3rd gear:	Our focus on customer segments
4th gear:	Our commitment to Parts and Service
5th gear:	Our exploitations of new market concepts
6th gear:	Our ambition to add new core products

Figure 1.1 The Alfa Laval growth strategy.[9]

Alfa Laval's desire to grow quickly derives from the considerable benefits of being a large and fast growing corporation. It provides freedom of action by enabling the

[6] Van Weele, A (2002), p. 184.
[7] Ibid, p. 165.
[8] Alfa Laval AB (publ) (2004 a), p. 9.
[9] Alfa Laval AB (publ) (2004 b).

company to steer the development in any desired direction. A strong growth will also strengthen their image; being seen as a vital and successful company has many advantages in itself.

The first four gears all share a clear focus on current strength in relation to customer demands. For the third gear it is stated that "*working more closely with our customers we can understand their processes and satisfy their needs much better*".[10] To accomplish this, Alfa Laval has created strategic alliances with a few of the largest customers, e.g. Tetra Pak and Spirax Sarco.

Gear five and six, on the other hand, have a more future-oriented focus also taking Alfa Laval's suppliers into account. It is the opinion of Alfa Laval that a close and trustful relationship with suppliers can be beneficial to the cause of quickly putting new products on the market. The fifth and sixth gears follow a general trend where modern companies involve themselves closer with their customers and suppliers, using terms as strategic alliances and supply chain management.

1.3 Problem analysis

To support the implementation of gear five and six, Alfa Laval strives to increase cooperation with some selected suppliers and thus engage in strategic supplier alliances. Nevertheless, some alliances fail, possibly leaving the relationship damaged and resulting in high costs. To avoid such failures in the future, a number of questions need to be addressed before new attempts to ally with suppliers are undertaken.

First of all, it needs to be determined in what situations it should be of interest for Alfa Laval to engage in an alliance with a supplier. E.g. it has to be considered which products should be bought through a strategic partnership instead of regular supplier relationships. The crucial issues of with who an alliance should be set up and how the right partner is found and evaluated also needs to be addressed. In addition, the question regarding the process of alliance implementation, once a decision to enter an alliance with a supplier is taken by Alfa Laval, is answered.

Naturally, another major concern is the risk for failure. It is therefore in this context relevant to identify the most crucial success factors for alliances and how they are fulfilled. For the same reasons it is also of interest to find the main sources for failure and how can they be avoided.

Answers and solutions to the problems listed above would form a reliable foundation for future alliance attempts. Nevertheless one great concern remains: How should Alfa Laval ensure that allied suppliers remain competitive once an alliance is established? With none-allied suppliers, Alfa Laval is making use of bargain power and competition through multi-sourcing to enhance supplier performance. The question is how to combine cooperation and competition to ensure that the suppliers maintain best in class performance. Should Alfa Laval apply pressure through bargaining power and negotiation, or should other means be employed in the pursuit of improvements and competence development of allied suppliers?

[10] Alfa Laval AB (publ) (2004 b).

1.4 Purpose

The purpose of this study is to define a strategic supplier alliance, and identify the main success factors along with the greatest sources for failure. More specifically, the purpose is to, based on a theoretical frame of reference, identify how and when Alfa Laval should work with strategic alliances and the requirements for success in alliances with Alfa Laval as the purchasing party. Additionally, the purpose is to determine with whom a sought alliance should be set up.

The purpose is also to analyze and evaluate how Alfa Laval should keep motivating suppliers to remain competitive and capable, once an alliance is entered. This aspect includes giving recommendations on how to keep the pressure on the suppliers or in other ways provide incentives to enhance performance.

1.5 Focus and delimitations

The focus in this thesis lies on the concept of strategic alliances in general, and in particular on alliances where Alfa Laval is engaged or situations where Alfa Laval sees an opportunity to engage in an alliance. In the interest of research depth, the scope of the study is however limited to vertical alliances in the supply chain, i.e. alliances between a supplier and a customer. To make the investigation manageable, the scope is further limited to only include analyses and conclusions on alliances where Alfa Laval serves as the buying party. The same customer perspective and limitations also apply to the recommendations given on alliance implementation and practice as well as the identified sources for failure.

1.6 Target group

This study is primarily targeted at the Global Purchasing department and the portfolio management at Alfa Laval. Employees within these functions are responsible for supplier relations, and serve as commercial owners of different supplier relationships within Alfa Laval. While the Global purchasing department handles component suppliers, portfolio management is responsible for suppliers of trading products found in Alfa Laval's product range. Consequently, managers and associates at these departments will be mostly affected by the set up of a supplier alliance.

The principal of the study, however, is the Operations Development department, making them yet another important target group, alongside other managers and key officials at Alfa Laval.

The other major target group is students and academic researchers interested in strategic alliances, purchasing or interorganizational relationships. This study provides an extensive theoretical overview on these subjects in addition to a strong empirical connection, involving a large industrial organization on a mature market.

1.7 Outline of the report

This report is outlined to follow the sequence of activities undertaken in the investigation. In Figure 1.2 a graphical model of the report outline and the chapters in the different sections of the report is presented.

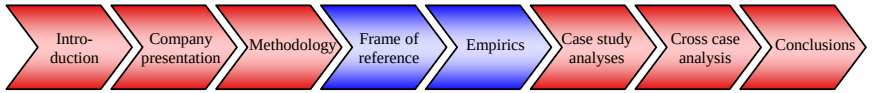


Figure 1.2 Outline of the report.

Initially the task at hand is descibed and a brief background of the company is given. Thereafter follows a presentation of the methodology used to carry out the study.

In the following section of the report the large theoretical frame of reference, which serves as basis for all subsequent sections, is presented. Data collected through empirical case studies is listed and described in the following chapter, before entering the chapters in the analytical section. In this section the analyses of individual case studies are given prior to the presentation of a cross case analyses. Based on the frame of reference and the empirical findings, some general conclusions are thereafter drawn to answer the questions stated initially.

2 Presentation of Alfa Laval

The purpose of this chapter is to present an overall picture of the Alfa Laval corporation. The presentation includes the business of the Alfa Laval group in general and the Operations Development function in particular.

2.1 The Alfa Laval Group

Alfa Laval is a multinational company in the business of heat transferring, separation and fluid handling. The current parent company was founded in 1883 by Gustav de Laval and today the Alfa Laval group employs over 9,500 people worldwide. The current organization includes 20 large production units and more than 70 service centers worldwide. Alfa Laval's different products are marketed in 100 countries around the world. In 2005 the total sales of the Alfa Laval group amounted to 1 719 MEUR, with an operating margin of 10.8 percent. The international head office, hosting the group executive management, is located in the company's facilities in Lund, Sweden. Other facilities in the home country can be found in Tumba, Ronneby and Eskilstuna, together employing around 1900 people, of whom 350 are women.[11]

2.2 Products

Alfa Laval produces a vast number of products for heat transferring, separation and fluid handling. In the heat transfer segment focus lies on heat exchangers, which are used for heating, cooling, freezing, ventilation, evaporation and consolidation of fluids. The product portfolio in this segment is extensive and customers are found within a wide range of industries; food processing, oil and gas production, power generation and marine industries being a few of them.

Centrifuges and filters are the primary products in the separation segment. Their purpose is to divide different contents of a liquid, or separate particles from a fluid. These applications are for example found in the food and beverage industries and the oil industry.

In the fluid handling segment products include pumps, valves and tubes. Applications vary widely but the mutual purpose is easy and efficient transportation of fluids. Figure 2.1 below shows how the Alfa Laval group's total sales are divided between the different product segments.

[11] Alfa Laval AB (publ) (2006).

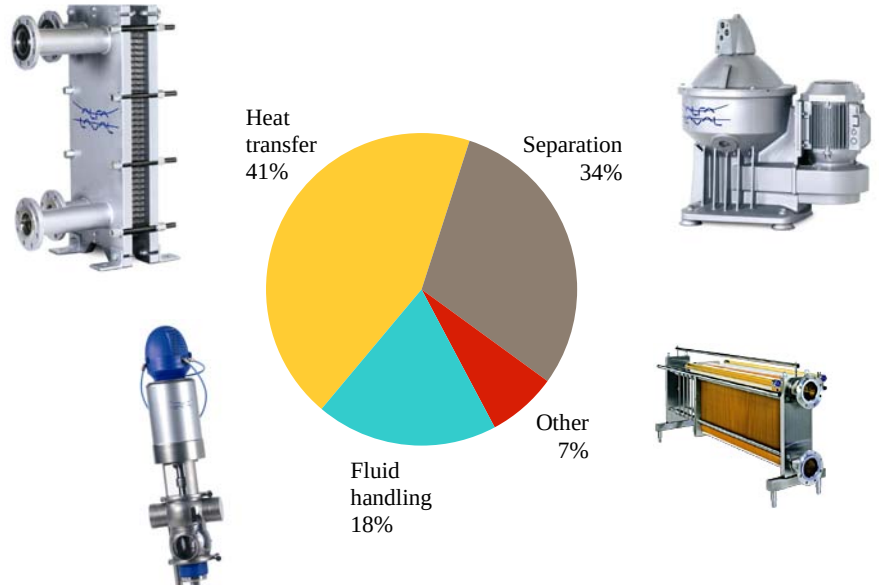


Figure 2.1 Total sales divided by product segment.[12]

2.3 The organization of Alfa Laval

Alfa Laval's current organization is strongly influenced by the company's market driven approach to business making. The organization is intended to facilitate maximum customer focus and the previous product-based organization is completely abandoned. The basis for this selection of organizational structure is the wide variety of industries represented by Alfa Laval's customer base. As shown in Figure 2.2 below, the company's activities are divided into three main divisions; Equipment Division, Process Technology Division and Operations. In addition, there is also the Regions division, a structure through which regional business reporting is handled.

[12] Alfa Laval AB (publ) (2006 d).

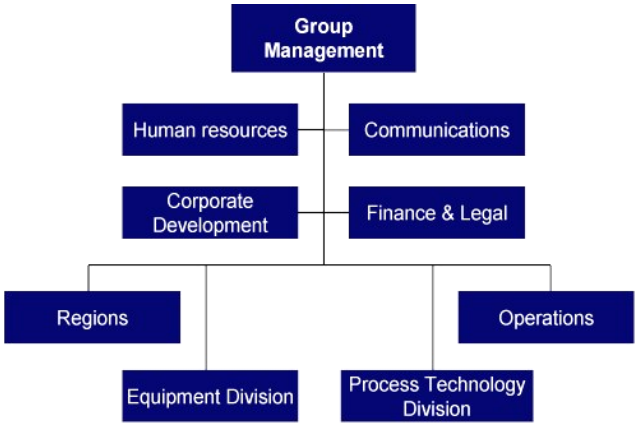


Figure 2.2 Organization chart of the Alfa Laval Group.[13]

2.3.1 The Process Technology Division and the Equipment Division

Within the Process Technology Division and the Equipment Division a wide variety of functions are found. These divisions include product development, R&D activities and are also responsible for marketing and sales in the customer segments corresponding to each division. Hence the separation between the two is made from a customer perspective and based on customer type. Consequently the same products can be sold by either of the two divisions, but product development and other activities are focused towards applications especially suited for customers found in either of the two divisions.

The Process Technology Division handles customers in more complex process technology industries. These are found within businesses of energy and environment, the food technology industry and the process industry.

The Equipment Division on the other hand handles customers requiring less demanding solutions. Typical requests from these customers include comfort and refrigeration products, marine and diesel applications and fluid handling equipment.

2.3.2 Regions

The Regions division is basically a support function for the sales and marketing functions. Alfa Laval is a truly multinational corporation with local presence in over 100 countries and wholly owned sales companies in more than 50 countries. In order to manage such an extensive business organization the Regions division was formed, dividing the global organization into six geographic regions; African countries, Asian countries, European countries, Middle East countries, North, South and Central American countries and Australia. The Regions division serves as a reporting structure, thus forming a matrix organization with the Equipment and Process Technology divisions.

[13] Alfa Laval AB (publ) (2006 d).

Although sales and marketing activities lies under either the Equipment division or the Process Technology division, and managers of these divisions report to the group management, each sales region also has a management reporting to a member of group management responsible for that region.

2.3.3 Operations

The Operations Development function, for which this study is performed, is a part of the Operations Division. The Operations Division is the single largest division of Alfa Laval in terms of employment and includes all production and distribution activities within the company as well as the major part of all procurement activities. Consequently the Operations Division is further divided into four different subdivisions; two manufacturing divisions, a logistics division handling the distribution of spare parts, and a purchasing division responsible for the purchasing of all manufacturing related materials. The Operations division is further served by a number of supporting functions of which the Operations Development department is one. Figure 2.3 below shows the organization of the Operations Division and the Operations Development department's position in the organization. As seen in the figure the manufacturing is divided by products. The first division handles high speed separators (SEP or HSS), decanters (DEC), pumps and valves (P/V) and filters. The second division conversely handles the production of plate heat exchangers (PHE), brazed heat exchangers (BHE), heat exchange systems (HES), welded heat exchangers (WHE), air systems and shells and tubes (S&T).

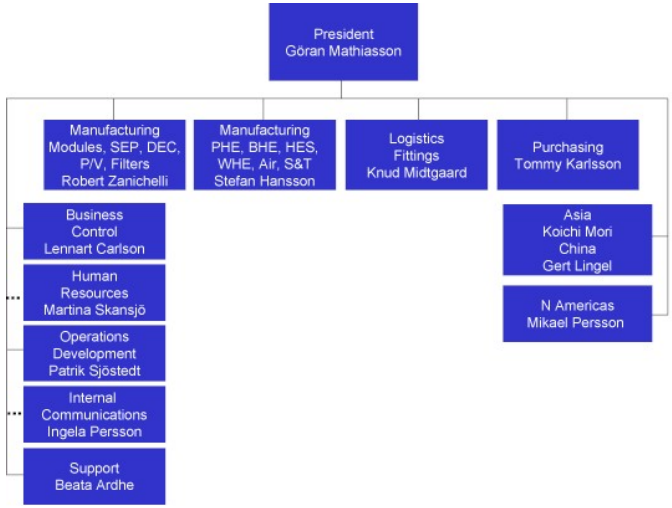


Figure 2.3 Organization chart of the Operations Division of Alfa Laval.[14]

[14] Alfa Laval AB (publ) (2006 d).

2.3.4 Operations Development

The Operations Development department is a subsidiary function to the Operations division. The mission for the Alfa Laval Operations Development department is to pro-actively develop Alfa Laval's supply chain processes and technologies, in partnership with the business divisions and sales companies.[15] To achieve this, the Operations Development department undertakes projects within a large number of different fields of activities. The principal of this thesis was the Supply Chain Development department of Operations Development. The organizational structure of Operations development is depicted in Figure 2.4 below.

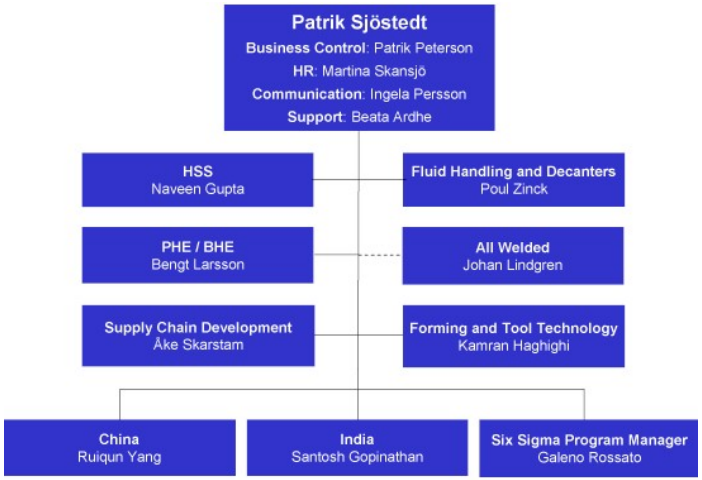


Figure 2.4 Organization chart of the Operations Development function.[16]

[15] Alfa Laval AB (publ) (2006 d).
[16] Ibid.

3 Method

In scientific research the chosen research methodology is crucial, not only to give the research its necessary credibility, but also to enable the reader to value the results based on the researchers' scientific approach. This chapter aims to clearly define and present possible, as well as chosen, methods for this thesis.

3.1 Scientific approach

Every researcher has his or her own approach and attitude towards research. There are however several, more or less accepted, classifications to be found. One is presented by Arbnor and Bjerke, who define three different approaches to research in the area of business; the analytical approach, the systems approach, and the actor approach.[17]

3.1.1 The Analytical Approach

An analytical approach means stating that the whole exactly equals the sum of its parts, i.e. that you can describe the whole based on information regarding the parts. Such an assumption means that any given problem can be broken down into smaller parts and solved individually, thus solving the original problem. Neither synergy effects nor sub-optimization are possible according to this approach.[18]

It is in this context also worth mentioning that knowledge originating from analytical research is considered independent of the observer. The observer's individual characteristics are of no importance and the knowledge is considered consistent, i.e. it does not change over time.[19] As an illustrating example one could say that a soccer team compounded using an analytical approach would consist of the single best goalkeeper, the best defense etc, not taking into consideration how they suit each other in a team. Figure 3.1 below is meant to illustrate an analytical perception of the business environment. It symbolizes the analytical knowledge creator and his understanding of the reality as independent of its observers.

[17] Arbnor, I, Bjerke, B (1997), p. 49.
[18] Ibid, p. 50.
[19] Ibid, p. 50.

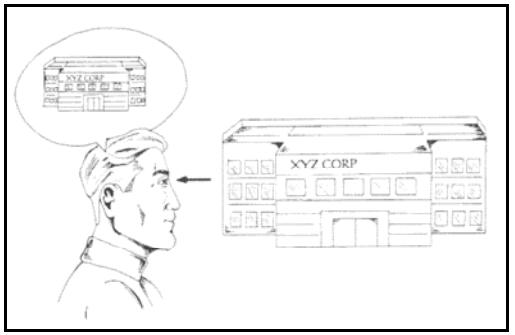


Figure 3.1 A symbolic presentation of the analytical approach.[20]

3.1.2 The Systems Approach

Unlike the analytical approach, the systems approach takes synergy into account. It is assumed that the whole differs from the sum of its parts.[21] This means that not only the parts in themselves but also their internal relations make up reality. Also the environment surrounding the system is essential and studying the parts separately would mean leaving these relations aside and thus reaching inadequate results. Returning to the soccer team, the systems approach would mean more focus on the relations between players and on the team as a whole – a system – than on individual skills. In addition the opponents, as well as the field, would be taken into consideration when selecting the team using a systems approach. Illustrated in Figure 3.2, the systems approach to creating knowledge puts the business reality of a company into a larger context, taking a wider range of macro environmental factors into account.

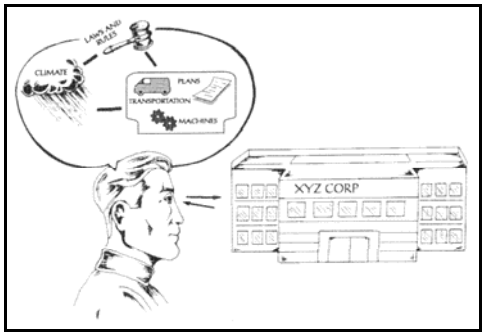


Figure 3.2 A symbolic presentation of the systems approach.[22]

[20] Arbnor, I, Bjerke, B (1997), p. 81.
[21] Ibid, p. 51.
[22] Ibid, p. 109.

Knowledge developed through the systems approach is strongly characterized by the systems.[23] By this follows that study results from a systems approach study are less universal than in the analytical case. That means that even though analogies can be found, conclusions drawn regarding a particular system can not, unlike in an analytical approach study, be directly applied to another system.[24]

3.1.3 The Actors Approach

The actors approach takes yet another step away from the analytical approach. It is now stated that the whole is understood by the characteristics of the parts and the primary focus of an actors approach study is to understand the social reality rather than finding explanations.[25] Such an understanding is sought by putting the social context in the center of attention.

The actors approach also differs from the previously described regarding the question of the existence of a reality independent of the observer.[26] As mentioned above and as the name implies, the approach is based on the involved actors. Nevertheless also the bystanding observer's perception of the social reality is crucial for the conclusions drawn from an actors approach study. This is illustrated in Figure 3.3.

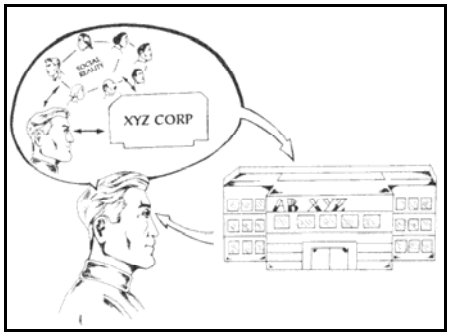


Figure 3.3 A symbolic presentation of the actors approach.[27]

Once again we return to the soccer team. Using the actors approach the coach would choose players combining technical skills with a desired attitude and ability to contribute to a good team spirit. Even the characteristics of the coach are essential as he or she also affects the social relations in the team. The best team differs from one coach to another if selected using the actors approach.

[23] Arbnor, I, Bjerke, B (1997), p. 52.
[24] Ibid, p. 67-68.
[25] Ibid, p. 52.
[26] Ibid, p. 70-71.
[27] Ibid, p. 157.

3.1.4 The scientific approach in this thesis

To conduct an investigation of this kind, as described in the previous chapter, using the analytical approach would mean considering and analyzing measurable, quantitative data and draw the relevant conclusions based on that. Not only would finding such data be a close to impossible mission, but conclusions drawn would mean not taking several essential aspects, such as interpersonal relations and organizational behavior, into account. Hence, an analytical approach is to be seen as incompatible with this investigation, as is the case with most business and management studies.[28]

With this in consideration we look at the opposite side. The actors approach would seem considerably more suitable for such a holistic study as the one undertaken here. Strategic alliances are to a large degree formed by the social construction created by the relationships between people in the organizations. Nevertheless an actors approach to our research would render general conclusions regarding success factors and risks with different forms of alliances impossible to draw. It can however not be excluded that a slight touch of an actors approach may have influenced the study.

This leaves the systems approach. The systems approach seemed to be the most suitable for this thesis investigation. It allowed us to rely on qualitative data and still draw somewhat general conclusions also taking the environment surrounding the systems into account. It also allowed the extensive use of personal interviews suitable for an investigation of this kind.[29] The systems approach is the most widely used approach for business and logistics studies.[30]

Even though a strategic supplier alliance may influence Alfa Laval's relation to several parties in the surrounding environment and along the supply chain, the system studied in this thesis is limited to situations where Alfa Laval serves as the buying party. Consequently, the system is comprised of a limited number of suppliers with whom Alfa Laval is or has been engaged in some level of cooperation or partnership. Hence the vast majority of Alfa Laval's over 3000 suppliers[31] are excluded from the defined system. In addition, only functions within Alfa Laval that are involved in supplier relationships are taken into the system. Thus, excluded from the system are parts of the Alfa Laval organization that are not directly affected by the relationships, such as most marketing and sales functions, as well as all of Alfa Laval's customers.

Figure 3.4 shows an illustration of the system as comprised by selected suppliers and parts of Alfa Laval, and their interorganizational relations.

[28] Persson, G (1982), pp. 79-80.
[29] Arbnor, I, Bjerke, B (1997), pp. 228-229.
[30] Persson, G (1982), pp.80-81.
[31] Hjorth, K (2006).

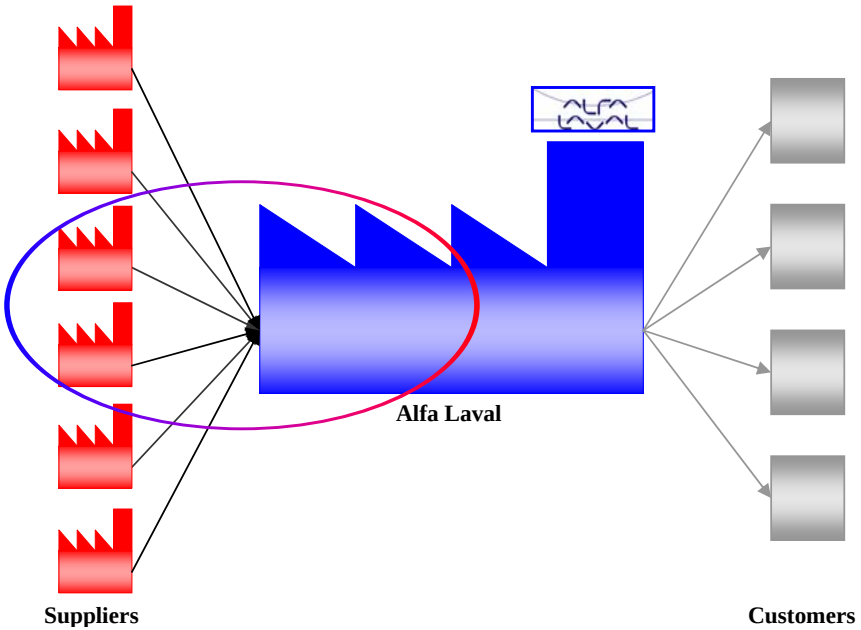


Figure 3.4 Graphical illustration of the system defined for this study.

3.2 Research methods

When deciding how to undertake a study it is important to know what research methods are available, and which is the most suitable for the research task at hand. It is also important to know what the strengths and weaknesses of the different methods are, so that the consequences of the choice of method can be considered.

3.2.1 Inductive and deductive methods

There are two main approaches to choose from; the inductive and the deductive approach. They differ at their starting point. The inductive approach starts with the collection of empirical data. The collection of data should be performed completely unbiased. It is based on this data the researcher then draws conclusions which he or she tries to generalize into a broader theory. The inductive research method has however one major weakness; it is almost impossible to perform the data collection completely unbiased. Even the fact that a problem is stated and the object of research provides a certain framing. Furthermore the inductive method has been criticized because the theoretical knowledge created does not include anything that is not already included in the empirical study. Nevertheless, it is still the only available method in many explorative studies where no theoretical frame of reference exists.[32]

[32] Wallén G (1993), p. 44.

In the deductive method, on the other hand, the theory has a much more prominent role. When using this method the researcher relies on already available theory on the subject and tries to deduce a hypothesis based on that. The hypothesis is then tested and analyzed by empirical studies. The theory is never complete and each study undertaken will either strengthen or weaken the theory depending on the outcome of the empirical studies. This method requires that the researcher already possesses a vast amount of knowledge relevant to the subject in order to formulate a good hypothesis. The main weakness of the deductive method lies in the fact that it only tests the formulated hypothesis, i.e. “out of the box” answers are missed.[33]

Apart from the two methods described above, one can also talk about a third alternative; the abductive approach. The abductive method combines the inductive and the deductive methods and allows the researcher to go back and forth between empirical data and existing theory. The aim is to use existing theories for the analysis but at the same time enable the researcher to see new relations in the gathered empirical information.

One part of this task have been to create a theoretical framework for strategic alliances and, based on that, draw conclusions regarding how Alfa Laval should work with strategic supplier alliances. The latter have been achieved by conducting several case studies of the company’s previous attempts to engage in alliances of different kinds. This has meant the use of a deductive research approach, using available literature and information to found the theoretical framework. A more abductive approach phase has then followed, analyzing the empirical material trying to identify risks and success factors, still supported by the theoretical framework.

3.2.2 Qualitative and Quantitative methods

Research and data collection can be performed in different ways. The different methods available can be classified in two main types; qualitative and quantitative methods. The main difference between the two is the use of numerical data and statistics. The qualitative method requires a low grade of formalization and does not have to be structured in the same sense as the quantitative method. A qualitative method is applied when quantifying data is either impossible or undesired. Generally, a qualitative study includes the reviewing and analyzing of a few cases where several different aspects are considered. This gives the study a holistic view and renders it open to new inputs and information. The major disadvantage of a qualitative study is that it will not necessarily give results that are applicable on other cases. Qualitative methods are characterized by the closeness to the source of information. Deep personal interviews are a primary example of a qualitative research method.[34]

In quantitative research methods numerical data and statistics take a leading part. All data is expressed in numbers or at least quantified in one way or another. To be able to draw correct conclusions based on the data it is crucial that the collection of data is performed in a structured and carefully planned manner. Structured data collection helps ensure that the studied cases represent an average of all case characteristics. It is also of great

[33] Holme, I M, Solvang, B K (1997), p. 50.
[34] Ibid, p. 13 -15.

importance that the questions asked are correctly formulated to suit the situation. An ill-formulated question used half way into a survey is difficult to change without having to start all over again. On the other hand, a well-planned and carefully performed quantitative study creates results that can be more easily generalized. Further more, drawn conclusions are valid for a larger variety of situations. The main weakness of quantitative research methods is the simple fact that new information found during the data collection can not be considered and there are no guarantees that the questions asked are the most relevant.[35]

In this thesis, mainly qualitative studies have been conducted. The task at hand for this investigation required a holistic approach and factors that affect a strategic alliance are to a very large extent impossible to quantify. To make this a viable study the flexibility and deep understanding offered by the qualitative methods were indispensable. Since the focus of this study were strategic alliances between Alfa Laval and carefully selected suppliers, the widely generalized and generally applicable results seemed subordinate. The level of universal validity required is determined by the differences in characteristics between supplier relationships within the Alfa Laval group.

3.2.3 Primary and secondary information

Information can generally be divided between primary information and secondary data. Primary data is information collected especially for the specific study. The use of primary data helps ensure relevance and allows the researcher to gain at least some control over the reliability of the information. Secondary data on the other hand, is information already available from previous investigations. When using secondary information it is of great importance to consider the reliability and objectivity of the source.[36]. In this study we have relied largely on primary information for the empirical part whereas the theoretical part is almost exclusively based on secondary information.

3.2.4 Research design

As suggested so far in this chapter, there are several different methods for gathering data and information on the object of investigation. Information can be composed both from the surrounding reality, empirical data, and by modelling. Figure 3.5 presents a sample of techniques classified by the type of information and the type of analyses to be performed.

[35] Holme, I M, Solvang, B K (1997), p. 81.
[36] Ejvegård, R (1996), p. 60.

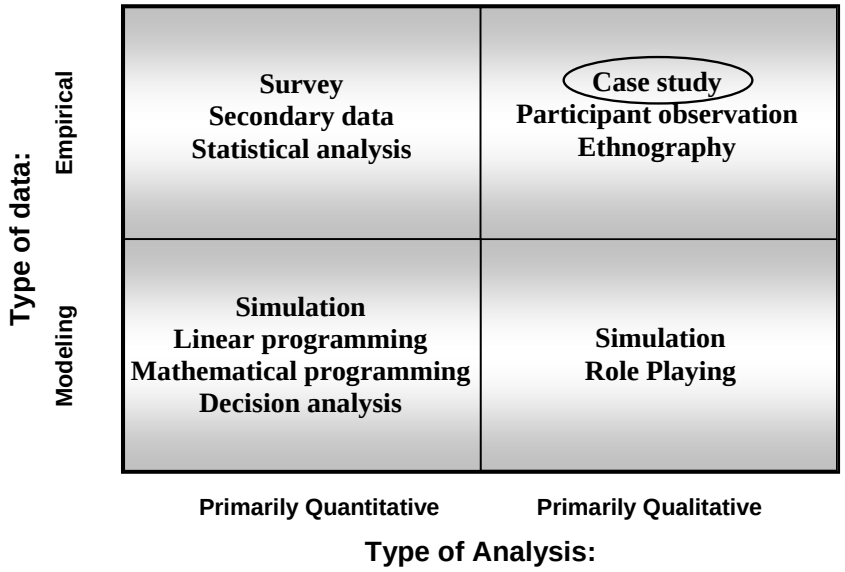


Figure 3.5 Different research designs.[37]

Our intent was to mainly use empirical data in combination with qualitative research methods, as it best suits the purposes of this study. Hence we have mainly ended up in the upper right corner of the matrix in Figure 3.5. Considering the task at hand and the time and resources at our disposal the case study method seemed to be the natural choice.

3.2.5 Case study

"A case study is an empirical inquiry that investigates a contemporary phenomenon within its real-life context, especially when the boundary between phenomenon and context are not clearly evident"[38].

A case study, as defined in the quote above, is a suitable method for logistics and procurement studies. It is easily combined with the systems approach commonly used in these research fields. In a case study several different aspects and features of a specific case can be considered, as suited for the specific study. The aim is a holistic view of the defined system. In a wider investigation, such as a survey, several cases are studied but only a few selected aspects are taken into consideration. Usually the findings of a case study can be generalized even though they may be quite specific.

[37] Ellram, L (1996), pp. 95-97.
[38] Yin, R K (1994), p. 13.

In this investigation case studies appeared to be the most practicable and appropriate method for the empirical studies. As mentioned it also corresponded to our selected systems approach. Figure 3.6 below depicts the sequence of work in which our studies have been conducted.

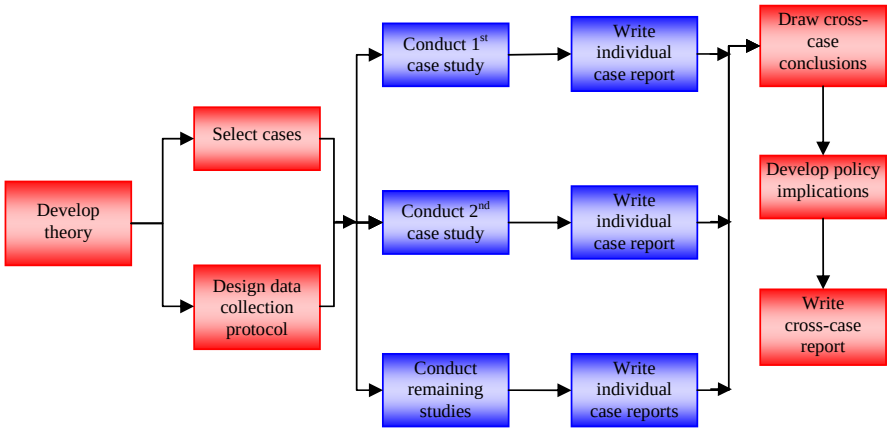


Figure 3.6 Case study method, adapted from Yin.[39]

As illustrated by the first red box in the flowchart, the theoretical frame of reference is a prerequisite for a successful case study. Sufficient preparations, including case selection and definition of relevant aspects and measures, are also crucial for success. As seen in the figure, different case studies have been conducted and analyzed individually prior to any cross-case analyses. Each individual case consists of a whole study, and upon completion each case is summarized in a case report including relevant facts and conclusions regarding the case. First upon completion of all individual case studies, results have been evaluated in comparison to each other and cross-case conclusions have been drawn.

3.3 Data collection

Data can be collected in a great variety of ways. We have chosen to collect data mainly in two different ways; by interviews and literature studies. To be able to build our theoretical framework around strategic alliances in general, and major sources for failure and success factors in particular, we have conducted a thorough literature study. Since strategic alliances have been in companies' and academic researchers' interest for some time, such a deductive approach seemed practicable. For the empirical part of our

[39] Yin, R K (1994), p. 49.

investigation, i.e. the case studies, we have conducted personal interviews with people primarily within Alfa Laval and at the selected suppliers.

3.3.1 Interviews

Different kinds of interviews are a widely used means to collect data. It is particularly suitable to gather information on people's views, opinions and knowledge. This makes it possible to apply to a wide variety of problems[40]. In an interview situation, there is no need for the researcher to be able to control the environment, as is the case in an experimental data collection. When conducting interviews contemporary problems can be evaluated. There are a few different methods of conducting an interview[41]:

- Personal interview
- Telephone interview
- Mail questionnaire
- Group questionnaire

The different methods all have their benefits and disadvantages. The major strength of the personal interview is that the interviewer gets a direct contact with the respondent and thus is better able to read body language and intonations. Telephone interviews on the other hand require fewer resources and save time. Questionnaires require even less time and are therefore useful, but lack the flexibility of an interview and are therefore better suited for quantitative studies[42].

Depending on what kind of information is sought, the researcher must decide what level of structure the interviews should have. An interview questionnaire can be everything from a very structured document with closed questions, i.e. questions with fixed answer alternatives, to very openly structured. The most extreme variant of open interviews have the form of a daily conversation where the respondent speaks freely without guidance from the interviewer. This kind of interview is the ideal way to get good qualitative information but requires a great deal of time and provides the researcher with information that is often very difficult to analyze[43]. Therefore the usual approach to get qualitative information is to have a semi-structured interview guide with open questions and a predetermined agenda, but still allowing the respondent speak freely.

To collect empirical data regarding the case studies described in chapter 3.2.5, we have relied heavily on interviews. Primarily we have employed the latest described interview technique; personal interviews, with open questions to allow the respondents to express their views without to much influence. At the end of the interviews more specific questions have been asked to get clarifications and specific perspectives as well as to allow for comparison with the answers of other respondents. Follow up interviews have been conducted as more structured interviews and sometimes telephone interview have been held in the interest of saving time. It has been our intention to inform our

[40] Ejvegård, R (1996), p. 44.
[41] Arbnor, I, Bjerke, B (1997), p. 226.
[42] Holme, I M, Solvang, B K (1997), p. 173.
[43] Arbnor, I, Bjerke, B (1997), p. 223.

interviewees of our research beforehand even though this might affect their answers. We did however feel that an open and honest approach will facilitate getting people to cooperate and speak freely. Primarily, results from interviews have been documented in notes, but occasionally we have chosen to make use of a tape recorder during interviews. This has however only been done when no affect on people's willingness to speak freely have been noted and it has therefore been up to the interviewee in each case.[44]

3.3.2 Literature studies

As discussed in chapter 2.2.3, literature studies provide secondary data. Using secondary data always involves the risk of the information not being fully objective. Objectivity in this sense is often very difficult to verify. Since there is often a wide range of literature available on many subjects it is almost impossible to establish what literature is the most relevant and reliable. Nevertheless, literature forms an invaluable knowledge asset for business research of the kind undertaken in this thesis. We have therefore almost exclusively built our frame of reference on existing, generally accepted theories found in literature on the subject. Consequently we have attempted to ensure reliability by crosschecking references and using secure, generally accepted sources and databases.

As described in chapter 3.2.5, the theoretical frame of reference is an important prerequisite for the empirical studies undertaken. The sequence and method of literature search is schematically illustrated in Figure 3.7 below.

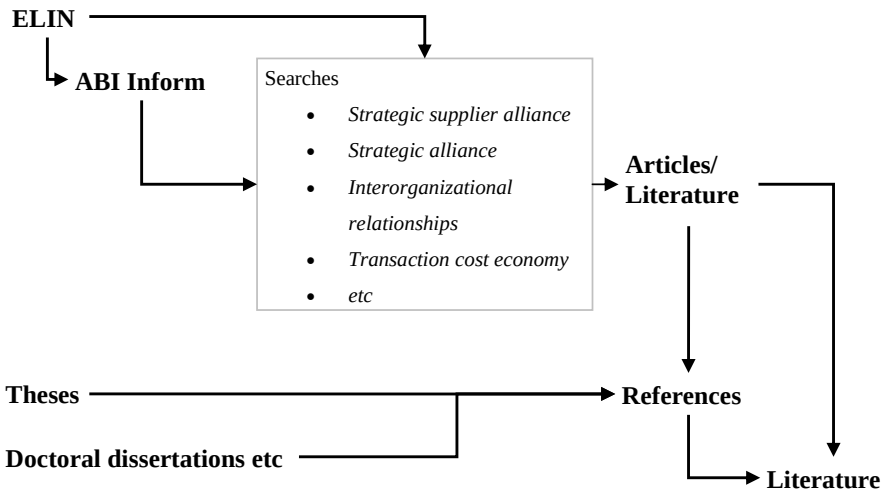


Figure 3.7 Sequence of work for literature search.

[44] Ejvegård, R (1996), p. 46.

Primarily we have used scientifically and technologically oriented databases for searches. Most literature has been collected by searching in the ELIN-system and in the ABI Inform database. Search words include e.g. *strategic alliance, strategic supplier alliance interorganizational relationships, transaction cost economy, agency theory + supply*. Such searches within these databases generate primarily articles corresponding to the subjects. These articles have in many cases served as an invaluable introduction to the area, but further depth has been required. To achieve this we have followed relevant references in the articles or looked into further, more comprehensive literature by selected authors. We have also, to some extent, relied on published theses and doctoral dissertations on topics related to interorganizational relationships.

3.4 Case selection

As previously mentioned, we have conducted four separate case studies to be able to draw conclusions about how Alfa Laval should work with strategic alliances. All of the selected cases involve Alfa Laval as a buying company, and one of its suppliers. The cases have been chosen based on their individual type, that in different ways represent how Alfa Laval works with different kinds of closer supplier relationships.

Primarily, we have chosen to include the terminated alliance attempt with the Danish company Nissens, which was the alliance underlying this assignment. Consequently, the relationship between Alfa Laval and Nissens was of extraordinary interest, even further enhanced by to the failure to achieve the desired outcome. Within the alliance Nissens was to produce an air/oil heat exchanger to be marketed and sold by Alfa Laval, without any further processing. The goal for Alfa Laval was to broaden the product range and thereby strengthen Alfa Laval's position as a leading supplier.

Due to the unfortunate results in the Nissens case we chose to include another alliance similar in type. The purpose was to enable a comparison and thereby analyze the occurrence of success factors within the relationships. We have therefore chosen to study the relationship between Alfa Laval and the Italian tank hatch producer Zorzini.

Zorzini manufactures tank hatches for the food and pharmaceutical industry. These hatches are sold together with Alfa Laval's pumps and valves and other equipment used in tank systems. Yet again the products are traded by Alfa Laval without any further processing and the main goal of the alliance is to broaden the product portfolio, increasing Alfa Laval's attractiveness as a supplier.

While the two cases described above involve relationships defined by Alfa Laval as alliances, it should be considered that the products bought are complementary products, offering revenue and profit, but are not critical to Alfa Laval's processes and businesses. Consequently we have chosen to also include cases involving relationships to suppliers of components essential to Alfa Laval's core products. To achieve this, our study encompasses the relationship with two of Alfa Laval's closer suppliers; SKF, supplier of bearings to separators and similar applications, and Roplan, supplier of mechanical seals for separators. Both these suppliers are identified by Alfa Laval as strategic suppliers. Figure 3.8 shows the selected cases categorized based on key differences.

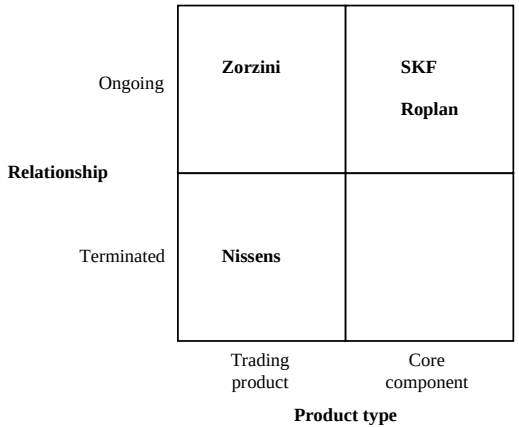


Figure 3.8 Matrix of key differences between selected cases.

3.5 Analysis

The collected empirical data are presented in the four case study reports found in chapter 5. All four case studies have then been analysed separately based on the theoretical knowledge included in our frame of reference presented in chapter 4. Initially the data was translated into the different components of supplier relationships established in the theory. Upon that we have drawn conclusions on the origin of and the underlying basis for these attributes. In some situations key factors have been found missing and differences between theory and practice have been identified. Such findings have served as basis for analysis of relationship levels as well as relationship success.

At the end of each individual case study analysis, key results have been gathered and presented in a table. These tables have then been used to fulfil the overall purpose of this thesis; drawing general conclusions on how Alfa Laval should work with alliances. When put together, the results of each case analysis have been compared in a cross case analysis. In the analysis we have matched the results in search for patterns in important aspects of supplier alliances and long-term relationships. The pattern matching was also aimed to identify differences between relationships with component suppliers and relationships with suppliers of trading products.

The cross case analysis then serves as a foundation for our ending conclusions and answers to the questions initially stated in this thesis.

3.6 Credibility

As is the case in any research situation, a study of this kind makes credibility an issue. A study undertaken using the systems approach is, as previously mentioned, less

quantitatively oriented than analytical studies and are therefore not as precise. To address the issue the aspects of validity and reliability should be discussed further.

3.6.1 Validity

The concept of validity refers to the underlying data of a study. A high level of validity means securing that the selected research method is measuring what it is intended to measure.[45] That means that the crucial question is whether or not the collected information is relevant for the conclusions that are to be drawn.

In general, it is difficult to secure validity in a qualitative study. A validity trial can often only be done when there are similar data available for comparison.[46] A practicable method to enhance validity is to try to reflect the real system from as many different angles as possible. To achieve this, the researchers should seek every opportunity to be in the system and attempt to be in contact with as many people in the system as possible.[47]

To establish a high level of validity in this thesis we have done our outmost to collect as much clear and easily interpreted information as possible, using as many different sources as possible. It should however be pointed out that it in some cases have been difficult to achieve a desired number and spread of interviewees to ensure maximum validity. For example, relationships managed by a certain function or department have in most cases only been investigated through interviews of representatives from that department. This may have decreased validity by not properly revealing important aspects found through a different perspective. In the interest of validity we have also tried to support our conclusions with as much quantitative data as could be found.

3.6.2 Reliability

While validity refers to the relevance of a measurement, reliability designates the applicability and trustworthiness of a measuring method.[48] A reliable study would provide the exact same results every time if measured over and over again. In a qualitative study, such as this, reliability can be assessed using several different available methods. In this study reliability have been secured primarily by asking control questions used for comparison. A high level of unanimity between answers means a high level of reliability.[49] Answers have however been collected and interpreted at one point and only in exceptional cases have re-examinations been conducted. Nor has it been possible to check data by letting interviewees reread interview notes for approval. It should however be pointed out that reliability is of subordinate importance in a systems study.[50] The important thing is what the information can be used for, not how it was collected.

[45] Ejvegård, R (1996), p. 69.
[46] Ibid, p. 71.
[47] Arbnor, I, Bjerke, B (1997), p. 234.
[48] Ejvegård, R (1996), p. 67.
[49] Ibid, pp. 68-69.
[50] Arbnor, I, Bjerke, B (1997), p. 231.

3.6.3 Objectivity

The objectivity level reflects how much personal valuations and opinions affect drawn conclusions. This is a two part aspect; our valuations affecting our conclusions and the valuations of the actors within the organizations investigated affecting their opinions and answers.[51] We have, in the interest of objectivity, done our outmost to take these issues into account when drawing our conclusions. It can however be argued that subjectivity is a crucial feature in a study of this kind since it is aimed to describe interorganizational and interpersonal relationships.

[51] Björklund , M, Paulsson, U (2003), pp. 59-60.

4 Frame of reference

The frame of reference is the foundation of this study. The theoretical background presented in this chapter is the primary basis for the analysis of the empirical findings. In this chapter all theories and definitions used in this study are presented.

4.1 Reference structure

To form a solid foundation for analyses of empirical findings and enable correct and generally valid conclusions, a theoretical reference frame needs to be set up. In this thesis the aim is to give the reference frame a funnel structure, starting with a wide perspective serving as a general theoretical background and working towards more specific theories on strategic supplier alliances and their attributes. The created structure is illustrated in Figure 4.1.

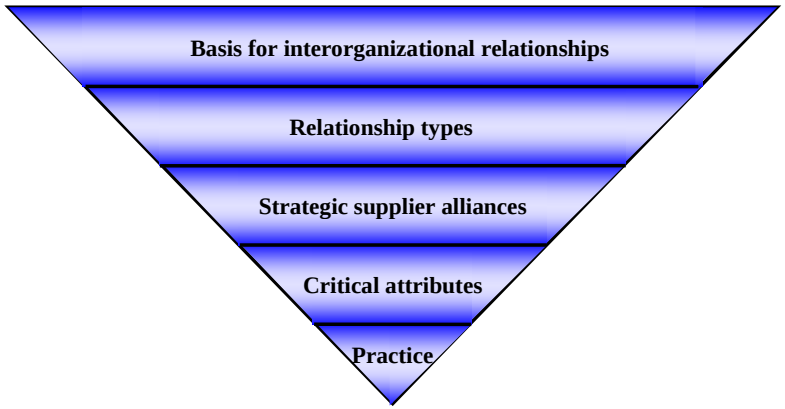


Figure 4.1 Structure of the reference frame.

This illustration will provide guidance throughout this chapter and is intended point out the progress and development of the reference frame.

4.2 Basis for interorganizational relationships

Different kinds of buyer-supplier relationships emerge for a reason. In this section the background for the creation of different types of interorganizational relationships will be presented. As seen in Figure 4.2 this is the first level of the frame of reference.

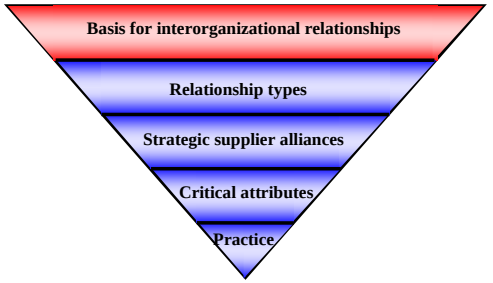


Figure 4.2 Current level in the frame of reference.

Different relationship types are suitable for different transaction types. It is important to recognize, not only the different characteristics of relationships, but also the basis on which they are formed. Over the years several attempts have been made to explain why companies act in different ways towards suppliers and customers, establishing different types of buyer-supplier relationships. This has resulted in numerous theories on the subject. Two of the more common and generally accepted theories are the transaction cost economy theory and the agency theory. They both bring forth several aspects relevant to the question at hand in this thesis. One could however hold against them the relative lack of contrast. They are both relatively cynical to their nature, assuming individuals and organizations to be opportunistic in their behaviour. This could be said to be inconsistent with more recent supply chain management theories and organizations acting from a supply chain perspective. Nevertheless, the transaction cost economy theory, as well as the agency theory, provide a basic explanation for the existence of different buyer-supplier relationships on the market.

4.2.1 Transaction Cost Economy

The neoclassic economic theory stands on a few assumptions that, if correct, would make it hard to explain why there are cooperations and more advanced relationships between companies. These assumptions include the existence of perfect competition on the market, information being free and available to all actors on the market, and that all actors are rational with the main goal to maximize their value. In this case, a buyer would always be able to buy products and services at the best price or offer available on the market. If this was true, why would anyone go through the trouble of setting up a firm, hence hiring people and contracting suppliers and distributors, if one at any given moment can get the best possible workers, goods and services at the best possible price on the market? The Transaction Cost Economy, TCE, provides an explanation saying that there is a cost for using the price mechanism on the market. These transaction costs can be explained as the economical version of friction in physics.[52]

Transaction costs arise from a few human attributes that upset the neoclassical assumptions. The two main attributes are bounded rationality and opportunism. By bounded rationality is meant that there is a limit to how much information an individual

[52] Williamson, O. E. (1975), p. 316.

can store and handle. This means that it will never be possible to make decisions that are perfectly rational. Even a decision that seems rational to the individual decision maker may seem irrational to another individual with greater logical capacity. Hence, two different individuals can draw different conclusions from the same information.[53]

The perhaps greatest source of transaction costs is the fact that some people are prone to opportunistic behavior. "*Opportunism is an effort to realize individual gains through a lack of candor or honesty in transactions*".[54] The most common case of opportunism is withholding information or selectively distribute given information with the aim of gaining advantages. Opportunism can also take the form of taking advantage of someone in a difficult situation. Even the fear of opportunistic behavior may result in high costs for protection against it, even if no one involved in the transaction is acting opportunistically. These protection measures, e.g. contracts for use in legal disputes, can in turn give the other party the feeling of being deceived and in turn cause additional protection behavior, hence further raising the transaction costs. This leads to the conclusion that the fear of opportunism can damage relationships, and keep business partners at arm's length even in situations where a closer relationship would be beneficial to all involved parties.

The transaction costs that derive from these market imperfections can be divided into two main groups; ex ante and ex post. Ex ante are costs that arise before the transaction is made. They include costs for writing contracts, hiring the right people, collecting information, etc. Ex post costs are costs that occur after the transaction has been fulfilled. They include costs connected with conflict handling and controlling that the counter part has fulfilled the agreement. Ex ante and ex post costs often correlate negatively. Spending more on ex ante costs, e.g. selecting the best supplier, can often reduce the need for ex post costs, such as quality problems.[55]

The size of the transaction costs, and thereby the pros and cons of using the spot market versus using hierarchies or more advanced relationships, depend on a few factors. Firstly, the level of uncertainty on the market and in the business. This, in combination with the bounded rationality of humans, affects the size of the transaction costs. In markets with a high level of uncertainty, vertical integration, hierarchies or long-term contracts and relationships, can be ways to decrease the insecurity and thus the transaction costs.[56]

The second factor is the number of players on the market. In neoclassic theory competition on the market is assumed to be perfect. This assumption may be relevant if the number of players on the market is substantial and the entry and exit barriers are low. Under such conditions market exchange would often be favorable. On many markets however, the number of players is limited and new players can only enter with great difficulty. In situations when complex products are being traded, the aspect of first-mover advantages, i.e. the winner of an original bid can receive firm-specific experience that gives a nontrivial competitive advantage in re-negotiations, further limits competition. Hence, if there are only a few suppliers available on the market and the entry barriers are

[53] Williamson, O. E. (1975), p. 317.
[54] Ibid, p. 317.
[55] Schary, P, Sjkøtt-Larsen, T (2001), p. 76.
[56] Williamson, O. E. (1975), p. 318.

high, the risk for opportunistic behavior will be greater and vertical integration will be favorable over market exchange.[57]

The third factor that affects the size of the transaction costs is information asymmetry, i.e. one party having more information than the other. Asymmetric information may lead to opportunistic behavior from the party possessing the advantage. This is especially true if there are high costs for retrieving the lacking information.[58]

Transaction costs set aside, there is also the aspect of asset specificity to take into account when deciding what type of government structure to utilize. Asset specificity implies to what degree the assets have specific value to the given transaction, value that can not be used in transactions with other parties. Examples of assets with high specificity are machines that can only be used to produce specific products, only demanded by a specific customer, or raw material that can only be used in a specific process. It can also be intangible assets, such as knowledge about the supplier or customer, or experiences in processes and technology specific to the other party in the transaction. Assets with low level of specificity on the other hand are assets that can be used equally well in other transactions. Many complex or special products require a high level of asset specificity to be possible to produce at reasonable costs. If a high level of asset specificity is required, competition will be reduced since the number of suppliers, or buyers, willing to take the risk involved with the specific investment, is limited. Consequently, this will lead to the same transaction cost situation as if there were a small number of players on the market to begin with.[59]

In TCE it is also claimed that the frequency with which the transactions take place, along with the asset specificity can be used to decide what type of government structure a corporation should utilize in its relations to suppliers. This is illustrated in Figure 4.3 below.

[57] Williamson, O. E. (1975), p. 318.
[58] Ibid, p. 318.
[59] Schary, P, Sjkøtt-Larsen, T (2001), p. 77.

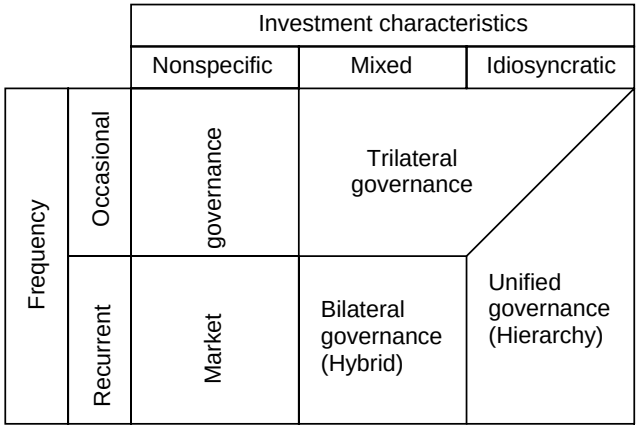


Figure 4.3 Government structures and transaction characteristics.[60]

As seen in Figure 4.3, transactions that require more specific assets (mixed or idiosyncratic investments) will be most effectively governed using hierarchies or hybrids between market and unified governance. These hybrids may be different types of closer relationships, such as alliances and partnerships. However, if the frequency of these transactions is low, trilateral governance will be more suitable. As an example, purchasing process equipment may require high levels of asset specificity but since it is a rare transaction, the most efficient way to reduce transaction costs is contracting and, in case of a conflict, have a third party settle the issue. The model is valid for markets with a certain level of uncertainty. Higher levels of uncertainty favor hierarchies over the hybrid types of governance. Once again, the number of suppliers on the market is also a factor to take into account. More actors on the market will decrease the risk for opportunism and thus the transaction cost for using the market exchange.[61]

The transaction cost theory has received a fair bit of criticism from economic and management theorists. This criticism has focused on a few shortcomings of the theory. Firstly, that TCE is mainly a static model, stating that only the most efficient governance form will survive in the long run, saying nothing about the transition process from one governance form to another. In addition, the assumptions of opportunism in TCE may become a self-fulfilling prophecy that excludes the possibility of trust-based relationships. Secondly, there is a strong focus on cost efficiency in TCE theories. Critics therefore argue that it may be better to focus on total value in the transactions. This is a relevant argument since many relationships in today's business environment is based on different goals, besides minimizing costs. This leads to the final major point of criticism; the fact that TCE does not consider a firm's possibilities to develop or acquire new competences. In many cases the option to vertically integrate may not exist because the firm lacks sufficient financial strength. This renders the company incapable of buying a supplier or

[60] Williamson, O. E. (1985), p. 79.
[61] Schary, P, Sjkøtt-Larsen, T (2001), p. 77.

developing the necessary competences in-house. The solution may therefore be to cooperate or form alliances with suppliers in hybrid governance structures.[62]

In spite of the criticism the transaction cost economy theory has had to endure, it provides many interesting aspects on why and when a company should use a certain relationship type in buyer supplier relationships.

4.2.2 Agency theory

The agency theory focuses on the relationship between two individuals or organizations; the principal and the agent. In this context the principal wants something done, and is therefore willing to pay the agent to do it. To exemplify principal-agent relationships one could mention:

- A shareholder (principal) and top management (agent)
- Top management (principal) and an employee (agent)
- A company (principal) and its supplier (agent)

In the examples above the same individual or organization can carry the role of either the principal or the agent, depending on the relationship discussed. The central issue in the agency theory is the principal's uncertainty of the agent sharing the same interests. One example is a physician, acting as an agent, making the right diagnosis but prescribing a highly priced medicine because the pharmaceutical company offers him some incentive to promote their product, thus not acting in the best interest of the patient (principal), or a taxi driver (agent) taking a detour to charge a higher price. This leaves one key question; how does the principal ensure that the agent acts in the desired way? According to agency theory the answer lies in the construction of good contracts.[63]

The reasons written contracts are used, instead of solely depending on trust in a relationship, are basic assumptions of behavior and information. According to the agency theory there are six assumptions that, from the principal's point of view, form the basis for organizational behavior in business relationships.[64]

- The principal and the agent both strive to maximize their individual profits.
- The principal and the agent have different, and sometimes contradictory, goals.
- There is information asymmetry between the parties, most often in favor of the agent.
- The agent is opportunistic.
- The agent acts with bounded rationality.
- The agent is risk averse.

The first assumption, that both parties endeavor to maximize profits, mean that they both, at any given time, will try to assimilate as much value from the relationship as possible.

[62] Skjøtt-Larsen, T (1999), pp. 96-108
[63] Nygaard, C, Ravn, J, Hull Kristenssen, P (2002), pp. 80-82
[64] Ibid, p. 82

Central for this assumption is the balance between the agent's contribution and the compensation given by the principal. The agent desires a big compensation in return for a small contribution, while the opposite applies to the principal. This condition is assumed to be pareto optimal in agency theory, i.e. if either party increases its gain, the other party will suffer a corresponding decrease. Consequently, the different goals pursued by the individual parties will be contradictory. For example, a business wants to maximize profits by selling high quality products. A supplier (agent) however, wants to minimize its contribution for a given compensation, which may, in turn result in lower quality products.[65]

As in transaction cost theory, the agency theory assumes the incidence of information asymmetry. In this case, almost exclusively in favor of the agent. This condition complicates decisions on compensation levels for the principal, since the lack of sufficient information refers to process knowledge. The principal is unaware of exactly what activities are being performed by the agent.

Also mutual to the TCE theory, agency theory includes assumptions of opportunistic behavior. This may show itself ex ante, i.e. before the contract is written, or ex post. The occurrence of ex ante opportunism may include employees working slowly, when piece rates are set, while ex post opportunism may be employees attempting to trick a system to set a high piece rate by not performing tasks not included in the piece rate.

In agency theory, humans are considered to have bounded rationality, making it impossible create perfect contracts. There will always be a lack of information and all possible aspects and outcomes are impossible to foresee. Finally the agent is said to be risk averse in the sense that risk is avoided and accepted risks result in additional compensation requirements.[66]

These assumptions lead to two main problems, the agent problem and the risk problem. The agent problem refers to the contradictory goals and the fact that the principal has small possibilities to control the agent's performance. The risk problem, on the other hand, derives from the differences in willingness to take risk. The agent is generally unwilling to put own funds at risk, but may be risk neutral, or even risk seeking, if the risk applies to the principal's funds.[67] An example of such behavior is people driving rental cars in a more challenging and riskful manner, than they would have in their own cars. This is obviously problematic for the principal and calls for protection.

The solution according to agency theory is to construct contracts that minimize the risks and problems discussed above. Since there are two main problems, there are two main contract types; the outcome based contract and the behavioral contract. The outcome-based contract tries to overcome the agent problem by aligning the goals of the agent with those of the principal. This is achieved by constructing the contract to only allow the agent to receive compensation for a fixed outcome. This can be exemplified by the situation where an employee mans a machine and the manager controls the total number of produced units at the end of the day. In this situation the employee is assumed to be

[65] Nygaard, C, Ravn, J, Hull Kristenssen, P (2002), pp. 80-81
[66] Ibid, pp. 81-82
[67] Ibid, p. 84

opportunistic, wanting to make as little effort as possible and still receiving his or her reward. An outcome based contract would in this case decree that if the employee produce e.g. 1 000 units, he or she will be paid 1 000 EUR. If the employee only produces 900 units, he or she may not get paid at all. Such a contract is aimed to decrease the agents' opportunism by making the compensation dependent on the contribution, and thus the principal's goals. This kind of contracts causes the agents to fulfill the contribution stated in the contract and reduces the contradiction between goals. There are however several disadvantages. Firstly, there is no incentive for the agent to produce more than the minimum contribution stated in the contract, since the compensation is fixed. Consequently, the principal will, in most cases, get the minimum contribution and nothing more. Secondly, in this kind of contract the agent carries the entire risk. If the delivered contribution only amounts to 900 units in our example, he or she will not get paid at all. Since most agents are risk averse this causes a problem. An agent will not agree to an outcome based contract unless the minimum contribution is easily achieved. Hence, an agent will not accept an outcome based contract unless the minimum level is set low, compared to maximum possible output and at the same time the agent will not produce more than the minimum level stated in the contract.[68]

The other kind of contracts is behavioral contracts, in which the agent is compensated for labour and not outcome. An example of a behavioral contract is regular salary-based contracts of employment, where employees get paid for attending work, e.g. 40 hours per week. This is by far the most common type of employment contract used in Sweden. It does however have some obvious disadvantages. It lacks any incentives for the employee to enhance his or her performance and, in conjunction with the principal's limited ability to control the agent actual performance, there is a risk for under-achievement by the agent. As a result the principal is left carrying the risk. Nevertheless, since the agent generally opposes risk, this provides the principal with an advantage since the agent may accept a lower compensation in return.[69]

The purely outcome based contract and the purely behavioral contract are obviously just the end poles of the scale. The challenge lies in constructing a contract that compensates the agent for hard and effective work, yet without putting to much risk on the agent which would require extra compensation. The principals' strategies today have therefore been to try to add incentives or bonuses to the contracts, so that the agents are rewarded for extra efforts without risking the entire compensation. But how will the principal know when the agent has achieved something that should render a bonus? It's usually done by defining a few indicators that reflect the actual performance of the agent. If the principal establishes good indicators, these contracts can be very effective in reducing the conflict of interest between principal and agent, and thereby reducing the opportunism in the relation. The challenge is to find indicators that are possible for the principal to observe and impossible for the agents to circumvent. With bounded rationality and information asymmetry it is almost impossible for the principal to find indicators that can not be circumvented, if the agent has enough to gain from doing so. The principal must find a

[68] Nygaard, C, Ravn, J, Hull Kristenssen, P (2002), pp. 87-88
[69] Ibid, p. 89

balance, where the agent is sufficiently rewarded for good performance but not enough to make him or her start tampering with the indicators.[70]

So far mainly agency theory in contracts between individuals has been discussed. However, the same mechanisms also apply to interorganizational relationships. There are however a few differences of importance. A firm serving as the agent, is generally not as risk averse as an individual. Further, the possibilities for the principal to control the agent's activities are often even smaller. This might be the reason why a majority of supplier-buyer contracts are outcome based. Outcome based contracts have several advantages over behavioral contracts between firms. Primarily they make it more likely that the agent acts in line with the principal's requests, and reduce uncertainty of the outcome. Nevertheless, information sharing and trust are promoted by behavioral contracts and the agent is more likely to act in the best interest of the principal if the principal has better knowledge about the agent's actions.[71] Thus it is argued that the best solution for long-term interorganizational agreements is the use of behavior based contracts with outcome based bonuses. Such contract types support information sharing and open book cost-plus-pricing, making it possible for the buyer and the supplier to jointly reduce non-value adding activities. An example of behavior based contracts in transportation is a carrier getting paid for km driven, goods volume transported, time spent waiting etc, rather than for a specified amount of goods delivered from A to B, as would be the case with an outcome based contract.[72] A behavioral contract shifts the outcome risk from the agent to the principal. To prevent opportunistic behavior from the agent it is suggested that:[73]:

- Principals should be highly involved in the production of service products.
- Reputation and third party evaluation should be used to evaluate the agent.
- Behavioral control is used to control opportunistic behavior.
- The agents are required to make investments in assets specific to the exchange.
- Relationships are long-term.

As seen, a behavioral contract requires more involvement and willingness to accept risk from the buyer, but at the same time leads to a closer relationship with the supplier, and thus reducing opportunism. A behavioral contract also supports information sharing and trust, so that unnecessary costs may be cut. This makes behavioral contracts a viable alternative when a deeper buyer-supplier relationship is sought. Especially if combined with an outcome-based bonus to align the goals of the agent with those of the principal.

4.3 Interorganizational relationship types

The industrial market is a place where business organizations trade products and services in accordance with supply and demand. These transactions take place within some level

[70] Ibid, pp. 91-96.
[71] Eisenhart, K M (1989), pp. 57-74.
[72] Logan, Mary S (2000), p. 27.
[73] Ibid, p. 26.

of interorganizational relationships. Due to reasons explained by transaction cost theories among others, there is a wide range of different relationship types that can be more or less clearly defined. In this section different levels of interorganizational relationships will be described. Thus, as shown in Figure 4.4, the second level in the funnel structure of this reference frame has been reached.

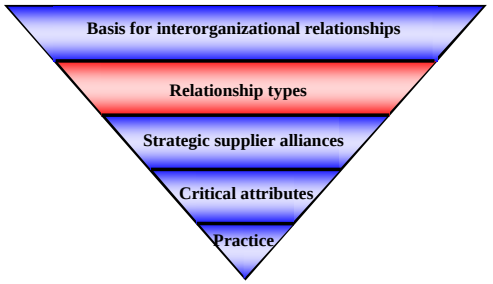


Figure 4.4 Current level in the frame of reference.

There are several different definitions and divisions of relationship types available. In this study the focus lies exclusively on closer and more long-term relationships. In order to clarify and define such relationships, a more holistic definition is however useful. Regardless of choice of definition, some general differences between different relationship types can be found.

One difference is the governance type distinguishing the relationships. When moving from left to right in the continuum in Figure 4.5, the level of market force influence is decreased, making more room for entrepreneurial governance. This is a result of the companies tendency to minimize the sum of the transaction and production costs, by choosing the most appropriate governance form.[74] At the same time, as we move up the scale, the level of assets specificity increases. It is evident that such a difference between the relationship types can be found, but one could also argue that the top position; vertical integration, falls out of this scale as it is characterized by a fully joint ownership.

[74] Williamson, O.E. (1979), p. 245.

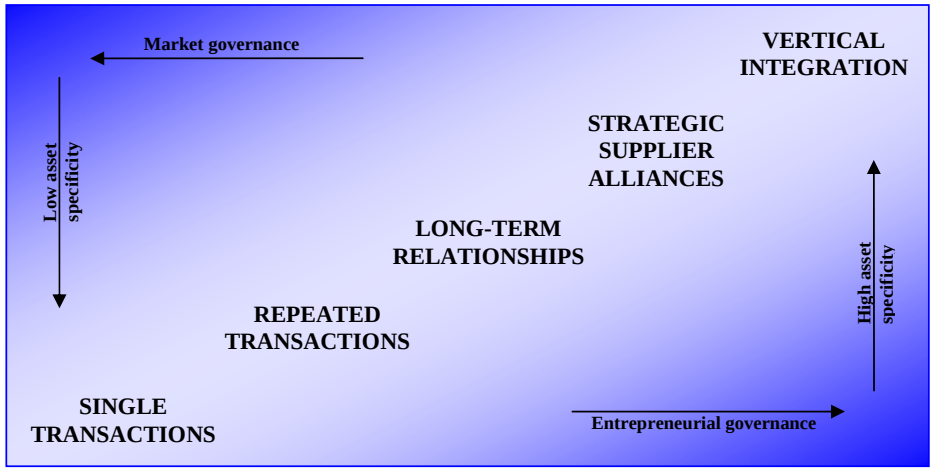


Figure 4.5 A combination of perspectives on interorganizational relationships[75].

4.3.1 Single transactions

A single transaction is a sole operation carried out between a buyer and a supplier. It is neither preceded nor followed by other associated transactions. Hence relationship aspects and mutual benefits are not relevant and price is the all overriding issue.[76] Firms aim to buy at the lowest possible cost, including transaction costs, as discussed in chapter 4.1.1, and the commodities exchanged are typically non-critical and non-differentiated.[77]

4.3.2 Repeated transactions

It can be argued whether single transactions should be considered a relationship or not. If not, repeated transactions are the first true relationship level in this model. Here focus lies on the transaction itself in addition to the price focus described for single transactions. Even though a repeated transaction relationship is to be considered more long-term than single transactions, the relationship only exists during the course of the transaction as there is no commitment from either party to the relationship itself. No jointly owned or dedicated assets exist. Typically, non-critical items, such as maintenance, repair and office supplies (MRO-products), or high value products associated with a low supply risk, such as raw material, are traded within repeated transaction relationships.[78]

4.3.3 Long-term relationships

The long-term buyer-supplier relationship differs from the repeated transaction mainly in time frame. Even though long-going in time, the relationship itself is characterized by an

[75] Adapted from Seppälä, T (2001), p. 43
[76] Seppälä, T (2003), p. 24.
[77] Webster, F E Jr (1992), p. 5.
[78] Seppälä, T (2003), p. 24.

arm's-length approach. The relationship is largely affected by market control and a moderate level of commitment from all parties is characteristic. Typically, no jointly owned assets exist and investments in relationship specific assets are rare.[79] Consequently, the relationship involves a minimal level of information sharing and parties try to minimize interdependence. All in all this leads to transaction-driven relationships that are easily transferable to alternative suppliers or buyers. Hence, the limitation in commitment and communication undermine every possibility for the parties to create sustainable, bilateral competitive advantages based on the relationship.[80] On the contrary, it may cause parties to act only on self-interest or even opportunistically. Even so, the long-term buyer-supplier relationship offers several advantages and the social climate within these relationships are often positive.[81] This renders this type of relationships suitable for many transaction types and is the most widely used for industrial transactions.[82] Typically in the case of non-strategic, low-value commodities, i.e. items not based on the buyers core competence and with little influence on differentiation of its products.[83]

4.3.4 Strategic supplier alliances

Strategic supplier alliances are the focal point of this study. It is crucial to acknowledge that there are several different kinds of alliances at different levels and with different purposes. It is therefore important to clarify what the expected outcome of an alliance is.[84] There are however several factors mutual to all strategic supplier alliances. In a buyer-supplier alliance both the buyer and the supplier are highly committed to the relationship, sharing a goal for mutual gains and benefits. Strategic supplier alliances are characterized by a frequent and open flow of information and the length of the cooperation is generally more than four years. An alliance agreement is often renewed automatically but is sometimes scheduled to end when used as transitional relationships. In a strategic supplier alliance the relationship itself is maintained by frequent face-to-face interactions between parties.[85]

Somewhat depending on the purpose of the alliances, allied suppliers are often involved early in product development processes and both parties are engaged in seeking technological solutions to common problems.[86]

Apart from these mutual characteristics there are also a few differences worth mentioning. The primary difference between alliances in the upper compared to the lower end of the scale in Figure 4.5 is found in the level of joint ownership. Strategic supplier alliances do not necessarily need to but may include a certain level of joint equity or ownership. However virtually all strategic supplier alliances include making relationship specific investments, hence increasing asset specificity. The highest level of joint

[79] Dyer, J H et al (1998), pp. 59-62.
[80] Seppälä, T (2003), p. 25.
[81] Bensaou, M (1999), p.41.
[82] Webster, F E Jr (1992), p. 7.
[83] Dyer, J H et al (1998), p. 68.
[84] Jonsson, S (1998), p. 42.
[85] Dyer, J H et al (1998), pp. 59-62.
[86] Seppälä, T (2003), pp. 26-27.

ownership included in this category is nonsubsidiary joint ventures between a buyer and a supplier. Figure 4.6 offers an alternative presentation of the domain of interorganizational relationships with the potential range for strategic alliances spanning from nontraditional contracts to nonsubsidiary joint ventures. This illustration offers an understanding of the different purposes the creation of a strategic alliance may have.

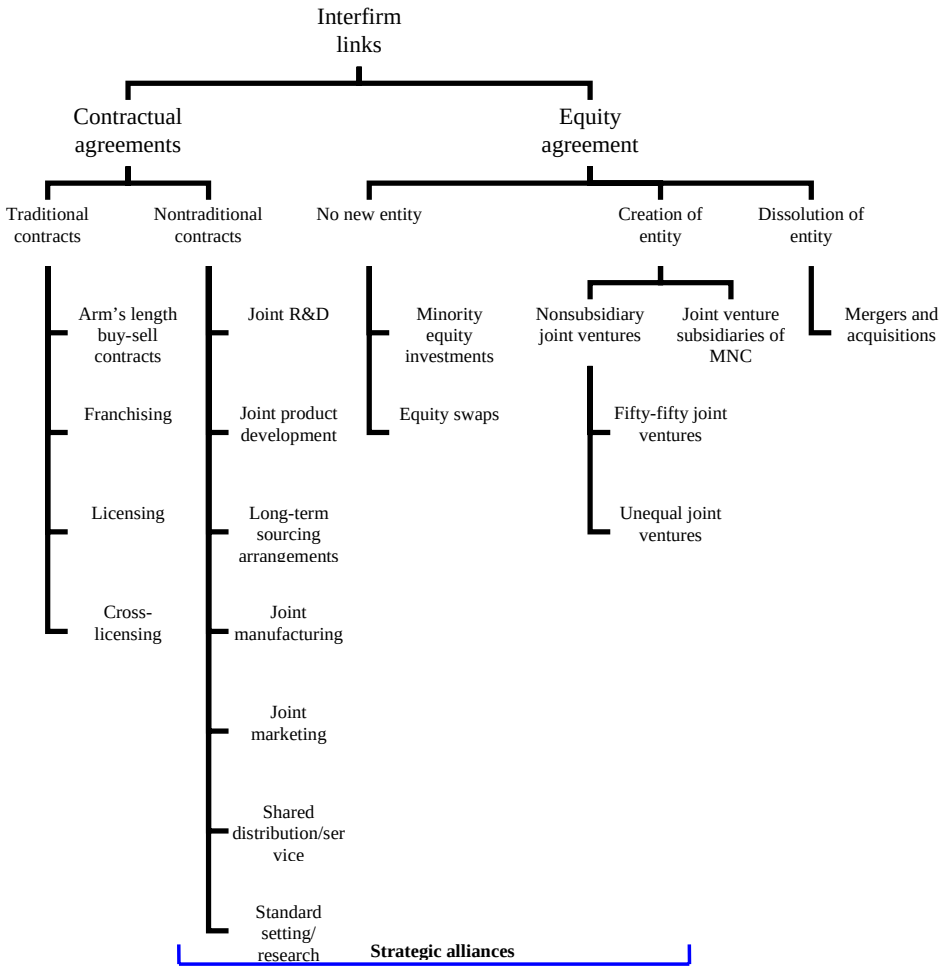


Figure 4.6 Range of interfirm links.[87]

[87] Yoshino, M, Rangan, S (1995), p. 8.

There are major differences between a strategic supplier alliance and a joint venture in which a subsidiary is created. A strategic supplier alliance therefore requires all of the following conditions to be present:[88]

1. Independence of the parties.
2. Shared benefits among parties.
3. Ongoing participation in one or more key strategic areas, e.g. technology, products, markets, etc.

Nevertheless, the term strategic supplier alliances will be used as a blanket term to describe the relationship sharing these characteristics. A strategic supplier alliance will therefore be defined as *a long-term, cooperative relationship designed to leverage the strategic and operational capabilities of individual participating companies to achieve significant ongoing benefits to each party*.[89]

One could of course argue that the use of the word strategic is somewhat misleading when the definition obviously includes operational partnerships. In this context however, strategic implies the alliance's significant contribution to the participating organizations' long-term goals, even if the activities carried out within the alliance are operational.[90] Thr word supplier is also included to establish that the alliances concerned consist of interindustry, vertical value chain relationships between manufacturers and their suppliers.

It is at this stage also worth emphasizing that the selected definition presented above has several elements that separate a strategic supplier alliance from simple long-term relationships. Primarily, a strategic supplier alliance goes beyond the trade of money for products and services. In a strategic supplier alliance purchasers also buy the supplier's systems and capabilities. This requires a much higher level of coordination between the organizations.[91]

Additionally, a strategic supplier alliance will exist only as long as all involved parties perceive that they are gaining from the relationship. Finally, one also have to remember that the selected criteria for measurement of the success of the alliance needs to include soft as well as hard measures. Soft measures may include aspects such as competitive technology and products and supply chain integration whereas hard measures include more traditional aspects such as cost, quality and lead time.

4.3.5 Vertical integration

At this end of the scale the terms buyer and supplier are no longer applicable in the traditional sense. In a vertically integrated hierarchy entrepreneurial governance is used and the transactions as well as the relationships themselves are internalised.[92] This in addition to the high level of joint ownership found in this organization form renders the

[88] Monczka et al (1998), p. 556.
[89] Ibid, p. 556.
[90] Jonsson, S (1998), p. 42.
[91] Monczka et al (1998), p. 556.
[92] Seppälä, T (2003), p. 28.

vertically integrated organization left outside the scope of this study. Nevertheless, the inter- and intra-organizational relationships associated with R&D and procurement functions found in other levels of supplier partnerships also exists within a fully integrated supply chain structure.

Table 4.1 Key characteristics of relationship types. Based on Webster (1992).

	Key variables				
Relationship type	Commodity and focal areas(s)	Unit of analyses/ focal point	Jointly owned assets	Agreement	Interdependence /mutual commitment
Single transactions	Non-differentiated (focus on price only)	Transaction (no prior or subsequent transactions)	No	Duration of the transaction	None
Repeated transactions	Differentiated (focus primarily on price)	Transaction	No	Duration of the transaction	Low
Long-term relationships	Differentiated (price, quality, technical support, delivery/service)	Transaction and possibly relationship	No	Long-term (arm's length), detailed	Medium
Strategic supplier alliances	Highly asset-specific	Relationship and joint, long-term strategic goal	Often	Long-term (though may be temporary, project specific), collaborative	High
Vertical integration	Highly asset-specific (core competence)	Firm itself, core competence	n/a	n/a	n/a

Even though it may not seem fruitful to draw strict borders between different relationship types as no real-world business relation correspond fully to any type, there are a few major aspects that constitute differences. In Table 4.1 above the key variables in interorganizational relationships are set up for comparison.

4.4 Situations for strategic supplier alliances

As described in chapter 4.3, different supplier relationship types range from single transaction all the way up to vertical integration. Different types have different characteristics, making them suitable for different situations. On this level in the frame of reference, see Figure 4.7, the situations suitable for and the possible benefits of strategic supplier alliances are discussed.

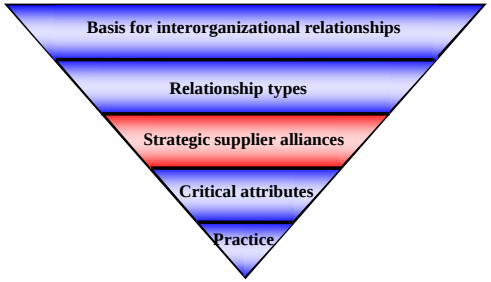


Figure 4.7 Current level in the frame of reference.

No relationship type can be said to be generically superior to the others. Different commodities require different transaction conditions and an organization therefore need to determine when the creation of a strategic supplier alliance should be considered. To accommodate such assessments the use of reliable assessment models is necessary.

4.4.1 Commodity selection process

Several independent studies have determined that the use of a formalized commodity selection process, in combination with a formal supplier selection process increase the likelihood of alliances being created in the right situations. The employment of such assessment processes can therefore also be considered to be crucial to alliance success.

To formalize the commodity selection process, the buying company needs to conduct a portfolio analyses. Products should be segmented and different strategies should be employed.[93] Naturally, the purchased items are characterized by different levels of supply risk and different financial importance. This gives them different strategic importance and these aspects may therefore be appropriate segmentation variables. Put together as axes in a matrix model, these factors make up a four-field matrix for product categorization.[94] Such a model is illustrated in Figure 4.8.

[93] Kraljic, P (1983), pp. 109–111.
[94] Ibid, p. 111.

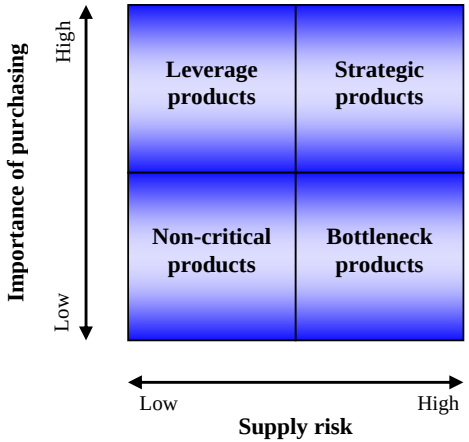


Figure 4.8 Kraljic's matrix of products.[95]

To determine the supply risk for a particular product or product group, the supply market is studied. Important aspects are number of alternative suppliers, substitution possibilities, pace of technological development, logistics costs, etc.[96] Factors that all influence the probability of supply shortage, thus the supply risk.

The importance of purchasing, e.g. the financial impact, found on the vertical axis is measured in cost of material in comparison to total production costs, volume purchased, and impact on product quality or business growth.[97]

The matrix, formed by these two axes, is divided into four different product categories; non-critical products, leverage products, bottleneck products and strategic products. Each and every one of these product categories carries its unique set of supply conditions and should therefore be governed using different strategies.

The non-critical products, found in the lower left corner of the matrix, generally constitute the majority of total number of articles purchased by an organization, but only a small portion of the total value. Nevertheless, purchasing of non-critical products, e.g. MRO-products, often consume 80 % of the total time spent on purchasing activities.[98] Hence, the non-critical products constitute a large portion of the total purchasing costs, even though the supply risk and financial impact are low. The generic strategy for purchasing of non-critical products is therefore to minimize cost by product standardization, reduction of number of suppliers, simplified systems for ordering by operative staff, etc. There is little to gain from a closer relationship with suppliers of non-critical products and the aim is to decrease the time spent on these transactions.[99] These

[95] Kraljic, P (1983), p. 111.
[96] Ibid, p. 112.
[97] Ibid, p. 112.
[98] Van Weele, A (2002), p. 149.
[99] Ibid, pp. 149-151.

suppliers should therefore be kept at arm's length, i.e. in a repeated transactions relationship.

The leverage products, found in the upper left square, are generally standard grade products that can be obtained from several suppliers, keeping the supply risk low. However these products represent a large share of the final products total costs, thus having a big impact on profitability.[100] Examples of leverage products include raw materials such as steel plates, bulk chemicals and the like. Since these product groups have a large financial impact the primary strategic goal is to lower prices. This may be achieved by concentrating volumes, i.e. single sourcing, switching to alternative suppliers or buying on spot markets. This makes arm's length supplier relationships suitable also for leverage products. The use of bargaining power to reduce prices is common in these situations, and closer relationships will only make exit barriers higher and lower the bargain power.[101] Hence, purchasing of leverage products are preferably also managed through repeated transaction relationships.

Bottleneck products, the lower right square, represent a limited share of the final product's value but are critical in terms of supply risk. Only one or a few suppliers have the ability to produce these items and spare parts are representative examples of bottleneck products. Bottleneck products should therefore be avoided to the maximum extent possible, i.e. by the use of standardized products over specialized items.[102]

The purchasing of bottleneck products often lead to an imbalance of interdependence between the buying company and the supplier. As the buyer becomes captive, the likelihood of opportunistic behavior from the supplier increases. Bottleneck product suppliers are therefore often kept in closer relationships to reduce this risk. Most commonly, long-term supplier relationships are created with suppliers of bottleneck products. Nevertheless, bottleneck products characterized by high transaction frequency and relatively substantial financial impact may also be taken into consideration for strategic supplier alliances. In some cases firms may even chose to go as far as vertical integration in order to manage the high level of supply risk.[103]

The main targets for alliances however are suppliers of strategic products. Strategic products are high-volume items with a considerable frequency in transactions. As only one or a few suppliers are available, these products are also associated with a substantial supply risk and a switch can not be made in the short term without considerable costs. Strategic products represent a large share of the end product's total cost price.[104] The supply of these products often requires high levels of asset specific investments and they are usually highly customized. Purchased complete modules, such as engines and gearboxes in the automotive industry, are generally included in this category.

[100] Van Weele, A (2002), p. 148.
[101] Ibid, pp. 148-149.
[102] Ibid, p. 149.
[103] Ibid, pp. 148-150.
[104] Ibid, pp. 148-150

The large impact on profitability and the need for supply risk reduction associated with strategic products, in addition to the product's strategic importance to the buying company, support the spending of recourses on building and managing the relationship.

A portfolio model analyses based on commodity characteristics provides a reliable tool for assessment of relationship governance. As seen in Figure 4.9, a clear pattern of the relation between products and different relationship types emerge. In this illustration the polar relationship types, single transactions and vertical integration, are left out. Single transaction could be added far down in the left corner. The value of doing so is however limited since single transactions not are to be considered as a relationship. As described in chapter 4.3.1, single transactions have no prior or subsequent transactions and are used for the procurement of one-time commodities, such as flowers or gifts. Vertical integration is also left out due to the fact that it is not an interorganizational relationship. Vertical integration is means to handle supply risk and would therefore be placed on the right side of the matrix in Figure 4.9. However immediately upon the integration the supply risk would vanish as the two organizations become one.

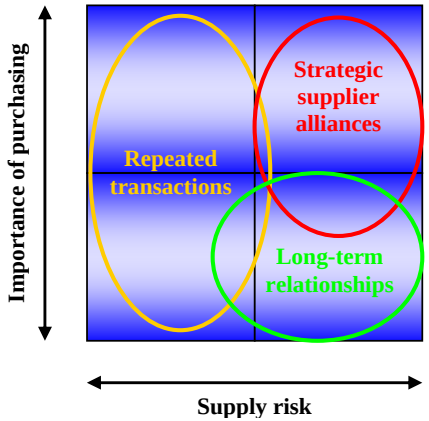


Figure 4.9 Supplier relationship types in the product portfolio matrix.

Naturally, other segmentation variables can be employed instead of, or parallel to the ones described here. Regardless of segmentation basis, employing the right relationship type in the right situation will inevitably provide the buying company with sustainable competitive advantages.[105]

4.4.2 Supplier selection process

As important as a suitable commodity selection process is the use of a formal process for finding an appropriate ally. Once a situation is found suitable for an alliance an

[105] Monczka et al (1998), p. 568.

organization must develop specific supplier selection criteria.[106] Supplier selection processes generally focus on quantifiable aspects, such as cost, quality, delivery reliability and the like. Naturally, these are important factors in all supplier selection situations. However, since strategic alliances are different in nature than other buyer-supplier relationships, they require the consideration of supplementary factors when selecting the supplier. An assessment needs to determine the supplier's capabilities, performance and organizational culture in order to verify the potential fit between the organizations. These additional criteria can be divided into four categories; financial issues, organizational culture and strategy, technology, and a group of miscellaneous factors.[107] All of these categories include important aspects with a more long-term perspective. Examples of such criteria are shown in Table 4.2 below.

Table 4.2 Examples of allied supplier selections criteria.[108]

Financial issues
1. Economic performance.
2. Financial stability.
Organizational culture and strategy issues
1. Feeling of trust.
2. Management attitude.
3. Strategic fit.
4. Top management compatibility.
5. Compatibility across levels and functions of buyer and supplier firms.
6. Supplier's organizational structure and personnel.
Technology issues
1. Assessment of current manufacturing facilities/capabilities.
2. Assessment of future manufacturing capabilities.
3. Supplier's design capabilities.
4. Supplier's speed in development.
Other factors
1. Safety record of the supplier.
2. Business references.
3. Supplier's customer base.

[106] Monczka et al (1998), p. 568.
[107] Ellram, L (1990), p. 12.
[108] Ibid, p. 12.

Financial issues

As stated in Table 4.2, the financial issues include economic performance, which relates to the suppliers historical performance, and financial stability, which aims to assess the future viability of the firm. Assessing these factors is important in partnering. Both allied parties want strong, viable partners that will contribute to the relationship both from a short term perspective and in the more distant future.[109]

A financial assessment may be difficult to perform, but many modern companies strive to perform an as detailed financial analysis of potential allies as possible. The analysis may be based on publicly available information and, to the extent possible, on the supplier's internal records and financial documentation.[110]

Organizational culture and strategy

The cultural and strategic issues of supplier selection include the most intangible aspects. Aspects to be considered in this category are feeling of trust, management attitude/outlook for the future, strategic fit, top management compatibility, compatibility across levels and functions between firms, and the supplier's organizational structure and personnel.[111]

A feeling of trust between firms can be described as a belief in the supplier's intention of honoring the agreement and put effort into the partnership. Mutual trust is said to be a key success factor for long-term success in supplier alliances.[112] In the context of supplier selection, the trust aspect is more of a "gut feeling" based on the first impression.

Slightly more tangible is the aspects of management attitude and the strategic fit between the firms. These are closely related aspects in supplier selection that consider the supplier's strategic direction as well as their willingness to change that direction to fit the strategy of the buying company. Congruence between goals is crucial since alliances are set up to last over a considerable period of time. Consequently, an initial fit between firms in terms of strategic direction and future plans is a prerequisite to strategic supplier alliances.[113] It is therefore an important aspect in the supplier selection and screening process.

The three remaining factors – top management compatibility, compatibility across levels and functions between firms, and the supplier's organizational structure and personnel – are all closely related. The purpose of assessing these factors is to confirm the overall fit, at all levels and the organizations' ability to communicate and coordinate effectively. Top management fit is crucial and relates to the strategic fit discussed above, since strategic direction is decided at this level. Thus are the top managements' attitudes likely to set the general tone of the relationship. Nevertheless must the same compatibility be present at all organizational levels and functions that will be engaged in or affected by the alliance.

[109] Ellram, L (1990), p. 12.
[110] Ibid, p. 12.
[111] Ibid, p. 12.
[112] Monczka et al (1998), p. 557.
[113] Ellram, L (1990), p. 12.

The overall relationship may otherwise be undermined and in worst case, result in failure.[114]

Like trust, these factors are soft, intangible issues that have to be analyzed based on an initial gut feeling rather than policy statements or quantitative information. Nevertheless, that does not decrease the importance of these aspects when selecting a potential partner.

Technology

Technology issues to be considered when selecting a partner for a strategic supplier alliance include both the supplier's current technology and an assessment of the firm's future technological capability. When analyzing the supplier's long-term capability both design capability and speed from development into production should be considered. In order to analyze the supplier's capabilities, the screening should include a review of the supplier's production facilities. Such an assessment provides a firsthand understanding of their scale, equipment conditions, operating environment and a good general knowledge of their operations.[115] This offers the buying company a clear picture of the supplier's current technologies and may form a basis for analyses of future technological capabilities.

The objective of the long-term assessment is to evaluate the supplier's ability to continuously add value to the relationship over time. The buyer needs to determine if the supplier has the ability to participate in and contribute to the development of the buying company's products and processes. Hence, the assessment of the technological aspects should be based on the supplier's attitude and willingness to actively participate in technology development and value analyses, as well as the supplier's technical capability supporting that willingness.[116]

Other factors

Beyond these three major areas, the buying firm must also consider a few additional factors in the selection process. When choosing potential allies, the supplier's safety record, the business references provided by the supplier and the supplier's customer base must be taken into account. Both the safety record assessment and a review of business references relates to the supplier's overall performance reputation. Safety is considered critical in this context by many firms since problems with the supplier are perceived to influence the buying company's reputation. For the same reasons, a review and follow up of provided business references is intended to confirm the supplier's performance and safety reputation. While a feeling of trust is important, an actual review of the supplier's performance with other customers can provide a valuable confirmation of those feelings.[117]

The assessment of the supplier's customer base aims to determine the buying company's importance to the supplier. Many firms consider it crucial to be an important part of the allied supplier's business, in order to get sufficient attention. In addition, firms may want

[114] Ellram, L (1990), p. 13.
[115] Ibid, p. 13.
[116] Ibid, p. 13.
[117] Ibid, p. 13.

to exclude supplier's that are dealing directly with key competitors from the list of potential partners.[118]

The list of factors presented here is not exhaustive. Different products and different underlying purposes with the alliance require consideration of different factors. In some situation, additional factors may therefore be relevant to assess, while some of those presented here may be of less importance. Nor is the list intended to replace current supplier selection processes. It is merely aimed to provide a supplement to the regular criteria used to assess potential suppliers, to address the more long-term issues associated with strategic supplier alliances.

4.5 Possible benefits with supplier alliances

As previously stated in this report, organizations have different purposes for engaging in a strategic supplier alliance. Different types of alliances offer different possible benefits. These benefits can be categorized in four different areas; joint product development, quality improvements, logistics improvements[119] and access to new technology.[120] Improvements in these areas may all lead to more innovative, high quality products with lower production costs, and thus improving margin and profit.

4.5.1 Product development

During the nineties, the interest for early supplier involvement in product development or concurrent engineering increased considerably. Studies have shown that the Japanese car assemblers have been able to bring new cars, with more innovative features, to the market at a faster pace and at a lower cost than western assemblers. This has been achieved though engaging suppliers early in the development process.[121]

The specific benefits of early supplier involvement can be divided into two main areas; increased development efficiency and higher production effectiveness. Increased development efficiency means a reduced development time as well as fewer engineering hours. This is achieved by intense communication and coordination between the buyer and supplier at an early stage in the development process. Without supplier involvement in the development, designed parts may end up unnecessarily difficult to manufacture or even requiring redesigning after the production has started. Such redesigning measures inevitably result in high costs. This kind of problems can be dramatically reduced if the supplier is involved early in the development and design process. In Figure 4.10 a graph showing the relation between the cost and the possibilities of change is shown.

[118] Ellram, L (1990), p. 13.
[119] Van Weele, A (2002), pp.164-166.
[120] Masaaki, K et al. (2003), p. 296.
[121] Wynstra, F et al (2001), p.157.

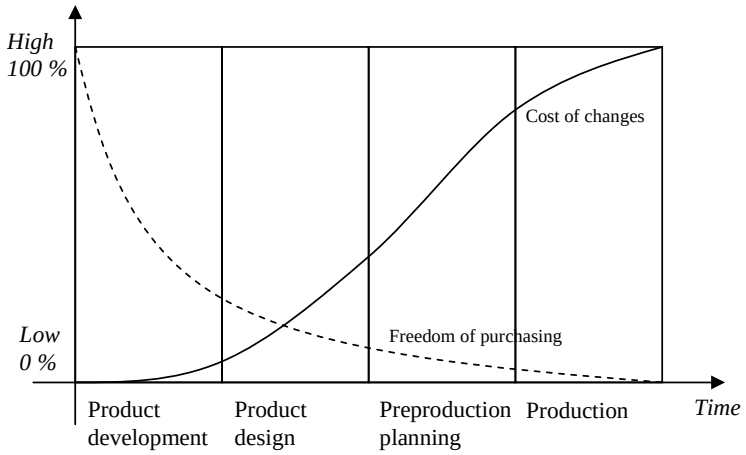


Figure 4.10 Cost and specification freedom in the product development process.

One can also picture the situation where a supplier has already encountered a specific design problem and solved it in a previous project with another customer. This may reduce the need for new innovations. A common example is the use of carry-over parts in the automotive industry. The amount of man-hours needed in designing is thereby reduced.

Involving the suppliers in the product development also opens up the possibility of parallel development of components and modules. Through parallel development different parts and modules of an end product can be developed parallel in time, which further reduces time to market. The division of labour between parties also contributes to the increased efficiency. The responsibility of each phase in the development project is allotted the most capable party, thus further promoting efficiency and reducing development costs. The increased development efficiency facilitates the development of more products, given a certain amount of development resources. Consequently, a reduced time to market enables companies to introduce products earlier than competitors, resulting in a possibility to premium pricing.[122]

In order to achieve increased production effectiveness the suppliers' experience should be used in Design for Manufacturability. Since the supplier has superior knowledge in the manufacturing process for which they are responsible, they are better able to recognize potential manufacturing problems early in the development phase. This may seem closely related to the development efficiency aspects, but are nevertheless more long-term and focused on the future manufacturing rather than the design process. Given that the possibility to affect the manufacturability is high in the initial phases, as seen in Figure 4.10, reducing manufacturing complexity from the start will lead to decreased

[122] Wynstra, F et al (2001), p. 158.

manufacturing costs and higher quality. The suppliers who are involved in product development may also contribute with experiences of alternative materials and the possibility to use component standardization that can give lower production costs.[123]

There are however a few negative aspects of supplier involvement in product development that need to be addressed. The involvement of suppliers inevitably means that detailed information regarding product strategies, end product design etc, must be shared with the suppliers. On the other hand, involved suppliers must share information related to their core knowledge with the buying company. This means that both parties will have to expose themselves to the other in order for the development project to be successful. This inevitably requires a close, long-term relationship between firms, characterized by trust and commitment. In order to achieve the advantages of involvement described above, the relationship also requires intense communication and coordination of activities. The conclusion is therefore that these rewards are possible outcomes for firms engaged in successful supplier alliances that include joint product development.

4.5.2 Quality improvement

It is in many ways beneficial for a firm to secure high quality on purchased materials, components and products. Primarily it decreases production problems associated with low quality inputs, such as problems with low yield on production processes and time spent by the manufacturing department on reworking products. Minimizing these problems leads to increased production efficiency and decreased costs for scrapping products and materials. It also has impact on customer satisfaction, goodwill and brand value. High quality conformance on supplied goods can also decrease the need for quality inspections. Since goods inspection is a non-value adding activity it should be kept at a minimum.

The quality level of products is the combined result of product design and the ability to manufacture the design with accurate conformance. It is argued that more than 40 per cent of the quality problems stem from design aspects.[124] This draws the focus back on product development, discussed in chapter 4.5.1, and the importance of involving the suppliers in product development. However, since old and existing products by far outnumber the introduction of new products in most companies, quality improvements must also include ongoing manufacturing. The suppliers' process capabilities must therefore be analyzed and the product designs reviewed, in order to achieve desired quality improvements.[125]

A product design review is a reassessment of existing products design and tolerances with the intended application in mind. The aim is to facilitate efficient production, given the functionality required in the final product. The product design review must therefore be undertaken in cross-functional teams, including design engineers, manufacturing,

[123] Wynstra, F et al (2001), p. 158.
[124] Leonard F W, Sasser, W E (1982), pp.163 – 171.
[125] Carter, J, Ellram, L. (1994), p. 16.

marketing as well as purchasing or sales representatives from both firms. This ensures that all perspectives are taken into consideration in the review.[126]

Improvement of the supplier's process capabilities aims at increasing the supplier's ability to manufacture the given design with a high level of quality conformance. In this process firms commonly employ various quality assurance programs, such as statistical process control (SCP) and Six Sigma.[127]

Product design as well as process technology are very sensitive issues in most firms. Thus improvements of a supplier's processes require high levels of trust, commitment and coordination between firms. A successful design review also requires a holistic view of manufacturing demands and end products final application. The kind of trust and willingness to share information required is, as previously discussed, only found in deeper relationships, such as alliances.[128]

4.5.3 Logistics cost reduction

Engaging in closer relationships with suppliers is an effective way for companies to decrease the total logistics costs in the supply chain. This is primarily achieved by increased information sharing. Offering better and more accurate prognoses to suppliers, e.g. by giving the supplier direct access to real sales data, internal sales forecasts and current internal production plans, are means to secure efficient as well as sufficient supply. The information provided allows the supplier to better forecast the buyer's needs and thus plan production accordingly. Better knowledge of future demand, and consequently better production planning, will increase efficiency in the production process and lower production costs. The information can also be used to optimize inventory levels. In closer relationships, such as an alliance, inventory levels can be further reduced. In an arm's length supplier relationship, the supplier normally holds a stock of finished goods, while the buying company keeps a safety stock their site. When firms engage in closer relationships and increase information sharing, the need for such double warehousing can be eliminated. Within an alliance firms may even go as far as totally eliminating stock keeping by using Just in Time (JIT). In a JIT system, the buying company keeps no stock at their site and the supplier is expected to deliver his products more or less directly to the production line. Even more widely spread is the use of Vendor Managed Inventories (VMI). An example of a VMI system is where a single stock is placed at the buyers site, while the goods is still under the supplier's ownership until it is used by the buyer. Hence, the supplier is responsible for keeping sufficient stock levels. The use of VMI solutions leads in lower stock levels in the supply chain and enables the suppliers to plan production in the most efficient way. Consequently, the total cost is reduced which will result in lower prices or reduced stock keeping costs, depending on how benefits are shared between parties. The openly shared information also reduces the bullwhip effect[129] in the supply chain and therefore result in a more even work load for

[126] Carter, J, Ellram, L. (1994), p. 16.
[127] Ibid, p. 15.
[128] Ibid, p. 16
[129] The Bullwhip effect refers to the phenomenon where a small change in customer demand leads to great demand changes further up in the supply chain.

suppliers further back in the supply chain. In order to be successful and provide sought benefits however, both VMI solutions and JIT systems require a closer relationship between the buying company and the supplier. The set up of a VMI system may not require an alliance between firms but is nevertheless a possible outcome of logistics improvements within an alliance. In any case the systems require a substantial flow of information and secure accurate forecasts. Consequently, relationships between firms using such solutions have to be characterized by trust and willingness to share information.[130]

4.5.4 Access to new technology

The current pace of technological advance is very high. Consequently, very few companies have the resources required to develop all necessary technology internally. Since product and process technologies are often considered to be closely related to the core business of manufacturing companies, it may be difficult to acquire from independent corporations. Even though the supply chain would benefit greatly from a higher exchange of knowledge, a high level of trust is required for such knowledge transactions to take place. Keeping suppliers at arms-length prevents an efficient exchange of knowledge. To facilitate such transactions and give firms access to new technologies, and thereby the foundation for long-term competitive advantages, closer supplier relationships are often sought. Within an alliance, knowledge is transferred over time and the longer an alliance lasts, the more technology and knowledge is transferred between the firms. This transaction includes both small-scale technical solutions to explicit problems as well as broader technologies and know-how. Often these transactions are spontaneous and bit by bit. Many relationships lack a structure for transfer of capabilities and know-how, but it is nevertheless achieved by joint activities across firm and functional boundaries. [131]

4.6 Critical attributes: Success factors in strategic supplier alliances

In spite of the benefits involved for both a buyer and a supplier in a strategic alliance, many alliances fail. There seem to be some key factors regarding the formation and performance of an alliance, that strongly influence the success of a strategic supplier alliance.[132] Hence, the fourth level in our frame of reference has been reached, as illustrated in Figure 4.11.

[130] Udomleartprasert, P et al (2003), pp. 345-346
[131] Masaaki, K et al. (2003), pp. 293-298.
[132] Monczka et al (1998), p. 553.

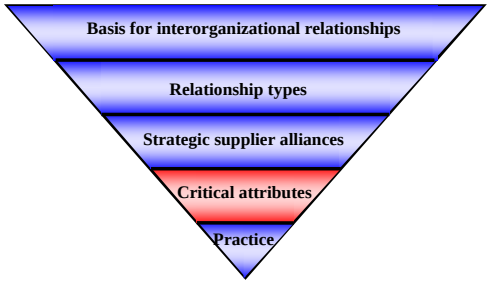


Figure 4.11 Current level in the frame of reference.

The key factors posited to be predictors of success of a strategic supplier alliance can be divided into four major dimensions; attributes of the alliance, communication behaviour, conflict resolutions techniques, and risk and reward sharing. Each and every one of these dimensions includes a number of subordinate aspects crucial to perceived success in a strategic buyer-supplier alliance. However, it should be mentioned that success in this context is primarily defined as perceived satisfaction by the buying organization.

4.6.1 Attributes of the alliance

Strategic supplier alliances require a somewhat different approach to relationship management than other buyer-supplier relationships. The important aspects of relationship management include commitment, trust, coordination and interdependence.[133]

Commitment

Commitment in this context refers to the involved organization's willingness to put effort in to the relationship. Primarily this takes the form of committing resources to the relationship, hence establishing asset specific resources. Resources can be in form of the organizations time, financial resources or facilities. As discussed earlier, a high level of asset specificity is a representative characteristic of a strategic alliance.[134]

Over time it has been frequently argued, especially by transaction cost theorists, that insourcing/outsourcing decisions are influenced by the level of asset specificity.[135] In recent years this has grown to describe how the level of commitment also affects the nature of an interorganizational relationship. Several studies on the subject suggest that success in a strategic alliance result when all involved parties are willing to commit resources to the relationship.[136]

However, a recent study especially dedicated to alliances between a buyer and a supplier, indicate that the level of commitment in a strategic supplier alliance has little influence on

[133] Monczka et al (1998), p. 557.
[134] Seppälä, T (2003), p. 28.
[135] Williamson, O. E. (1985), p. 79.
[136] Yoshino, M, Rangan, S (1995), p 112

success.[137] This is however contradictory to what is suggested in substantial previous literature as well as results of studies of marketing channel partnerships.[138] In market alliances and partnerships, commitment was found to be a significant predictor of success. This further enhances the importance of acknowledging the differences in the underlying purposes of alliances. Nevertheless, mutual commitment appears to strengthen success in strategic alliances and especially important is commitment by top management and a philosophy within the organizations that encourages partnerships.[139]

Trust and coordination

The next aspects of alliance attributes are trust and coordination. The importance of these aspects in cooperative relationships is supported by numerous studies.[140] Trust may seem self-explanatory but is nevertheless hard to define. One could say that trust in interorganizational relationships is an organizations belief that another company will perform actions intended to result in positive outcomes for the organization, as well as not perform any unexpected actions resulting in negative outcomes.[141] Regardless of what definition is chosen, it has to be emphasized that trust is a concept based on perception.[142] Mutual trust is the foundation of a strong working relationship and it builds up over time as a relationship develops. Should a trust-related problem arise within the relationship it requires a substantial period of time to re-establish a trustful relationship.

Trust can also be said to include both short-term and long-term aspects. These aspects could also be categorized as transactional- and relationship-level trust. At the short-term, transactional level, a certain level of trust is required for day-to-day transactions to work and is said to be present when parties honour verbal agreements, without necessarily drawing-up written contracts.[143] A high level of trust in a relationship is therefore said to enhance the level of coordination between organizations by reducing administrative costs.

In the long-term sense, at the relationship level, trust is closely related to commitment. The main difference, however is that trust in this sense refers to how credible each party considers the commitment from the allied partner to be.[144] A high level of trust in the long run is also argued to reduce the likelihood of relationship termination.[145] Consequently, trust and coordination has emerged as important predictors of success in strategic supplier alliances.[146]

Interdependence

The last aspect in this dimension is interdependence between firms. Interdependence exists when one party in a relationship does not entirely control all conditions necessary

[137] Monczka et al (1998), p. 563.
[138] Mohr, J, Spekman, R (1994), pp. 137 – 138.
[139] Ellram, L (1991 a), pp. 39 – 41.
[140] Monczka et al (1998), p. 558.
[141] Anderson, J C, Naurus, J A (1990), p. 45.
[142] Hawes et al (1989), p. 1.
[143] Seppälä, T (2003), p. 131.
[144] Hawes et al (1989), p. 1.
[145] Morgan, R M, Hunt, S D (1994), p. 26.
[146] Monczka et al (1998), p. 563.

for achievement of a desired action or outcome.[147] Studies have shown that firms are less likely to act opportunistically in a relationship characterized by a high level of interdependence, whereas suppliers with greater control are more inclined to be opportunistic.[148] An overview of available sources show that substantial literature suggests that high levels of interdependence is a key to success in supplier alliances.

It should however be mentioned that the conclusions of interdependence as a predictor of success in industrial strategic supplier alliances are contradictory to similar conclusions on market channel alliances.[149]

All four aspects described above; commitment, trust and coordination, and interdependence, are important to success in supplier alliances. Joint R&D for example requires access to internal competences and joint improvements in areas such as cost reduction, quality and JIT-systems require a high level of interdependence between engineers, materials planners and designers. This creates an increased coordination between firms and results in an increasing reliance of the buying company on its allied supplier.[150] As coordination is achieved, trust is developed between the allied parties thus forming the foundation of a successful relationship. Such a relationship may be naturally and easily developed between small companies, but it is important to acknowledge that a more structured and conscious process is required when larger actors are involved.

4.6.2 Communication behaviour

Communication and the mutual sharing of information are fundamental in developed relationships, e.g. strategic alliances. Information exchange needs to be open and candid at all organizational levels. [151] This is evident when considered in light of the advantages sought through alliances presented in chapter 4.5. For quality and production efficiency improvements to be achieved, joint sharing of a suppliers process capabilities and the buying company's product specifications is required. Technology and product development advantages occur when suppliers are involved in development teams and actively participate in the process by providing credible and timely information.

Both the depth (quality) and the breadth (quantity) of information communicated to the other party are crucial to success in strategic supplier alliances. The shared information needs to be quantitatively adequate in the sense that sufficient critical and proprietary information is communicated. For example, detailed information on a firm's financial health, level of debt, ability to grow and overhead cost structure is required to facilitate growth and development within an alliance.[152] However, no amount of information is sufficient if it lacks quality. Information quality refers to the accuracy, timeliness and adequacy of the exchanged information.[153] These aspects also include better and more

[147] Monczka et al (1998), p. 558.
[148] Ibid, p. 558.
[149] Ibid, p. 566.
[150] Ibid, p. 567.
[151] Seppälä, T (2003), p. 133.
[152] Monczka et al (1998), p. 559.
[153] Anderson, J C, Naurus, J A (1990), p. 44.

accurate forecasts of requirements to suppliers, to enable efficient capacity planning and supply chain management.

A high level of information sharing and information quality must also be accompanied by a high level of mutual information participation. Information participation in this context refers to the extent to with allied partners engage in jointly planning and setting goals.[154] A high level of participation is critical in allowing both parties to coordinate their activities and is therefore strongly related to the critical attributes of an alliance.

4.6.3 Conflict resolution

The arising of conflicts is inevitable in long-term interorganizational relationships. It seems however that the manner in which these problems are addressed has a direct impact on alliance success.[155] The need for an appropriate conflict resolution technique is therefore evident. Constructive conflict resolution techniques in an alliance include joint elimination of conflict. Such behaviour is more likely to result in a positive outcome and may perhaps even strengthen the relationship, as all forms of joint efforts facilitate finding long-term, synergistic solutions.[156]

Conflicts however always involve and affect individuals within the organizations. This may lead to the use of conflict resolution techniques that involve smoothing over or even avoiding or ignoring the issues. Such an approach does not eliminate the underlying problem and may result in a renewed and even enlarged conflict in the future.[157] This may in turn jeopardize the continuity of the relationship far more than the original conflict.

Even worse is the employment of clearly destructive conflict resolutions techniques within an alliance. Destructive conflict resolutions techniques refers to the use of threats, hollow promises and law suits or arbitrations, and may also include the use of harsh words which further harms the relationship.

In light of the above, it is argued that success in strategic supplier alliances is facilitated by high use of constructive conflict resolution techniques and low use of avoidance and destructive techniques.[158]

4.6.4 Risk and reward sharing

In close, developed relationships, risks are jointly taken and rewards need to be divided appropriately between parties.[159] For a strategic supplier alliance to be successful a win-win situation needs to be established by the existence of benefits to both parties. These benefits must exceed those achievable by the parties individually. The value to be shared between allied partners may come in different forms, such as access to new markets, new

[154] Mohr, J, Spekman, R (1994), pp. 137 – 138.
[155] Monczka et al (1998), p. 559.
[156] Ibid, pp. 559 – 560.
[157] Ibid, p. 560.
[158] Ibid, p. 570.
[159] Ellram, L M (1991), p. 40.

technology, information advantages, lower costs for both buyer and supplier and thereby lower prices.[160]

Alliances, as well as most other interorganizational relationships for that matter, work best when the involved parties share the same or have well aligned goals. Naturally this is not the case in many buyer-supplier relationships. In regular transaction relationships, both parties strive to maximize their share of the total benefits available. However, by aligning the incentives of the organizations the total benefits available may grow considerably larger and the commitment to the alliance is thereby strengthened.

By changing how, rather than how much, the partners are rewarded for their contribution, companies can improve the performance of their business and thereby increase profitability.[161] A revealing example is the Hollywood movie studios that in the nineteen nineties found that stock outs at video retailers such as Block busters posed a major problem. The lack of sufficient inventory in the retail stores resulted in a loss for all companies in the supply chain as well as decreased service level for the consumers as they could not rent the movie they desired. Everybody suffered. The low inventory levels were a result of poor alignment of the movie studios and the retailer's incentives. The retailers paid $60 for each copy and the average rental price was $3. As a result retailers had to let out each copy purchased a minimum of twenty times to break even. Consequently, the retailers bought too few copies since an individual movie has a relatively short lifetime. Since the cost for the movie studios to make a copy were only $3 they wanted to explore the possibility to get more copies out to the retailers. In this case a collaboration was established with between retailers and movie studios. The pricing structure were changed to allow retailers to gain more from having more copies in the stores. The price per copy was set to $3 and in addition the movie studios would receive 50 % of the rental revenues. With this pricing strategy the companies were able to significantly increase the retailers' customer service, allow considerably more rentals and hence create benefits the suppliers and the retailers could not achieve independently. In addition the risks involved in the venture were shared equally between parties.[162]

In many alliances incentives are poorly aligned and thus the rewards achievable through the alliance are neither maximized nor shared properly between parties. The same reasoning applies to the risks involved. This is a natural result of firms desire to maximize their profitability and their reluctance to accept risks. Nevertheless, a just division of benefits and risks through alignment of the incentives is crucial to success in strategic supplier alliances and strongly influences the parties' commitment to the relationship.

4.7 Critical attributes: Sources for failure in strategic supplier alliances

As seen there are many benefits achievable from strategic supplier alliances. In spite of these benefits, as many as 30 to 50 per cent of all alliances fail.[163] Many failures occur

[160] Wilson, D T (1995), p. 342.
[161] Narayanan & Raman (2004), p. 100
[162] Ibid, p. 100
[163] Anderson, E & Sandy, D (2005) p.75

due to lack of the critical success factors discussed in chapter 4.6. There are however a few additional factors potentially capable of eradicating an alliance. One striking phenomenon, supported by numerous studies, is that the relationships that appear to be doing well are often the ones most vulnerable. This may be explained by the high level of confidence and security felt by the involved parties. The safer the parties feel in the relationship, the more likely they are to raise annoying issues and raise conflicts. The types of problems that arise are often derived from the same problems discussed in the agency theory as well as in TCE; the risk for opportunism and how to make sure your partner acts in your best interest. Since trust and willingness to share information and engage in personal relationships are vital for the success of an alliance, this must be achieved. Nevertheless, these characteristics seem to increase the risk for opportunistic behaviour.[164]

This circumstance can be illustrated with an example of an automaker and one of its parts-supplier. In this case both the automaker and the supplier have invested time and resources in strengthening their relationship. Particularly the supplier went to great length to forge a strong relationship, learn the automakers business and win its trust. Within the relationship the firms developed routines to ensure just-in-time deliveries to the assembler's line. They also sponsored a program to build personal relationships between the two company's employees by arranging social events and sports tournaments for rank and file employees. Eventually these efforts led to a sound and well functioning relationship, especially from the automakers point of view. The supplier displayed great flexibility and customer orientation even accepting unilateral price cuts. The automaker seemed to have it all; the gains from vertical integration without having to operate a supply division. Over time, however, the supplier began to abuse the trust and the close personal relationships by starting to cut corners. They made changes in design that decreased their production costs at the expense of reduced product quality. Due to the close personal bonds with the automakers employees the irregularities were hidden thus keeping the purchasers ignorant.[165]

4.7.1 The underlying sources

Apparently, the same mechanisms created to establish substantial benefits for both parties, pose a threat to the long-term success of a close interorganizational relationship. Not only do lack of the identified success factors seem to be sources for failure but the factors themselves if achieved but not managed properly seem to be directly contributory to failure. To understand the underlying causes of these problems one has to look at the benefits offered by an alliance as well as the efforts required to form and maintain the alliance.

Immediate benefits

Alliances are created to gain benefits. These benefits can be short-term as well as long-term, or preferably a balance between them. In cases were there seem to be only short-term benefits for the parties, the risks of opportunism will inevitably increase as the

[164] Anderson, E & Sandy, D (2005), pp. 75-78
[165] Ibid, p.78

parties strive to get as much out of the alliance as possible before exiting. In the opposite case where there are only very long-term and no or insignificant short term benefits the gains may seem to distant and cause the incentive for staying in the alliance to wane. This will lead to a reduced commitment from the involved firms and may cause the alliance to fail.[166]

Investments in relationship specific assets

As described earlier, relationship specific investments by the involved firms are a common characteristic of a strategic supplier alliance. Naturally such investments vary in range and can be divided in two dimensions; the buyer's specific investments and the supplier's specific investments. In the buyer's case investments may include e.g. tangible investments in buildings, tools and equipment dedicated to the supplier's products and processes. They may however also include intangible investments such as time spent to learn the supplier's business practices and routines and time spent exchanging knowledge and developing the supplier. In the supplier's case specific investments range from investments in plants at the customer site, common in the automotive industry, to time and effort spent to customize products or processes to meet customer specific needs.

These types of investments may cause problems. If the investments are made solely by one party it will lead to an imbalance in dependency between parties. As seen in Figure 4.12, such imbalance creates a captive situation for either the buying company or the allied supplier.

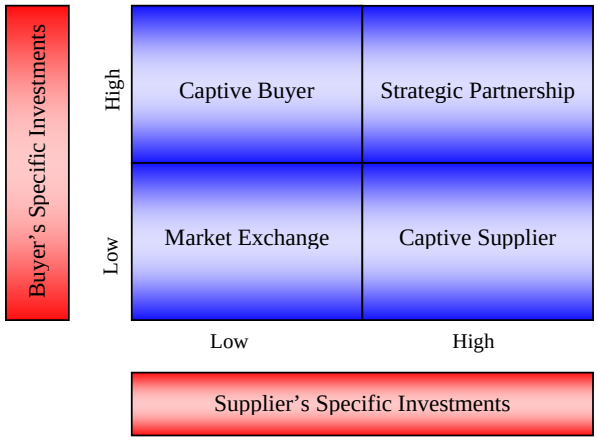


Figure 4.12 Bensauo's Portfolio Model of Relationships.[167]

Consequently, in situations that fall within the captive fields of the matrix in Figure 4.12 (top left or bottom right), the risk of the independent party exploiting the partner's

[166] Anderson, E & Sandy, D (2005), p. 78
[167] Bensaou, M (1999), p. 36.

dependency arises. This is directly correlated to the need for interdependence between parties in an alliance.[168]

In situations where both firms make investments to approximately the same extent, one should still be aware of the risk involved with being too tightly locked together. If one party proves unable to keep the necessary pace of development thus losing competitiveness in its offerings, it will have negative effects on both firms in the alliance. An alliance that is too rigid will hinder the partners and cause them to lose touch with overall development. Allied partners may in these cases lose the momentum in development due to the relatively small room for other suppliers or customers. If the collaboration is too flexible this may on the other hand result in the full potential of the alliance never being realized.[169]

4.7.2 Managing problems

Given that the potential sources of problems are recognized and understood, there are ways to prevent the problems from emerging. The techniques require a proactive approach. The idea behind the techniques discussed here are to acknowledge the risks and take mutual actions to reduce them without negatively influencing the foundation of success factors.

Evaluation

One of the best ways to keep a sound relationship in shape is to regularly evaluate it. Proper, regular evaluation allows both involved parties to see the value created by the alliance. By evaluating continuously problems can be detected before they develop into full-blown conflicts. It may also be valuable to rotate the people involved in the relationship as a way to get fresh input to the alliance and assess its benefits. Evaluation criteria should be selected with focus on profitability, not on revenue, to ensure long-term success.[170]

Develop backups

Generally, an alliance should not rest solely on the interpersonal relationship between managers. Such conditions present two problems. Firstly, if key persons within one firm quits, the alliance may suffer greatly or even fall. Secondly, if there are only one or a few persons at each company involved in the relationship a personal conflict or disagreement between them may easily lead to a conflict of interest where a manager has to choose between the personal relationship and the best interest of his company. By involving more people and by rotating the involved personnel a firm may establish and secure a more objective view of the relationship.[171]

Set up common goal

By establishing common goals for the alliance and aligning the goals of the involved partners with those of the alliance, as discussed in chapter 4.6.4, the risk of opportunism

[168] Anderson, E & Sandy, D (2005), p 79
[169] Ibid, p 79
[170] Ibid, pp. 79-80
[171] Ibid, p. 80

can be substantially decreased at the same time as the total rewards for the partners in the alliance can be increased. These set-up goals are critical for establishing expectations, clarifying roles and communicating intent, which in turn are critical for avoiding and managing problems in the relationship.[172]

4.8 Implementation and practice

Once a situation is found suitable for an alliance and benefits are perceived possible to achieve, and alliance plan must be developed and put into practice. Thus has the bottom level of the reference funnel been reached, as shown in Figure 4.13.

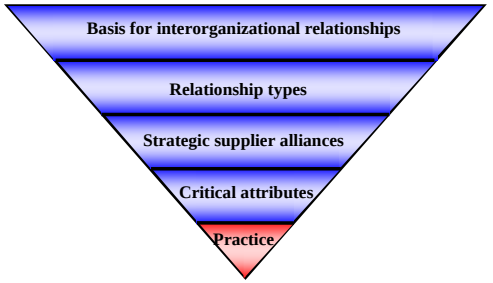


Figure 4.13 Current level in the frame of reference.

In this chapter a five-step model for forming a strategic supplier alliance is presented. The model is based on an extensive literature study and findings from case studies of successful supplier partnerships. This model describes the entire implementation process from the decision to set up an alliance to the possible disclosure of the alliance. The different steps and phases in the model are not mutually exclusive, i.e. it can be an iterative process. The model is illustrated in Figure 4.14 below.

[172] Anderson, E & Sandy, D (2005), p 80

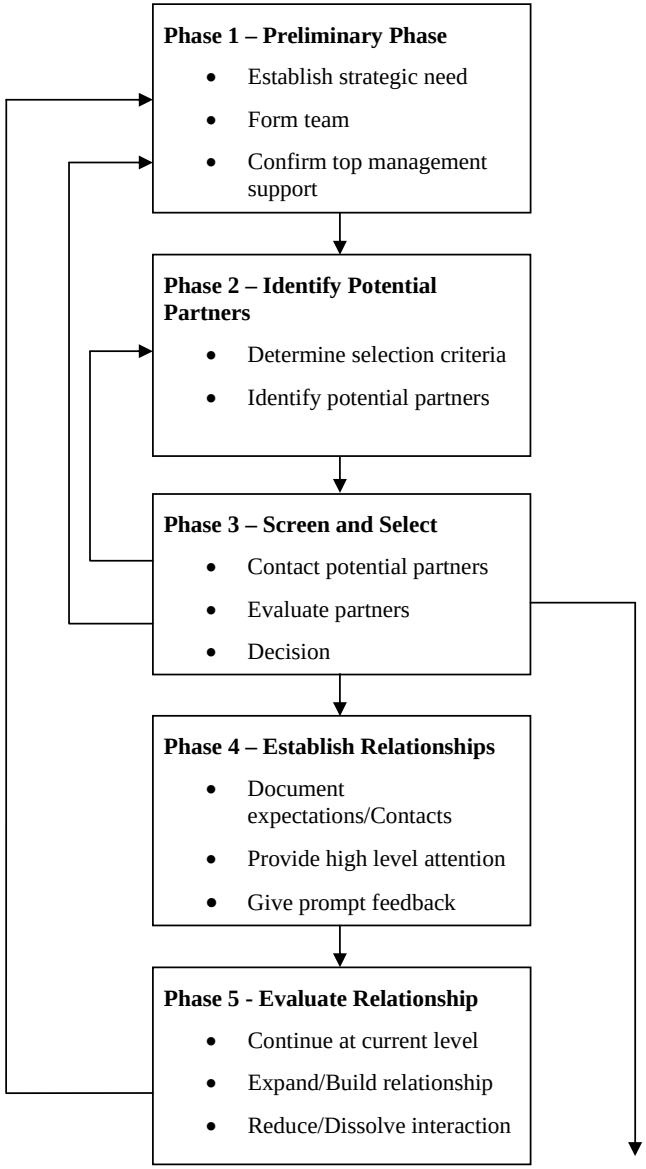


Figure 4.14 Five phases in the development of a strategic supplier alliance.[173]

[173] Ellram, L (1991 b), p. 4.

Phase 1: The preliminary phase

The preliminary phase precedes the actual relationship building but is nevertheless important to success in a future alliance. In this phase the company must determine if there is a strategic need for a supplier alliance. The existence of strategic need is strongly related to the sought outcome of the alliance and the product or product group concerned. The firm must therefore identify the underlying purpose with the alliance.[174]

Once the strategic need is determined a team responsible for developing the alliance should be formed. The team should include people from all major functional areas that will be affected by the alliance. At least representatives of engineering, quality, production, purchasing and finance should participate actively in the development. The team's primary task is then to further investigate the need for an alliance, i.e. determine that an alliance holds substantial benefits over arms-length relationships in this particular case. This is primarily achieved by the use of portfolio analyses or similar assessments. At this stage it is then crucial for the team to secure support and commitment from the top management. As discussed earlier in this report, top managements commitment and attitude towards the alliance are critical to success. [175]

Phase 2: Identify Potential Partners

In the next phase the critical process of finding potential partners and choosing between them begins. The process begins by establishing what criteria should be used to assess potential suppliers. As discussed in chapter 4.4.2, the selection of suppliers for strategic alliances requires a more extensive assessment than standard purchasing situations.

Based on the selected criteria, the team's task is to screen the market and establish a list of potential suppliers. Obviously unfit candidates should be eliminated early on in the process since evaluating suppliers can be a very time consuming task.[176]

Phase 3: Screen Potential Partners

As the selection criteria relate to a wide range of different aspects of the supplier firm, the cross-functional team plays an important part in the screening process. The primary objective in the initial screening is to determine if the different suppliers have a sincere wish to engage in a strategic alliance with the buying firm. Suppliers that seem uninterested in pursuing a long-term relationship should immediately be eliminated from the process. The remaining list of suppliers should then be carefully evaluated according to the criteria previously established. The supplier that best match the most important criteria is chosen for further development of a relationship. If none of the potential suppliers on the list meet the requirements the team needs to back up and re-do phase two. Can no suitable partner that meets the minimum requirements in all criteria be found, the buying firm inevitable needs to reconsider if the situation should be handled by an alliance or if other supply strategies should be evaluated. An alliance attempted with the least poor alternative is definitely doomed to failure.[177]

[174] Ellram, L (1991 b), p. 4
[175] Ibid, p. 4
[176] Ibid, p. 5
[177] Ibid, pp. 5-6

Phase 4: Establish the Relationship

Establishing the relationship is obviously a science in it self. The challenge is to create the necessary success factors presented in chapter 4.6 and minimize the sources for failure discussed in chapter 4.7. An alliance will only work if it is beneficial to both parties. As discussed earlier rewards, as well as risks, need to be shared between parties. To prevent misunderstandings it is crucial to clarify the goals and underlying purposes as well as the expectations each firm has with the alliance. Goals and expectations may be put in writing, but should not be in form of an enforceable contract. Such a document is merely a mean to communicate the expectations between parties but may include aspects such as technology to be shared or mutually developed, handling of proprietary information, frequency of forecast updates, basis for price changes etc. The more clarity and agreement firms achieve in these issues, the less likely are the evolving of conflicts later on.

Even though the main part of the interaction between the firms will take place between different functions, there is still a need for central coordination of the relationship. In many firms this responsibility lies on the purchasing function. It is therefore important for the success of the relationship that the purchasing representatives are informed of major issues that affect the alliance. To establish and maintain the necessary communication the team responsible for the relation should meet on a regular basis to evaluate relationship performance and deal with issues. This is especially important initially and must also be accompanied by regular and frequent visits by both parties. Meetings between top management are also desirable to confirm the high level of commitment necessary and provide the relationship with the required attention.[178]

Phase 5: Evaluate the Relationship

Six to twelve months after the alliance became operational an evaluation is recommended. At this point the buyer should have a broad picture of the supplier's overall performance and should therefore be able to evaluate the viability of the future relationship. People directly affected by the relationship, often the same team originally gathered to develop the relationship, should participate in the evaluation. The evaluation will finally result in one of three possible outcomes:

- Continue as before.
- Further build or expand the relationship.
- Dissolve or reduce the scope of the relationship with this supplier.

Naturally the conclusion is strongly dependant to the supplier's performance and their ability to meet the buying company's expectations on the alliance. Nevertheless the buyer may often choose to continue the engagement even if the suppliers have under-performed. For this to be fruitful expectations on performance and required improvements must be clearly communicated. In other cases successful alliances may be discontinued. This is often the result in situations where the base for the alliance has been ceased to exist.[179]

[178] Ellram, L (1991 b), p. 6
[179] Ibid, pp 6-7

This may be the case when new technologies emerge, market conditions change or the desired outcome is accomplished.

Regardless of what measures are taken by the firms, continuous evaluation of a strategic supplier alliance is crucial to ensure that expectations are met and benefits are reached. It also helps the buying firm to keep the supplier developing his capabilities and thus ensure competitiveness over time.

5 Empirics

In this chapter all empirical findings and collected data are presented. The case studies undertaken to serve as basis for the analyses are described along with some general findings on Alfa Laval's strategy related to purchasing and supplier relationships.

5.1 Case study: Nissens

Nissens Kølerfabrik A/S was founded in Denmark in 1921. Today the family-owned company, currently run by the 3rd and 4th generation - Mr. Alan Nissen and Mr. Knud Nissen, is one of Europe's leading producers of radiators. Nissens' activities are divided into two divisions of roughly the same size; the Automotive division and the OEM division (former Industrial Division). Both divisions develop and design cooling solutions for various applications.[180] Figure 5.1 shows an example of air coolers produced by Nissens.

Figure 5.1 Air oil coolers produced by Nissens.

The Automotive division supplies coolers as spare parts for cars and trucks. In this segment Nissens mainly acts as a supplier of generic copies, supplying to aftermarket sales, not to car or truck manufacturers. In some cases however, where the car or truck model has gone out of production and the original supplier is no longer interested in supplying spare parts, Nissens has become a supplier of branded spare parts supplying both automaker and aftermarket dealers with the same products.[181]

Nissens' OEM division is focused on none-automotive and mainly OEM customers. The OEM division designs and develops complete cooling solutions. These solutions are almost exclusively custom made for each customer. The main customer segments for the

[180] www.nissens.com (2006-05-18).
[181] Obling, H E (2006).

OEM division are construction machines, forest machines and wind power plants. A smaller business segment in hydraulics is also included in the division which was the focal point of the collaboration with Alfa Laval. The OEM division has a turnover of approximately 56 MEUR and a growth of between 25 and 30 % annually. Nissens has about 1100 employees divided in three different plants in Horsen, Denmark and one plant in Slovakia.[182]

The products supplied by Nissens are fairly technologically basic and are easily copied by other firms. Due to low labour costs, Chinese factories can reach lower prices on standardized products copied from manufacturers like Nissens. Nissens therefore competes on high quality and superior ability to customize products for integration in the customer's products in ways impossible with more standardized solutions. Nissens also carries a range of standard products used to draw customer's attention but almost 95 % of turnover is sales of customized products.[183]

5.1.1 The relationship between Alfa Laval and Nissens

The relationship between Alfa Laval and Nissens started when Alfa Laval sought a partner to fill a gap in the product portfolio.[184] Alfa Laval supplies the hydraulics market with fluid based cooling solutions for hydraulic oil, including plate heat exchangers. In some cases the systems need to be complemented by air/oil coolers. Alfa Laval therefore decided to widen the product portfolio by adding a range of air/oil coolers. The underlying objective was for Alfa Laval to successfully pursue the strategy to become an acknowledged leading supplier on the hydralic market. Since Alfa Laval lacked the internal competence of welding aluminum required to make the air/oil coolers and did not anticipate sufficient volumes required to make production efficient in near future, other solutions were sought. The decision landed on finding a partner in possession of required competences.[185]

The Global Purchasing department was therefore involved in identifying potential partners suitable for the venture. Three potential companies were found and evaluated. The products of one of them did not meet Alfa Laval's requirements and was therefore excluded from further evaluation at an early stage. The two remaining companies were evaluated based on the overall situation and healthiness of the firm and the risk of market conflicts as well as traditional measurements of supplier performance. Eventually Nissens was chosen as the most suitable candidate. At this point Nissens was highly interested in the possibilities offered by a close relationship with Alfa Laval.[186]

Once Nissens was selected and had agreed to engage in the development of a partnership, Alfa Laval and Nissens formed a project team to manage the development. An Alfa Laval Project engineer from R&D Flow Products was assigned as project leader. Apart from people from Alfa Laval and Nissens, the project group also consisted of people from the

[182] Obling, H E (2006).
[183] Ibid.
[184] Rosell, R (2006).
[185] Ibid.
[186] Christiansen, K V (2006).

design consultant firm Zenit and Hexagon, the intended distributor. Worth mentioning in this context is the lack of involvement of Global Purchasing from this point and on.[187]

The intended setup was that Alfa Laval buys Alfa Laval branded air/oil coolers from Nissens and sell them as a part of the existing product portfolio to customers in the hydraulic segment. A range of about ten differently sized Alfa Laval designed and branded air/oil coolers were to be developed from Nissens range of standard products.[188] There was also a fairly extensive project to reduce production costs by changing the design in order to make the coolers easier to produce and by modularizing the product.[189]

After two years of activities, the project was stopped. It was realized that the targeted price could not be reached.[190] [191] From Alfa Laval's part it was made clear that a maximum of 30 % of the competitors' final gross price could be paid to Nissens. The underlying argument was that Alfa Laval needed coverage of costs created in the project and costs related to distribution and sales. Additionally Alfa Laval demanded a profit margin along with sufficient room for cost and margin coverage for external sales agents used by Alfa Laval further along the supply chain.[192] At this point in the development Nissens stated that the required price level would land in the region of 40 to 50 % of gross price to offer Nissens sufficient coverage and profit.[193]

Although the market price was known to the companies from the start of the project, two years went by before this conclusion was made. Primarily this was a result of the design and construction changes that were to be made. Even though the final price was known, the parties did not know what product was to be sold at that price. Consequently, cost calculations were impossible to validate.[194] Yet another reason was the company culture and working process within Nissens. As a relatively small and well-doing family company, focus had never been on cost at product level and the company lacked sufficient understanding of the cost structures. Additionally the company was intrigued by and very optimistic about the project with Alfa Laval. As a result, proper cost calculations were put off until a late stage in the project and when actual costs were determined it became evident that Nissens was unable to meet the targeted price.[195]

5.1.2 Purposes with the relationship

As described above Alfa Laval's goal with the relationship was to expand the product portfolio and thereby become more attractive on the market as an acknowledged leading supplier. Some markets in the hydraulic segment are dominated by water/liquid coolers, such as Alfa Laval's heat exchangers, but others require mainly air/oil cooling systems. To be recognized on those markets Alfa Laval needs to be able to offer such solutions. Nonetheless Alfa Laval requires profitability on each individual product and sufficient

[187] Alfa Laval AB (publ) (2003).
[188] Obling, H E (2006).
[189] Jensen, F C (2006).
[190] Obling, H E (2006).
[191] Jensen, F C (2006).
[192] Rosell, M (2006).
[193] Obling, H E (2006.)
[194] Jensen, F C (2006).
[195] Obling, H E (2006).

margin is needed to make the products attractive to local sales companies within the Alfa Laval group. In this case however, due to the limited value added by Alfa Laval, a level of 70 % of the margin of other products was accepted.[196] Consequently through the partnership Alfa Laval sought the combination of a stronger position in this market segment as full range supplier and an opportunity to increase revenue and profitability.

There were several benefits a close relationship would offer Nissens. The most obvious one was the sales volume. If the trading had been launched according to plan, a sales volume of 660 000 EUR initially, rising up to about 2.6 MEUR was forecasted. Such numbers represent about 5 % of Nissens OEM division's sales.[197] Additionally Alfa Laval offered knowledge and ideas regarding manufacturing and processes as well as design and development.[198] They were also able to offer sourcing benefits through joint sourcing of components and materials via Alfa Laval's global supplier network and superior agreements.[199] Finally Nissens state that the company is improved in terms of products and processes through the pressure of demanding customers.[200]

5.1.3 Relationship characteristics

The collaboration between Alfa Laval and Nissens failed due to price concerns. Nevertheless, both parties consider the other to be a good business partner. Although the term alliance was not a formal label of the relationship, Nissens shared information fairly openly during the project. Even though the relationship did not include entirely open books, Nissens offered information regarding cost calculations in several cases in order to facilitate joint sourcing activities.[201] In the same manner Alfa Laval acted openly regarding costs for added value and margin requirements.[202] Additionally Alfa Laval's representatives did not experience any tactical behavior during negotiations. On the contrary information given by Nissens was considered candid and accurate.[203]

During product development activities considerable interaction and coordination between firms took place. From Nissens point of view Alfa Laval seemed devoted to the project and a lot of resources, such as consultant services, engineering resources and other man-hours, were allocated. Due to resources spent and internal policies Alfa Laval requested ownership of the developed product. There was however a concern from Nissens' side that Alfa Laval's ownership of the design would enable them relatively easy change supplier to a low cost producer once design and quality aspects was established.[204] For Alfa Laval to manage the supply risk caused by the single sourcing arrangement a long-term price agreement was contracted. The contract stated the initially agreed purchasing price would drift three percent below producer price index (PPI). To achieve this

[196] Rosell, M (2006).
[197] Obling, H E, (2006).
[198] Ibid, (2006).
[199] Christiansen, K V (2006).
[200] Obling, H E (2006).
[201] Christiansen, K V (2006).
[202] Rosell, M (2006).
[203] Christiansen, K V (2006).
[204] Obling, H E (2006).

agreement Alfa Laval tried to negotiate considerably better price terms as part of negotiating tactics.[205]

It should however be mentioned that after the project have been discontinued due to unsuccessful price negotiations, both parties seem to have had the opinion that the other party may not have done the most to reach a solution or clamed a too large share of the available margin. Within Alfa Laval's project organization there was a general opinion that savings found had been eaten up by Nissens as part of previous miscalculations.[206] At the same time Nissens seems to have felt discouraged when Alfa Laval claimed a considerable profit margin on top of the relatively small coverage for cost of added value. As a result Nissens struggled with concerns regarding the possibility to add another actor along with local sales companies and other partners to the current supply chain without raising the gross price.[207]

5.1.4 Relationship management

The team set to develop the cooperation was fairly extensive. As mentioned it included people from multiple functions within the firms as well as representatives from other organizations involved. As basis for the work a general contract was established to regulate central issues such as design ownership, prices development over time and market activities.[208]

During the course of the project the project leader at Nissens left his position and was therefore replaced. In Alfa Laval's opinion the change had a significant impact on the relationship. In this case the new project leader showed a lower interest in the project and proved to be less enthusiastic about a partnership with Alfa Laval, mainly due to lack of time and a pressing workload.[209] Changes of related personnel also took place within Alfa Laval. In this case a market unit manager within Alfa Laval, who was the initial driving force behind the project, left his position and thereby affected the momentum in the project within Alfa Laval.[210]

Even though project was stopped and a final agreement was never reached there are or have been no conflicts between the firms. Today some communication still takes place, but no transactions are carried out and the particular project is closed entirely.

5.2 Case study: Zorzini

Zorzini S.p.A is a small Italian manufacturer of manhole covers and manway doors for use in tanks for various fields of application. The company, located in Udine 120 km northwest of Venice, was founded in 1954 as a small laboratory specialized in sheet metal forming. Within a few years the business had grown significantly and Zorzini began

[205] Christiansen, K V (2006).
[206] Rosell, M (2006).
[207] Obling, H E (2006).
[208] Jensen, F C (2006).
[209] Rosell, M (2006).
[210] Ibid (2006).

producing a series of manway doors and manhole covers. An example of a manway door produced by Zorzini is shown in Figure 5.2.[211]

Figure 5.2 Example of a 200/RP Oval manway door produced by Zorzini.[212]

Zorzini's products were initially used by tank manufacturers supplying the Italian and French wine industries. Today, these markets still make up an important part of Zorzini's businesses. Zorzini has however over time expanded its customer segment and moved into foreign markets and other domestic industries, including other tank manufacturers and machine builders. Consequently Zorzini today produces a wider range of covers and the products can be customized to some extent. The main parts, the cover and the frame, can however only be made in a few standardized variants. Zorzini now employs about 40 people and have an annual turnover of 6 MEUR.[213] This translates to approximately 75 000 manhole covers, although Zorzini has, after recent investments, increased production capacity to approximately 150 000 manhole covers. With current production volumes this results in substantial excess capacity.[214]

The industry in which Zorzini works is fairly competitive. In Italy alone there are six other suppliers of manhole covers. There is however a significant difference between Zorzini and the competitors. In contrast to other manufacturers, including Alfa Laval's cover production, Zorzini keeps the entire production in-house, with no outsourced operations. As a result Zorzini have a superior control of production resulting in better quality and flexibility but at the expense of the price. Zorzini usually charges a price premium of 5 to 15 % in comparison to competitors. To keep cost under control Zorzini is working actively with cost calculations and therefore have a generally good knowledge of actual costs of all products.[215]

[211] www.zorzinispa.com (2006-05-17).
[212] Zorzini S.p.A. (2006).
[213] www.zorzinispa.com (2006-05-17).
[214] Cerno, G (2006).
[215] Cerno, G (2006).

5.2.1 The relationship between Alfa Laval and Zorzini

The relationship between Alfa Laval and Zorzini goes back some 25 years. It started as a purely transactional relationship, where Alfa Laval's Tank Equipment segment bought manhole cover components to be integrated into Alfa Laval's covers. Manhole covers were also bought as trading products and sold by Alfa Laval sales companies in France, Spain and a few other selected markets.[216]

Alfa Laval's Tank Equipment segment markets a full range of products for use in tank systems except the tank it self. Since the manhole covers, along with other tank system components such as pumps, valves and agitators, require a quite different production process and technology in comparison with the tank, tank builders typically buy them from outside suppliers. To carry a complete portfolio of tank equipment and accessories is therefore an element of Alfa Laval's Tank Equipment strategy.[217] Over time Alfa Laval has experienced cost problems with the production of manhole covers, mainly due to insufficient volumes and lack of internal focus on increasing sales of these products. This, in addition to the strategy to be a full range supplier, caused Alfa Laval search new ways to source the demand for manhole covers. As a result, the transaction focused buyer-supplier relationship with Zorzini was turned in to supplier alliance. Within the alliance Zorzini was to produce manhole covers and manway doors labeled as Alfa Laval products and marketed and sold by Alfa Laval.[218]

In the initial phase of the alliance, Zorzini and Alfa Laval agreed on a division of the markets to allow Zorzini to remain in markets where they had a strong position and Alfa Laval to make use of a global distribution structure and thereby reach markets where Zorzini had a weak or entirely lacked presence.[219] In this agreement Alfa Laval also expanded the range of manhole covers offered by marketing a selection of Zorzini's products on all markets.

To accommodate the sales of manhole covers by Alfa Laval, Alfa Laval and Zorzini developed a supply chain structure where products are delivered from Zorzini's plant in Italy to Alfa Laval's site in Kolding before being distributed to the customer.[220] When the collaboration between Alfa Laval and Zorzini goes into the second phase during 2006, Alfa Laval will close down the production of manhole covers and make Zorzini the sole supplier of the entire demand of manhole covers. As a result, the volume bought from Zorzini will increase by approximately 50 %.[221] The products moved for production at Zorzini are to keep much of their Alfa Laval appearance. Consequently Zorzini will begin producing Alfa Laval specific products. The key components of the product models will however be equal to Zorzini's standard products, to accommodate synergies and common use of machinery. Within the frame of phase two, discussions have also been held regarding direct shipment of large orders from Zorzini to the customer. The result would be reduced lead time and transportation costs and cut cost for handling in Kolding. It would also however result in a direct contact between Zorzini and Alfa Laval's customer and thereby increase the complexity of the competitive aspects of the cooperation.[222]

[216] Cerno, G (2006).
[217] Christiansen, K V (2006).
[218] Knudsen, B (2006).
[219] Alfa Laval AB (publ) (2002).
[220] Knudsen, B (2006).
[221] Cerno, G (2006).

5.2.2 Purpose with the relationship

Prior to the initiation of the closer collaboration in 2001, Alfa Laval's local sales companies marketed a limited range of manhole covers produced by Alfa Laval. In some markets however the demand for additional models became evident and the range was broadened by covers from external suppliers. Zorzini was one of these suppliers. When Alfa Laval was reorganized in 2001, an aspiration to consolidate the purchase of manhole covers arose. Alfa Laval was at the time unable to reach volumes consistent with cost efficiency in production and an outside supplier of manhole covers would be able to offer a wider product portfolio and sell more complete solutions.

The main advantage sought by Alfa Laval through a close relationship with a single supplier was the possibility to carry a full range of Alfa Laval branded covers.[223] The agreement with Zorzini would allow Alfa Laval be the only dealer of Zorzini produced covers on selected markets. By consolidating all purchasing of manhole covers to Zorzini and including them in the product portfolio offered around the world, Alfa Laval acquired significantly lowered prices from Zorzini.

Zorzini's primary incentive to engage in the relationship was to significantly strengthen the relationship with a large and important customer. With the current purchase volume, Alfa Laval is Zorzini's single largest customer, with three times the volume of the second largest. Estimations indicated a substantial increase of sales within the collaboration. According to Alfa Laval's calculations, the volume would double within a few years.[224] The main benefits for Zorzini would therefore be access to Alfa Laval's world wide sales network and distributions structure.[225]

Having a large and competent customer, as Alfa Laval, as a close partner also applies pressure on Zorzini to stay in the forefront of quality and process development. As a result Zorzini's position on the market as a manufacturer and supplier of quality manhole covers is strengthened. In this context, Zorzini has made investments to improve quality and capacity. It should however be clarified that such investments would have been made even without the agreement with Alfa Laval, but have been decided and completed earlier than otherwise would have been the case.[226]

As mentioned above, Alfa Laval buys solely Alfa Laval branded covers from Zorzini and models now moved for production at Zorzini will largely keep the current design.[227] Consequently adoptions have had to be made to Zorzini's standard products, but changes so far are limited to changing the logotypes on an already blue handle, printing Alfa Laval's item numbers and packing all covers in Alfa Laval packages.[228] In the following

[222] Knudsen, B (2006).
[223] Ibid (2006).
[224] Cerno, G (2006).
[225] Knudsen, B (2006).
[226] Cerno, G (2006).
[227] Knudsen, B (2006).
[228] Ibid (2006).

phase the level of adoptions will increase as the models previously produced by Alfa Laval have several distinctive features surrounding the key components that will require investments in new moulds. The cost will be taken by Alfa Laval and the moulds, which will be used in Zorzini's current machines, will be dedicated to production of covers exclusively to Alfa Laval.[229]

5.2.3 Relationship characteristic

From a relationship point of view, the relationship between Alfa Laval and Zorzini is successful. Zorzini has shown great willingness to adapt their products and processes to comply with Alfa Laval's demands.[230] In difference with Zorzini's other customers, Alfa Laval requires a lead-time of seven to ten days, almost half that of other customers. It has therefore sometimes proven difficult for Zorzini to manage. As a result, Zorzini has decided to hold two employees on constant alert to service orders from Alfa Laval. This measure solved the lead-time issue, but means that Zorzini has to interrupt part of their ongoing production upon orders from Alfa Laval. Since Alfa Laval is not charged extra for "urgent orders", Zorzini ends up with an extra cost to service the fairly low margin partner. During a period Zorzini therefore tried to produce Alfa Laval's articles to stock. The objective was to be able to plan production more efficiently and still maintain short lead times. To accommodate this solution Alfa Laval singled out a couple of selected models to be produced to stock.[231] However some of the stock-keeping units not turned over in accordance with forecasts and Zorzini is left with additional costs for inventory.[232] Today, discussions are held regarding the matter and how to solve the issue with minimum costs.

In the spirit of the close collaboration Zorzini makes extra quality controls of products produced for Alfa Laval to secure the premium quality requested by Alfa Laval. Although Zorzini ensures high quality conformance on all products, Alfa Laval's deliveries are inspected by an Alfa Laval dedicated employee at Zorzini to ensure a superior esthetic quality. Consequently, in spite of the absence of desired purchase volumes from Alfa Laval, Zorzini remains strongly committed to the relationship and is convinced that the collaboration with Alfa Laval eventually will flourish offering possibilities not achievable without the collaboration.[233]

Also Alfa Laval has in several ways shown interest in maintaining and developing the collaboration with Zorzini. In the second phase of the alliance Alfa Laval is as mentioned to invest in tools and moulds to be used in Zorzini's plant. Such investments are difficult to make use of with another supplier. Also the decision to close all in-house production and single source manhole covers from Zorzini is a sign of commitment to the relationship. Once closed down, the in-house production will be difficult and expensive to resume.[234] There are also several concrete examples of cooperation outside the frames of

[229] Cerno, G (2006).
[230] Knudsen, B (2006).
[231] Ibid (2006).
[232] Cerno, G (2006).
[233] Ibid (2006).
[234] Knudsen, B (2006).

the contract. For example did Alfa Laval put across a major order from a large customer in Turkey directly to Zorzini. Alfa Laval was unable to meet the customer's price requirements which could be met by Zorzini. In this arrangement Alfa Laval received a commission from Zorzini to put across the order and the business was thereby a deviation from the general agreement.[235] Further more Alfa Laval has tried to help Zorzini by searching for suppliers in low cost areas to decrease Zorzini's costs of purchased materials. So far such arrangements have not resulted in any cost advantages for Zorzini, but the process has been possible due to Zorzini's openness regarding potentially sensitive information regarding materials and components, costs and margins. In general there is an openness and willingness to share information between the parties. From Alfa Laval's part there are however clear limitations on how much time the responsible portfolio manager can spend on the relationship since manhole covers is a relatively small business for Alfa Laval and the margins are, in spite of a positive trend, fairly low.[236] Information given by Alfa Laval includes monthly forecasts indicating the weekly demand of covers. These forecasts have so far proven unreliable and far from accurate. Nevertheless, they are the only available information on coming demand and Zorzini needs to plan production accordingly. Figure 5.3 shows forecasts in comparison to actual orders on monthly basis for the first four months of 2006.[237]

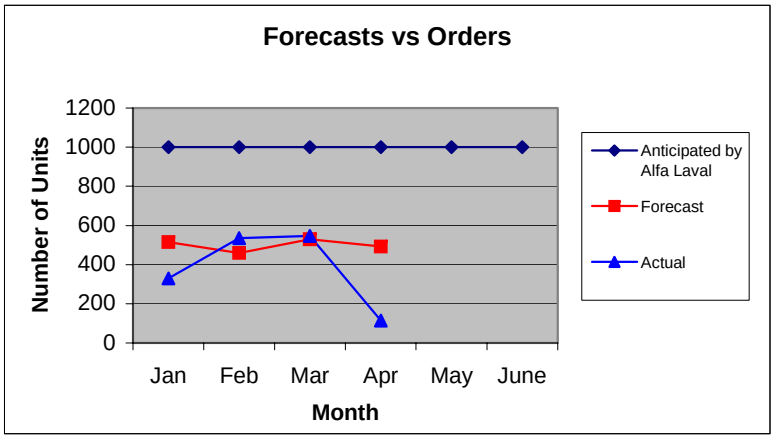


Figure 5.3 Difference between forecast and actual orders beginning of 2006.[238]

The top line in Figure 5.3 indicates the 1000 unit forecast initially provided by Alfa Laval and used to optimize and plan on a long-term basis. As seen in the figure, the difference both between the initially targeted level and the short-term forecasts and the forecasts compared to the actually ordered is quite significant. During 2006, it is only the March

[235] Knudsen, B (2006).
[236] Ibid (2006).
[237] Cerno, G (2006).
[238] Ibid (2006).

forecast that lies within the ±15 % deviation set by Zorzini as forecast requirement for production planning. To account for the deviation Zorzini has to plan for significantly larger quantities than necessary.[239] In this context, although dissatisfied with the ordered volume, Zorzini acknowledges that part of the underlying reasons for the low volumes is found outside Alfa Laval's control, the depreciation of the US dollar and the upswing of low cost countries being a few examples. Zorzini does however state that part of the failure is caused by lack of focus and attention to the sales on Alfa Laval's part.[240]

5.2.4 Relationship management

From Alfa Laval's side the relationship is managed by the portfolio management within the Tank Equipment segment along with an involved purchaser from Global Purchasing. There is however a wish from portfolio management to lift the level of relationship management to involve the managing director of Tank Equipment in order to more firmly establish the close relationship in Alfa Laval's organization.[241]

The initial phase of the collaboration rested on a three year contract and another three year contract have recently been signed, taking the collaboration in to the second phase. In the future the contract will be automatically renewed with one year periods until notice is given by either party. These contracts form the backbone of the relationship, regulating major issues such as division of markets.[242] Arisen issues or potential conflicts regarding the agreement are to be handled by the responsible managers and thereby lifted away from local sale representatives. So far no serious conflicts have occurred within the relationship.[243]

Zorzini is continuously evaluated on the same basis as other suppliers. In a recent supplier audit Zorzini received the highest score of all of Alfa Laval's suppliers. There is however a more long-term focus of the evaluation from Alfa Laval's part than in many other supplier relationships. Due to the close collaboration and the very long-term objective of the relationship, areas of weakness become areas for improvement and are thereby not used to apply pressure in the same extent as with other suppliers.[244]

5.3 Case study: Roplan AB

Roplan AB is a Swedish company specialized in development and production of customized rotating seals. Roplan was founded in 1977 and the initial business was repairing mechanical seals, primarily for the paper and cellulose industry. Since then Roplan has shifted to developing customized products and has today a large production volume but no standardized products. Today Roplan consider themselves to be market

[239] Cerno, G (2006).
[240] Ibid (2006).
[241] Knudsen, B (2006).
[242] Cerno, G (2006).
[243] Knudsen, B (2006).
[244] Ibid (2006).

leaders in seals for rotary lobe pumps.[245] Their annual turnover is currently about 19 MEUR.[246] Figure 5.4 shows an example of mechanical seal produced by Roplan.

Figure 5.4 Example of mechanical seal produced by Roplan.

5.3.1 The relationship between Alfa Laval and Roplan AB

The buyer-supplier relationship between Alfa Laval and Roplan goes about 25 years back in time. Early in the 1980s, Alfa Laval needed to add a specialized seal in newly developed separators. As sufficient competence was not found within Alfa Laval, the seals were sought from outside suppliers. In this quest, Roplan was selected due to their technical ability and business model to design and produce customized seals as well as their geographical location near the Alfa Laval plant in Tumba.[247] As a company Roplan also possessed substantial knowledge of industry standards and requirements in the food and pharmaceutical industries.[248]

Over time, seals have been developed for use in several of Alfa Laval's products, such as pumps and vents, and the agreement between the organizations state that Roplan generally is the formal owner of the design while Alfa Laval has the exclusive right to market them. This was however mainly a result of lack of attention to the matter on Alfa Laval's part at that time. However, in conjunction with rationalization efforts made in connection with the centralization of Alfa Laval's purchasing organization, an attempt was made on part of Alfa Laval to cut purchasing from Roplan and switch suppliers. This caused a major conflict between the companies when Roplan drew attention to the agreement on design ownership made initially. The arisen conflict was negotiated with the help of attorneys and eventually resulted in a settlement where Alfa Laval continued to buy the seals from Roplan, and still do today.[249] In recent years, the contractual aspects of supplier relationships have come more into the focal point within Alfa Laval. [250] This,

[245] www.roplan.com (2006-05-11).
[246] Lilja, U (2006).
[247] Sawjani, M (2006).
[248] Lilja, U (2006).
[249] Karlsson, T (2006).
[250] Hjort, K (2006).

in addition to the conflict, has resulted in a clearly predetermined ownership of the developed product prior to initiation of any development project with Roplan. Consequently, in the Roplan case Alfa Laval strive to get design ownership, either by directly paying for design services or by contracting Roplan as a sole supplier over a certain period of time.[251]

Nevertheless, the relationship between Alfa Laval and Roplan is still affected by the condition that Roplan holds the design ownership of many seal models. This puts Alfa Laval in a captive buyer situation. Estimations made by the purchasing department at Alfa Laval show that a premium price of approximately 10 to 15 % is paid in comparison with seals from alternative suppliers.[252] Nevertheless, prices on mechanical seals typically represent less than 0.1 % of the final price of the separator, giving a potential price reduction a limited impact on margin while a customized seal, only available through Alfa Laval offers substantial revenue possibilities on the aftermarket.

Today, the relationship also encompasses consignment stocks at several of Alfa Laval's production plants in Europe. Stocks of seals are held within Alfa Laval's warehouses but are planned and managed by Roplan as one of their internal finished goods inventories.

5.3.2 Purposes with the relationship

The initial benefit sought by Alfa Laval was not having to develop seal manufacturing capabilities in-house. It was therefore of outmost importance to find a reliable and competent supplier capable of developing and producing these products.[253] A close relationship with Roplan offered these benefits and allowed Alfa Laval to enjoy exclusivity in aftermarket sales of spare parts, not achievable through an arms-length relationship with a supplier of standard seals. Consequently, Alfa Laval is able to secure substantial revenue and profit on customized seals sold as spare parts.[254]

For Roplan, close customer relationships are commonly used, as the company's business model requires such collaboration and joint development activities. The close relationship with large customers, such as Alfa Laval offers Roplan the benefits of long-term transactions and a reduced need for a large sales force. Nevertheless, as it is a consequence of their business model, not a benefit of the specific relationship with Alfa Laval, the major benefit gained by Roplan through the relationship with Alfa Laval is the substantial sales volume. Out of Roplan's total turnover (19 MEUR), Alfa Laval constitute approximately 2.7 MEUR (14 %), making them one of Roplan's largest customers, but not the single largest. In addition, Roplan is able to enjoy reduced prices on purchased materials through purchasing within Alfa Laval's other supplier agreements.[255]

In this context it is also worth mentioning that Alfa Laval's aftermarket sales in addition to the considerable life time of Alfa Laval's products, provide Roplan with an incentive to

[251] Wilén, C (2006).
[252] Sawjani, M (2006).
[253] Ibid (2006).
[254] Lilja, U (2006).
[255] Sawjani, M (2006).

maintain a good relationship to secure future development and use of customized seals in Alfa Laval's products.[256] The consignment stocks and possible VMI-solutions also offers advantages by reduced inventory levels, improved production planning and considerably reduced administration of orders.

5.3.3 Relationship characteristics

One of the more striking of the characteristics of Alfa Laval's and Roplan's relationship, from an alliance perspective, is the mutual dependence between the companies. As described above, Roplan is the formal owner of the seal designs custom made for Alfa Laval's applications. Consequently, Alfa Laval is required to change product design in order to carry through a change of suppliers. As a result, Alfa Laval is pushed into a captive buyer situation, unable to rationalize sourcing via competition from other potential supplier. Nevertheless, the dependency balance is evened out by Alfa Laval's substantial effect on Roplan's results. Alfa Laval's purchasing make up approximately 14 % of Roplan's total turnover.[257]

To support the ongoing transactions between the firms, information is shared continuously. However, the view of to which extent information is shared differs a bit between the companies. From Alfa Laval's point of view, received information is limited, e.g. no open books or revealed cost structures, but nevertheless sufficient.[258] Alfa Laval officials state that Roplan clearly possess more general information about Alfa Laval than the other way around. However, from Roplan's side the exact opposite is stated, referring to a difference in information distribution. Roplan works with several contacts and functions within Alfa Laval, offering a more spread information input where one department is provided some information and another department is given another piece of information resulting in no concentrated source of information. Roplan also depicts a situation with more extensive information sharing, but is nevertheless equally satisfied by the current information flow and sees no benefits from an increased information sharing.

The relatively limited information sharing also has an impact on division of risks and rewards within the relationship. Alfa Laval and Roplan have a general agreement that improvements made through the partnership shall be shared equally between the parties. Such division however requires a high degree of transparence in the system and mutually open books. Consequently, in the Alfa Laval and Roplan case, the division of rewards is inefficient. In reality, Alfa Laval requires improvements in products or processes made by Alfa Laval, e.g. by joint sourcing through Alfa Laval's purchasing agreements, to be credited to Alfa Laval exclusively through price reductions. In such cases, Roplan can benefit from the improvements by reducing costs for products sold elsewhere.[259] Roplan on the other hand state that it is generally difficult to determine whether an improvement is achieved specifically through the relationship or is a result of general improvement efforts, and therefore tend to be reluctant to share savings with Alfa Laval.[260]

[256] Lilja, U (2006).
[257] Ibid (2006).
[258] Sawjani, M (2006).
[259] Ibid (2006).
[260] Lilja, U (2006).

As in most business relationships, especially of arm's length type, both Alfa Laval and Roplan act risk averse, trying to push as much as possible of the involved risks over to the partner. Consequently, Alfa Laval carries little or no business risk as no volumes are guaranteed.[261] The financial risk for Alfa Laval is therefore limited to costs for purchased development services and used resources in the development process. Nevertheless, the dependency described above generates a substantial risk for Alfa Laval, ending up vulnerable for basically all risks threatening Roplan. As a result Roplan carries the financial risks involved in the actual transactions and demand of seals directly derive from demand of Alfa Laval's products, even though it is strongly evened out by aftermarket sales.[262] Alfa Laval, carrying no direct risk in the transaction, is nevertheless exposed to the risks associated with single sourcing solutions. The agreements or contracts between Alfa Laval and Roplan include no formal division of business risk.

5.3.4 Relationship management

Alfa Laval has currently no formal process for management or evaluation of the relationship with suppliers. The same applies even to close suppliers, such as Roplan. Roplan is evaluated in the same way and on the same criteria as Alfa Laval's other suppliers. Consequently, the evaluation is based on solely hard values, strongly focused on price. Quality and delivery precision are also measured and evaluated. Price and cost came more into focus also in continuous relationship management in conjunction with the centralization of the purchasing function, as purchasing became more involved in the relationship.[263] In the Alfa Laval and Roplan relationship the evaluation is made through meetings between the responsible managers at both firms about once every month. Prices are generally negotiated annually. As a result, soft measures, such as conflicts or relationship characteristics, are only handled if specific issues arise. The general tendency is to avoid dealing with such issues by establishing strongly regulating contracts.[264]

5.4 Case study: SKF

The world-leading Swedish bearing manufacturer SKF is divided in three business divisions according to customer types. One of these divisions is the SKF Industrial Division, responsible for product development, production and sales of bearing applications to large industrial customers. The division, which is the single largest division within SKF, has an annual turnover of 1 600 MEUR.[265] Figure 5.5 shows an example of a regular ball bearing.

[261] Sawjani, M (2006).
[262] Lilja, U (2006).
[263] Sawjani, M (2006).
[264] Lilja, U (2006).
[265] SKF AB (2006).

Figure 5.5 Example of ball bearing produced by SKF.

5.4.1 The relationship between Alfa Laval and SKF

Since as early as the 1920s, Alfa Laval has purchased bearings from the global leading producer SKF. The transactions have increased steadily in pace with the increased sales volume and climbing number of applications in Alfa Laval's products. Since 1994 Alfa Laval and SKF have a global purchasing agreement aimed to regulate all procurement of SKF-bearings within Alfa Laval.[266] Currently Alfa Laval's purchasing of SKF products amounts to approximately 4 MEUR globally, making them a top-ten industrial customer in Europe. Today SKF's bearing is used in virtually all applications in separators and in 80 % of applications in decanters. Bearings in pumps and other applications are bought from other suppliers.

As a large company, a centralized purchasing function at Alfa Laval offers benefits for SKF and the contacts between the companies. Today, a group of three SKF-employees, lead by a key account manager, is responsible for the relationship with Alfa Laval. The commercial responsibility within Alfa Laval lies on the purchasing group. These managers are responsible for providing and coordinating necessary resources to the transactions and joint projects. They are also responsible for establishing the global contracts, in which conditions for transactions and projects are regulated.

During 2003 Alfa Laval and SKF undertook a large project aimed to change the supply chain structure. Up till then, SKF kept Alfa Laval's bearings in stock until ordered by Alfa Laval. But over time the number of different bearing types had increased and the need for a more efficient supply chain became evident. Today, SKF produces Alfa Laval's bearings based on Alfa Laval's prognoses and more than 90 % of all bearings are delivered to Alfa Laval directly from the productions plant. The increased information requirements are met through high quality prognoses that are updated weekly and orders are made electronically via an EDI-system.[267]

[266] Baujard, M (2006).
[267] Ibid (2006).

5.4.2 Purposes with the relationship

Apart from regular transactions, the relationship between Alfa Laval and SKF also includes joint product development projects. Engineers from SKF frequently work with Alfa Laval engineers on site at Alfa Laval. During the spring of 2006, three joint projects are undertaken to develop products for use in Alfa Laval separators, all in all constantly requiring at least one full time service at SKF.[268] Alfa Laval also buys simulation and test services from SKF, which allows them to increase development pace and significantly reduce time to market.

In addition to the technological advantages the relationship offers, Alfa Laval has also been able to capitalize on SKF's strong brand. Through customization of bearings and article denotation Alfa Laval has used SKF bearings to secure aftermarket sales, making substantial profits.[269] However, similar to the Roplan case, Alfa Laval is thereby put in a dependency situation, which in the SKF case is not evened out since Alfa Laval's purchases has very little impact on SKF's financial results. Nevertheless, Alfa Laval's efforts in the aftermarket are of great advantage also to SKF. Through Alfa Laval's distribution of aftermarket bearings, SKF becomes the sole supplier of these parts globally. As a result, discussions have been held between Alfa Laval and SKF on extending collaboration to include joint aftermarket and maintenance activities.[270]

5.4.3 Relationship characteristics

Responsible contacts, both within Alfa Laval and SKF, have almost exclusively positive experiences from the Alfa Laval and SKF relationship.[271] [272] In comparison with other SKF customers, similar in size, the relationship between Alfa Laval and SKF has a history of few or no real conflicts, a generally positive collaboration and a mutually fruitful result.[273] From SKF it is stated that this is a consequence of Alfa Laval's single sourcing of these bearings and the long-term security offered by a reliable aftermarket and long product life cycle.

When involved early in development processes, SKF offers unique knowledge in bearings and their applications in Alfa Laval's products. This is beneficial to Alfa Laval, who may otherwise use bearings unnecessarily expensive or in other ways disadvantageous to the design based on previous experiences from other applications. Apart from brand advantages on aftermarket sales, this is a key advantage with SKF over other potential bearing suppliers.[274]

To enable the close relationship between Alfa Laval and SKF to work efficiently, a sufficient information exchange is required. Today, relatively little information is shared in terms of cost structures and other potentially sensitive information. However, the information shared between parties is both sufficient to support the desired outcomes and

[268] Baujard, M (2006).
[269] Sawjani, M (2006).
[270] Baujard, M (2006).
[271] Ibid (2006).
[272] Sawjani, M (2006).
[273] Baujard, M (2006).
[274] Wilén, C (2006).

accurate as well as timely.[275] Forecasts sent to SKF allow for accurate production planning and details on products designs are exchanged for use in product development by both parties.

It is also of interest to point out that the relationship has changed in character over time, as the responsible managers have succeeded each other.[276] The individual characteristics of the managers strongly affect the general tone of the relationship and have the potential of changing the level of benefits accessible through the collaboration.

5.4.4 Relationship management

As with any other of Alfa Laval's supplier relationships, the relationship with SKF is evaluated solely on hard measures, primarily price development and delivery precision. Prices are regulated in the long-term global contract and other specific details in project specific contracts. These contracts are evaluated and renegotiated annually by the responsible managers.[277] Hence there is nor formal management and evaluation process to improve the relationship. Nevertheless, with clearly defined responsibilities and contacts, the parties stay in the loop of the relationship and conflicts or undesired developments are detected early.[278]

5.5 Key observations across cases

As seen in the case reports of the four studied cases above, some aspects are similar between cases while others differ significantly. In the analyses in chapter 6 these aspects will be considered in light of the theoretical frame of reference and the important attributes of supplier relationships affecting its outcome. To facilitate the understanding of the analyses some of the more prominent observations from in the empirical study of the cases are gathered in Table 5.1 below.

[275] Baujard, M (2006).
[276] Ibid (2006).
[277] Sawjani, M (2006).
[278] Baujard, M (2006).

Table 5.1 Key empirical observations from studies of selected cases.

	Supplier			
Aspects	**Nissens**	**Zorzini**	**Roplan**	**SKF**
Percentage of supplier's turn-over	(5 %)	10%	14%	<0,1%
Number of possible alternative suppliers	Several	Several	None	Few, problematic change
Product type	Trading product	Trading product	Component	Component
Length of relationship	n/a	25 years, 4 years of partnership	25 years	80 years
Related competence within Alfa Laval	No	Yes	No	No
Suppliers strengths	Quality, customization	Quality, flexibility	Quality, customization	Competence, R&D, quality
Benefits for Alfa Laval	Part of portfolio strategy	Part of portfolio strategy	Aftermarket sales	Quality, after-market sales, R&D
Benefits for the supplier	Sales and distribution	Sales and distribution	Long-term sales	Long-term sales
Conflict resolution techniques	n/a	No formalized	No formalized	No formalized
Level of information shared by Alfa Laval	High	High	Low	Low
Quality of information shared by Alfa Laval	High	Shifting	n/a	n/a
Level of information shared by supplier	Medium/High	High	Low/Medium	Medium
Relationship management Alfa Laval	R&D Manager	Portfolio manager	Global Purchasing	Global Purchasing
Cultural match	No cost focus	"Same" cost focus	n/a	n/a
Dependency (AL / Suppl.)	(Low) / (Low)	Low / Medium	High / Low/Medium	High / None
Specific investments (AL / Suppl.)	Low/Medium / Low/Medium	Low / Medium	Medium/High / Medium	Medium/High / Low/Medium

5.6 Purchasing strategy at Alfa Laval

The centralized global purchasing function is one of three major units within Alfa Laval's Operations Division. The department is responsible for a purchasing volume of close to 500 MEUR and an, from an internal purchasing point of view, unnecessarily large supplier base of more than 3000 suppliers, supplying mainly the factories and distribution centers. The ambition is to maintain a small and flexible central purchasing unit, capable of utilizing the already existing network that Alfa Laval represents. To be successful and achieve the set goals, Alfa Laval's purchasing unit tries to work proactively and always lead and drive the sourcing process.[279]

5.6.1 Strategy components

The current overall objective for the purchasing department is to reduce the annual cost of material by 45 MEUR by the end of 2008.[280] This should be achieved without any negative impact on availability or quality. To reach this goal Alfa Laval has developed a multiple component purchasing strategy, illustrated in Figure 5.6.[281]

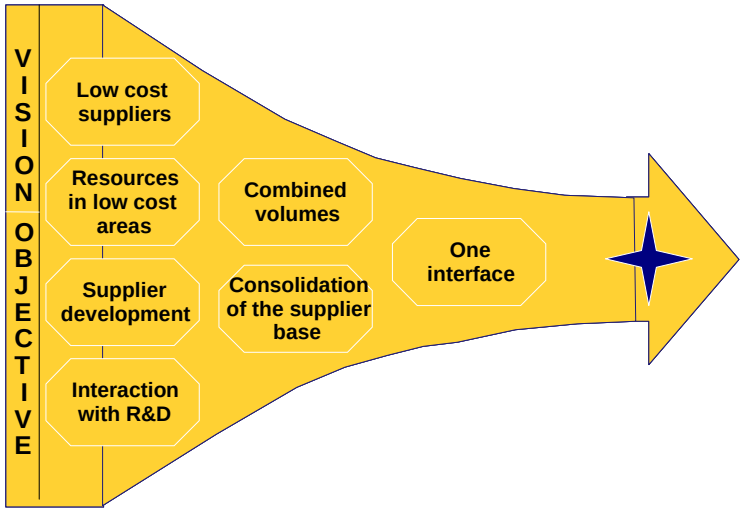


Figure 5.6 Purchasing within Alfa Laval – Strategy.[282]

Low cost suppliers

As indicated by the overall purchasing objective, price is the primary focus. Alfa Laval aims to seek out suppliers capable of delivering requested goods at low prices. The

[279] Alfa Laval AB (publ) (2006 b).
[280] Karlsson, T (2006 b).
[281] Karlsson, T (2006 a)
[282] Skarstam, Å (2006) p. 30.

opinion of Alfa Laval's purchasing team is that it is easier to achieve future improvements in quality or delivery on time (DOT), than price reductions. Consequently, supplier selection is primarily based on price offer and the potential to improve other aspects over time, rather than initial quality and DOT record.[283]

Resources in low cost areas

In line with the price focus, Alfa Laval has dedicated resources to purchasing activities in low cost areas, such as China, Mexico and Eastern Europe.[284] Primarily resources are put into having purchasing staff present in these areas to find potential suppliers and build and maintain relationships with suppliers. To reach the desired cost reduction on purchased materials Alfa Laval strives to allocate a larger part of purchasing to suppliers in low cost areas.[285]

Supplier development

This strategy component includes dedication of resources to pragmatic supplier development and assistance. In this quest Alfa Laval has developed a toolkit to be used to improve important aspects of the suppliers' performance.[286] Examples on tools included are control charts and cause-effect diagrams.[287] The aim is to continuously improve the suppliers and Alfa Laval has a reasonable good historical record of improving selected aspects of a suppliers' performance.

Interaction with R&D

As discussed in chapter 4.5.1 involving the purchasing function at an early stage in product development offers substantial cost benefits to an industrial company. This condition is acknowledged by Alfa Laval and purchasers are today involved in all development processes to ensure that component and material requirements are considered from a sourcing perspective. As a result, Alfa Laval strives to experience better quality a long with decreased purchasing expenses.[288]

Combined volumes

Through the centralization of the purchasing function, Alfa Laval strives to reach synergies in procurement of components and raw materials by combining the purchasing volumes from the different segments within Alfa Laval. Traditional synergies then arises, increasing Alfa Laval's bargaining power and offering economies of scale.[289]

Consolidation of the supplier base

As a consequence of the endeavor to reach synergies through combining purchase volumes, the number of suppliers is decreased. Today Alfa Laval's supplier base consists

[283] Karlsson, T (2006).
[284] Ibid.
[285] Alfa Laval AB (publ) (2006 a).
[286] Karlsson, T (2006 a)
[287] Alfa Laval AB (publ) (2006 e).
[288] Karlsson, T (2006 a).
[289] Ibid.

of more than 3000 suppliers and the objective is to reduce this number by 25-30 % and thus increase volumes purchased from each individual supplier.[290]

One interface

Yet another objective to work through a centralized organization is to establish a single unanimous interface towards the suppliers. Only a single person or unit has a global responsibility for each commodity.[291] To accommodate this, the central purchasing organization has been divided into six different commodity groups, each responsible for one type of commodities.[292]

In general, these strategy components aim to increase Alfa Laval's bargaining power and put pressure on the suppliers. As a result Alfa Laval will, over time, stop trading with some of the current suppliers. Close personal relationships between Alfa Laval's purchasing staff and employees of the suppliers may therefore have a negative influence on the strategy. Purchasers with strong personal relationships may oppose the change of suppliers and thereby make the transition more difficult. Consequently, purchasing management discourages too close personal relationships between purchasers and suppliers. The relationships between Alfa Laval and the suppliers should rest primarily on fairly strict contractual agreements.[293]

5.6.2 Evaluation of purchasing performance

Although strongly price focused, measuring purchasing performance solely on price reductions is insufficient to monitor results. The risk of sub-optimization would be far too great. Alfa Laval has therefore, beside the objective of a 45 MEUR price reduction described above, established a "Star Goal"-model to measure the results of the purchasing activities. The Star Goal is a form of balanced scorecard used by Alfa Laval in evaluation of most internal functions, not only purchasing. Naturally the goals themselves differ between functions, but the model as such is the same. The Star Goals-measurements used to evaluate the purchasing department is presented inFigure 5.7.[294]

[290] Karlsson, T (2006 a).
[291] Ibid.
[292] Alfa Laval AB (publ) (2006 a).
[293] Karlsson, T (2006).
[294] Alfa Laval AB (publ) (2006).

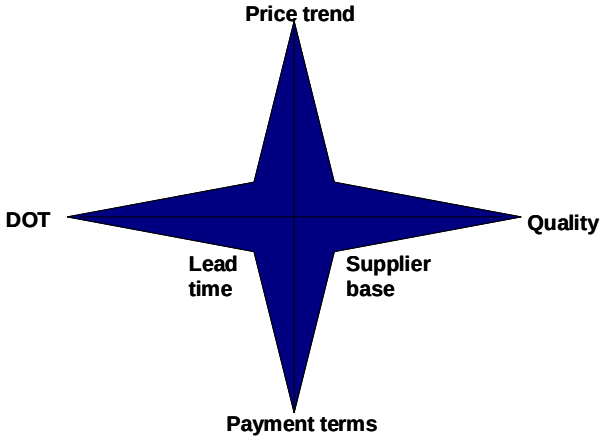


Figure 5.7 Star Goals for purchasing.[295]

The basic idea of the model is to establish four different measurements aimed for high scores as the peaks of the star, and four measurements yearning low scores in between. When presented in an eight-axis radar diagram and dots connected by lines a figure resembling the star in Figure 5.7 should emerge. Purchasing performance is however measured in only six different categories; price trend, delivery on time (DOT), quality, lead time, supplier base, and payments terms.[296]

- *Price trend*. The price trend objective, based on the 45 MEUR reduction, is to keep purchasing prices 3 % below producer price index (inflation).
- *Delivery on time*. The goal for supplier delivery is 95 % delivery on time (DOT), defined as the percentage of total order lines delivered between the time confirmed on first order confirmation, and five days before.
- *Quality*. Quality is measured as the percentage of delivered order lines not requiring any kind of action. Achieving at least 98 % of problem free orders would render a full score on this measurement.
- *Lead time*. Lead time from suppliers is to be minimized. Alfa Laval's objective is a lead time shorter than 20 working days from order placement to received goods. The measurement is therefore set to offer maximum score if at least 60 % of the suppliers meet this requirement.
- *Supplier base*. As mentioned Alfa Laval's supplier base consists of more than 3000 different suppliers. The aim behind this measurement is to reduce this number by 25 % over a three year period. The change includes suppliers of both direct and indirect material.

[295] Alfa Laval AB (publ) (2006 f), p. 2.
[296] Ibid, pp. 3-8.

- *Payment terms*. Alfa Laval strives to increase the average credit period from suppliers. By negotiating payment terms towards longer credit periods, Alfa Laval wants to decrease the cost of outstanding capital. However longer credit periods is clearly subordinate to price. The objective is to reduce average credit period by one day per year.

Based on these six criteria, the purchasing function at Alfa Laval is continuously evaluated. Consequently, these criteria form the major incentives purchasers have to improve supplier performance.

5.6.3 Supplier evaluation

To compare suppliers and be able to see trends, Alfa Laval makes use of a few "Key Performance Indicators" (KPI), based on which suppliers are evaluated. These KPIs derive directly from the star goal. The importance of measuring suppliers is further enhanced by a strong belief that improvements are only achieved in areas that are evaluated and measured.[297]. Primarily, Alfa Laval looks at three different KPIs to evaluate suppliers:[298]

- Delivery on time
- Product quality
- Lead time

The definitions of these measurements are the same as the definitions used for the corresponding star goals. All Alfa Laval's sites are measuring the suppliers' performances and the suppliers are also requested to measure their own performance and report to Alfa Laval. These measurements are collected and handled in a standardized manner, enabling Alfa Laval to easily compare suppliers to each other. Suppliers unable to meet Alfa Laval's requirements in these areas are given assistance by Alfa Laval to improve performance. Alfa Laval has therefore developed a tool kit for supplier development, used actively to improve supplier performance.[299]

5.6.4 Long-term cooperations

Alfa Laval's purchasing strategy also includes a strategy for long-term supplier cooperations. Long-term cooperations with suppliers are sometimes used by Alfa Laval to further decrease prices. In Figure 5.8 below, some specific actions taken or planned to be taken by Alfa Laval to boost a supplier's performance, are presented. A very important issue for Alfa Laval in this context is that closer relationships must produce measurable results, mainly through a reduction of the purchasing price. Alfa Laval considers improvements made in Alfa Laval's processes to be of little value if production can not be increased or no people can be laid off. As a result, since such effects are difficult to achieve due to excess capacity or union policies, the focus even within long-term

[297] Alfa Laval AB (publ) (2006 c), p.2.
[298] Ibid, pp. 3-4.
[299] Alfa Laval AB (publ) (2006 e), pp. 5-12.

cooperations lies on price reductions. Figure 5.8 shows the objective for Alfa Laval's long-term cooperations.

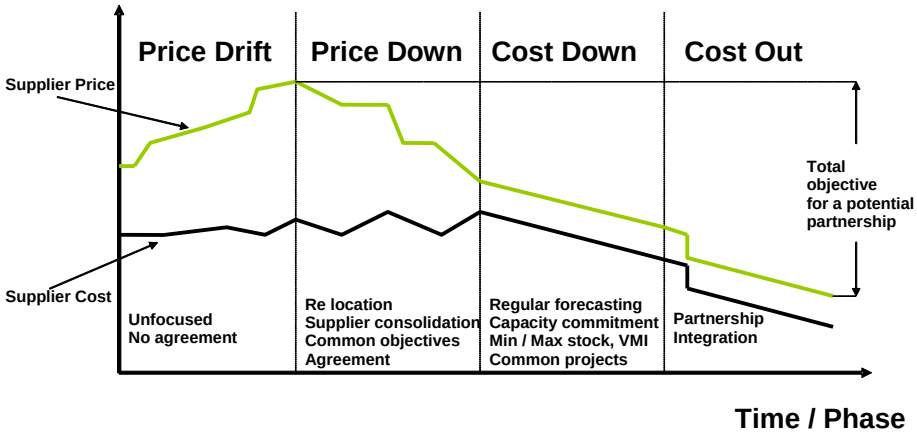


Figure 5.8 Alfa Laval's long-term cooperations objective.[300]

Alfa Laval is currently in the price down-phase, where prices are decreased as the suppliers' margins are reduced and the synergies discussed above are pursued.[301] Alfa Laval is now undertaking the work of continuing into the cost down-phase. As seen in the figure, this includes implementing VMI-solutions with selected suppliers and undertaking joint improvement projects with suppliers.[302] Eventually, the objective is to reach the final cost out-phase, where Alfa Laval engages in even deeper partnerships and alliances with selected suppliers.

[300] Skarstam, Å (2006), p. 32.
[301] Karlsson, T (2006).
[302] Baujard, M (2006).

6 Case study analyses

Based on the theoretical frame of reference presented in chapter 4 and the empirical findings described in chapter 5, final analyses of each individual case study form the basis for a cross-case comparison and an overall analysis. This chapter is dedicated exclusively to these case study analyses.

6.1 Case analysis: Nissens

Nissens was chosen as a future partner in a close cooperation with Alfa Laval. Nissens was to supply Alfa Laval with air/oil coolers in order to widen Alfa Laval's offer to the hydraulic market. While some involved individuals within Alfa Laval has labelled the cooperation as an alliance, some state that the particular term was never used.

6.1.1 Relationship type

The relationship between Alfa Laval and Nissens was an attempt at forming a closer relationship that offered substantial benefits neither party could achieve independently. In other words, the parties strove to establish a strategic supplier alliance as defined it in chapter 4.3.4. In Figure 6.1 the relationship is placed in the scale of interorganizational relationships.

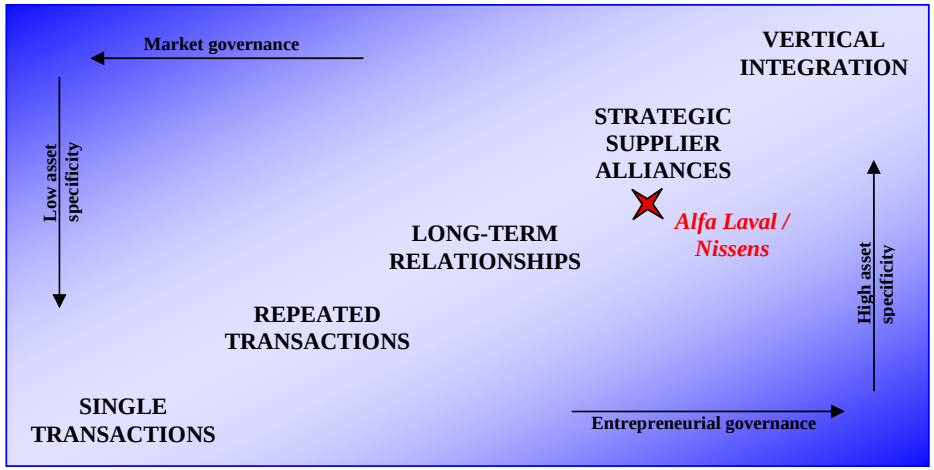


Figure 6.1 The Alfa Laval and Nissens relationship placed in the scale of interorganizational relationships.

As seen in Figure 6.1 the relationship has to be considered a low form of alliance, i.e. be placed in the lower end of the strategic supplier alliance field, close to the long-term relationships. Nevertheless the relationship fulfils the established requirement for a strategic supplier alliance.[303] The parties are independent firms, the cooperation includes mutual goals and achieved benefits were to be divided between the parties.

The relationship is however held down in the scale by the relatively low level of relationship specific assets. Although substantial time and resources have been allocated to the project and Alfa Laval's investments thereby are significant, only part of the investments seem to be relationship specific. With relatively short notice Alfa Laval would be able to change suppliers and move production of the developed products to low cost areas or potential suppliers found else where. As a result Nissens is slightly pushed into a captive supplier role[304], but mainly due to the imbalance of bargaining power caused by Alfa Laval's low dependency.

In contrast to the asset specificity aspect, the relationship is enhanced by the fact that the collaboration was set to include joint activities within two strategic areas; product and technology development and marketing and sales activities. Additionally the cooperation was established to fulfil a strategic decision within Alfa Laval. However, regardless of overall strategic direction, an organization needs to consider the strategic importance of the individual product in order to determine if the type of relationship is the most suitable choice. As described in chapter 4.4.1 a portfolio matrix based on the importance of purchasing and the involved supply risk can aid such an analysis. In this situation it is inevitable to consider the supply risk to be relatively low. As mentioned, the coolers are technologically simple and suppliers in low cost areas are continuously emerging. However it seems as if Alfa Laval's positioning as a supplier of high quality, branded products increases the supply risk initially. Since Alfa Laval lacks the necessary competence to develop the product internally and achieve desired quality level the choice of supplier is limited to competent and technologically superior players. Consequently the number of possible suppliers is limited in the initial phase of the project and the supply risk is therefore relatively high. Once the development is completed and production is established less innovative and competent players become potential suppliers thus reducing the supply risk.

On the vertical axis in the portfolio matrix the importance of purchase of air/oil coolers is presented. Since the coolers represent a limited value in sales, the importance of purchasing seems correspondingly low. On the other hand, the question of the importance and impact of the underlying strategy to be a full range supplier remains. If successful the strategy is hoped to increase overall sales in the segment offering synergy benefits between products. Consequently the importance of purchasing of the coolers is pushed up in the matrix as it may increase sales of Alfa Laval's core products and thereby impact overall results. Once a full product range has been established and the sought positioning is founded in the market, the importance of individual products is however reduced. Thus the analysis renders two different positions in the matrix in Figure 6.2 below. The initial

[303] See chapter 4.3.4 Strategic supplier alliances.
[304] See chapter 4.7 Critical attributes: Sources for failure in strategic supplier alliances.

position is marked by the green mark in Figure 6.2 while the products over tome will drift to the position marked by the red mark.

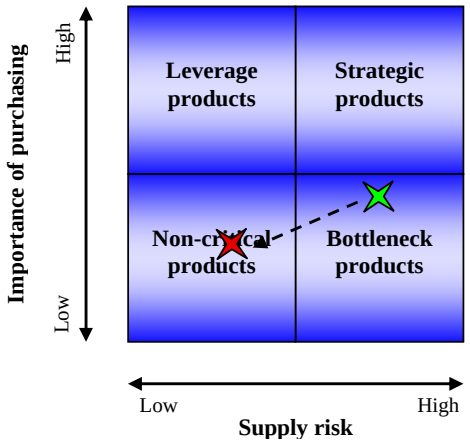


Figure 6.2 The Nissens air/oil coolers placed in Kraljic's matrix of products.

As the green mark indicates, the air oil/coolers are initially important bottleneck products which, as seen in Figure 6.3 below, support Alfa Laval's decision to engage in a strategic supplier alliance. But over time the products become non-critical products (position marked by the red mark) and as indicated by Figure 6.3 a different sourcing strategy would be beneficial. From an Alfa Laval perspective it would then be of interest to put little resources into relationship management and price becomes an overall focus, thus building incentives to find suppliers with a more competitive cost advantage.

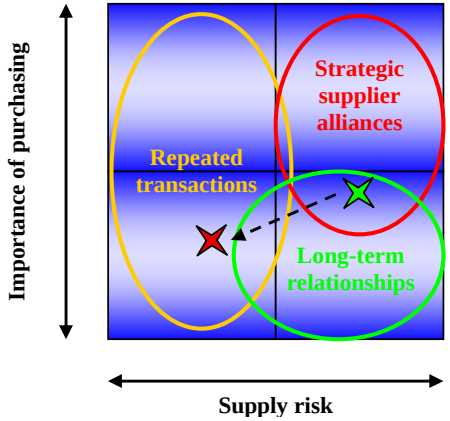


Figure 6.3 Nissens air/oil coolers placed in the product/relationship matrix.

6.1.2 Analysis of the benefits

The cooperation was initiated as a result of a strategic decision within Alfa Laval to become an acknowledged leading supplier in the hydraulic market. Not only would such a strategy offer additional revenue from sales of the complementary products, it would also potentially boost sales of Alfa Laval's core products by enabling Alfa Laval to supply more complete solutions to customers.[305] An extension of the product range could naturally be achieved through other means than a strategic alliance. In this situation, however, it seems evident that an alliance was the one solution offering the sought advantages at the minimal risk exposure. Development of necessary competences in-house at Alfa Laval would require substantial time, effort and resources. Not only would Alfa Laval's time to market be considerably longer, failure on the market would in this case also make it impossible for Alfa Laval to achieve sufficient return on invested resources. Yet another option at hand was the acquisition of another company. Obviously an acquisition requires a higher level of strategic fit between firms as well as a strategic purpose for the buying company greater than the one at hand for Alfa Laval in this case. Additionally an acquisition would have been a far greater risk, and failure to achieve desired sales volume would have had a much higher impact on Alfa Laval.

Naturally a cooperation also offered benefits for Nissens. A collaboration with Alfa Laval resulting in the forecasted sales volume, would make Alfa Laval a top 10 customer and offer access to a market segment partially unavailable to Nissens. It does however seem as if the most evident benefit for Nissens, the sales volume, may not have been as attractive as initially anticipated. During this time Nissens experienced a rapid organic growth. Such growth make maintained profitability an important issue as costs grow accordingly and distribution and planning become more complex as capacity limits are approached. A collaboration with Alfa Laval would offer Nissens additional growth through sales of extraordinarily low margin products. Nevertheless, Nissens' aggressive growth strategy inevitably makes an opportunity to grow by 5 % through an individual customer, as was the case with Alfa Laval, valuable.

In this context it is also crucial to consider the aspect of strategic compatibility between organizations.[306] Nissens core competences are high quality products and customization ability. Initially the capabilities sought by Alfa Laval were development and quality. However the products to be developed were a standard range of coolers, with little or no future customization. Nissens customization ability comes with a price. Production facilities are optimized for flexibility and company culture makes the company focus on specific customer needs above production efficiency and economies of scale. Consequently Alfa Laval had to pay for abilities that were of little value from a long-term perspective. As a result, the total amount of benefits and profits to be shared between the parties was insufficient to form incentives for a successful alliance. This conclusion is further enhanced by an analysis of the supply chain structure. Alfa Laval was squeezed into a distributor's role in an existing supply chain. On top Hexagon was added as a sales channel requiring another share of the available margin. Apart from existing agreements

[305] See chapter 4.5.4 Access to new technology.
[306] See chapter 4.4.2 Supplier selection process.

between the companies it is unclear what Nissens would benefit from not dealing directly with Hexagon.

The initial setup was for Alfa Laval to penetrate the Scandinavian market with Nissens coolers. Since the Scandinavian market was Nissens core market to begin with, such setup further limits the value added by Alfa Laval through global presence and a developed sales and distribution network. An expansion into other European countries was planned, but such expansion would increase Nissens' value as well as dependence on the relationship while Alfa Laval's dependence on Nissens would continuously decrease.

6.1.3 Analysis of relationship attributes

A side from the fact that the efforts failed, the relationship between Alfa Laval and Nissens seems to have been healthy. Both parties showed commitment and interest in a future alliance.[307] Both companies allocated substantial and what seems to have been more than ample resources to the project. Top management on segment and corporate level respectively was involved in the project which enhances the likelihood of a successful outcome. The relationship is also characterized by a fairly high level of trust between partners, manifested in the sharing of information and partially open book arrangements. Discussions held and agreements reached on marketing arrangements and the competitive issues indicate a belief in the partner's sincere intentions to create mutual benefits through the collaboration. The same conclusion can be drawn from the potentially sensitive information and knowledge shared in the joint development efforts.

However a few characteristics of the relationship between Alfa Laval and Nissens seem less positive. Primarily the relationship lacked interdependence among parties.[308] Neither Alfa Laval nor Nissens was overly dependent on each other due to the low level of relationship specific investments and the limited value of transactions in comparison to overall turnover. As previously discussed the importance of the transactions and the supply risk involved for Alfa Laval would inevitably have decreased over time even further reducing Alfa Laval's dependency on Nissens as a supplier.

Yet another negative feature of the alliance was the sharing of available rewards.[309] While Alfa Laval officials state that profit margin was evenly divided, Nissens seems to hold the opinion that Alfa Laval required a relatively too large share in contrast to added value. Thus the underlying issue once again appears to be the lack of sufficient rewards available through the business opportunity at hand.

6.1.4 Analysis of relationship management

Since the alliance was never launched, an analysis of continuous relationship management is irrelevant in this case. There are however a few aspects of the management of the initial development project that might have affected the outcome of the alliance. In chapter 4.8 a model of alliance implementation and practice was presented. The backbone of that model was five different phases of activities and

[307] See chapter 4.6.1 Attributes of the alliance.
[308] See chapter 4.6.1 Attributes of the alliance.
[309] See chapter 4.6.4 Risk and reward sharing.

considerations. During the initial phase the importance of ensuring strategic need, forming a cross functional team and confirming management support was stressed. In Alfa Laval's process no cross-functional team was formed. Instead representatives from the Global Purchasing department were commissioned to find and select a supplier prior to the establishment of a development project. As a result, phases two and three, including finding, evaluation and selecting supplier, were severely pinioned and only a few potential partners were evaluated on a limited set of criteria. Once Nissens had been selected a cross functional project team was formed, but without participation of the purchaser responsible for the initial phase.

When the project went into phase four it seems as if the development and implementation of the alliance were handled according to the course of actions established by theoretical model. One therefore has to raise concerns regarding the management of the initial phases. Had a more proper screening and evaluation been carried out, problems related to the absence of rewards in the business opportunity may have been detected and a different approach to the situation used. Instead it took close to two years of efforts and spent resources before the price difficulties were realized.

Naturally the investigation undertaken in this thesis is insufficient to draw strict conclusions on the extent to which these shortages affected the outcome. The result may have been the same, had the model been used step by step. It seems however safe to argue that a more proper analysis of the business opportunity and a more careful evaluation of the strategic fit between organizations would have saved time and resources or even resulted in a successful alliance with another supplier of similar technology.

6.1.5 Summarizing analysis

Based on the analytical findings presented above it is inevitable to reach the conclusion that the primary reason for failure, in the attempt to form an alliance, was the lack of sufficient rewards to be shared among parties. The span between a targeted market price and the price required for cost coverage and profit for Nissens seem to have been too narrow. Insufficient total margin in the market offer rendered it impossible for Alfa Laval to be squeezed into the supply chain.

Yet another conclusion is that the failure may partially be a result of a poor match between Nissens strengths and advantages, and Alfa Laval's requirements in this case. As concluded above, the required competences and capabilities will differ over time, thus complicating the issue of partner selection and evaluation. Regardless of the impact this may have had on the outcome, we have reached the conclusion that putting more effort into the early phases of alliance building would be beneficial to success. By carefully evaluating the business opportunity at an early stage and evaluate the strengths and capabilities required, will inevitably enhance chances for a successful alliance. In this context it is also crucial to thoroughly analyze what an alliance has to offer the counterpart. Before an alliance is attempted, a business opportunity offering significant benefits to all participating parties must be ensured. In Table 6.1 below all the key analysis results from this case study is listed.

Table 6.1 Key analysis findings from the Nissens case study.

		Nissens
Product type		Trading product
Relationship type		Strategic supplier alliance
Product category		Bottleneck product initially, then Non-critical
Supplier selection		Few suppliers evaluated
Benefits for Alfa Laval		Access to new technology
Match between required and existing strengths		Low
Supplier's value of offered benefits		Low
Relationship Attributes	**Commitment**	Medium/High
	Trust and coordination	Medium
	Dependency (AL / Supplier)	Low / Low
	Information sharing	Medium/High
	Conflict resolution techniques	n/a

6.2 Case analysis: Zorzini

The transactions between Alfa Laval and Zorzini began 25 years ago within the frame of a traditional buyer-supplier relationship. After a decision in 2001 the organizations are today involved in a close cooperation, internally labelled an alliance.

6.2.1 Relationship type

Similar to the relationship between Alfa Laval and Nissens, the relationship with Zorzini is placed fairly high in the scale of interorganizational relationships. See Figure 6.4 below.

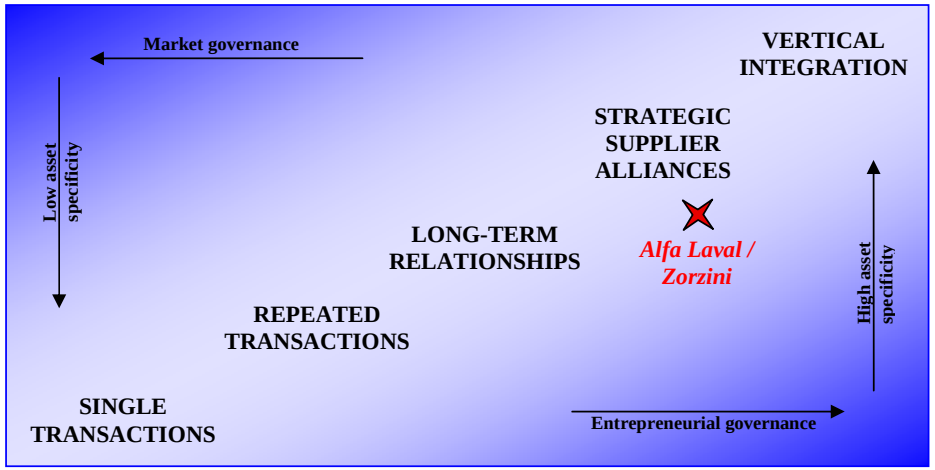


Figure 6.4 The Alfa Laval and Zorzini relationship placed in the scale of interorganizational relationships.

After an analysis of the key features and characteristics, the relationship is placed in the lower end of the strategic supplier alliance category. Although sometimes limited in scope, the attributes of the relationship match the definition of a supplier alliance. The parties are independent, benefits are shared and there is ongoing cooperation in areas of strategic importance.

The level of the relationship is increased by Alfa Laval's decision to outsource all remaining manhole cover production, included in the second phase of the alliance. This indicates a strong commitment to the relationship from Alfa Laval's side and make them increasingly dependant of Zorzini to maintain a full range product portfolio in tank equipment. The commitment does however seem mutual. Zorzini has shown great flexibility and willingness to meet Alfa Laval's needs and demands.

Also similar to the Nissens case is the relatively low level of relationship specific assets. Although specific investments are more significant in this relationship, it is an aspect drawing the relationship down the scale, towards the long-term relationship area. Tank Equipment is a small segment with a vast range of products. Consequently resources are primarily focused elsewhere and both tangible and intangible investments made by Alfa Laval are limited. As a result, the impact of failure in the alliance would be limited. Alfa Laval can therefore not be considered dependent on Zorzini to any significant extent. In the second phase of the alliance the level of relationship specific assets will however increase. Both Alfa Laval and Zorzini plan to make investments to accommodate changes in the collaboration. Alfa Laval will invest in custom made moulds for use in Zorzini's machines and Zorzini will dedicate additional resources to production and distribution of Alfa Laval's current and added products.

In relation to company size, Zorzini must be said to have made more substantial investments in the relationship. Even though all investments made by Zorzini are not exclusively relationship specific (advance of capacity investments, decreased lead times and strictly dedicated personnel and storage facilities) they are made with the intention of improving and accommodating needs within the alliance. In addition Zorzini has made considerable investments strictly specific to the relationship by renouncing important geographical markets to Alfa Laval.

The low level of investments made by Alfa Laval seems to be directly correlated to the type of product bought from Zorzini. In a portfolio matrix analysis of the manhole covers, the low importance of the product becomes clear. In Figure 6.5 the position of the manhole covers in the matrix is marked by the red mark.

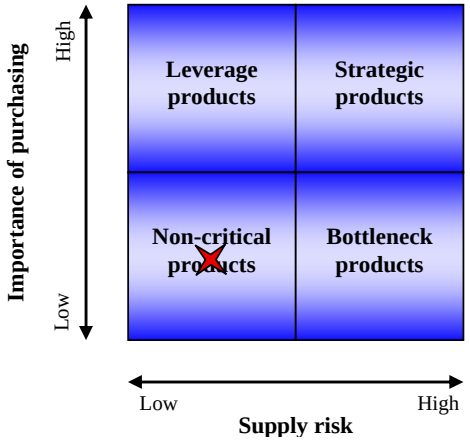


Figure 6.5 Manhole covers placed in Kraljic's matrix of products.

The Tank Equipment segment is a small segment within Alfa Laval carrying a wide range of associated products. Consequently manhole covers is a small business even in this context and represent a limited turnover. As a result the importance of purchasing of manhole covers is fairly low, although slightly enhanced by the need to include them in complete solutions in tank systems.

The same applies to the aspect of supply risk. Manhole covers are technologically simple products and a large number of suppliers act on the market globally. From a short-term perspective Alfa Laval may need to add resources to a change of suppliers to accommodate the branding and differentiation of the covers made today, but in the long run Alfa Laval can not be considered exposed to any considerable supply risk of manhole covers.

This makes it inevitable to consider the manhole covers to be non-critical products with little impact on Alfa Laval's overall result.[310] Added to the analysis of different supplier relationships for various situations, Figure 6.6 shows that such products are best purchased through arms length supplier relationship with repeated transactions.

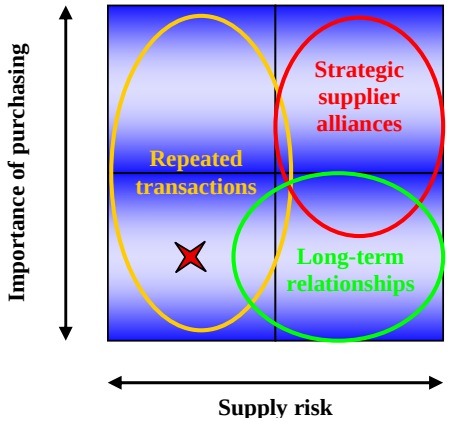


Figure 6.6 Manhole covers placed in the product/relationship matrix.

The above figures present a fairly different picture of the level of the relationship and what should be desired in this situation. Nevertheless, clear benefits can be seen with an alliance in this situation, which would not have been achievable through a more distant supplier relationship. One therefore has to consider the amount of resources allocated to relationship management and development. Benefits reachable through the close relationship should be pursued while spent resources must be kept at a minimum to ensure that rewards acquired are profitable.

6.2.2 Analysis of the benefits

Since Alfa Laval considers manhole covers an important part of the tank equipment product portfolio but turn over a volume too low to ensure economy and efficiency in in-house production, the primary benefit sought by Alfa Laval was profitable supply of Alfa Laval branded and designed products. Through a close relationship Alfa Laval secures supply of branded products and, through a market agreement with Zorzini, is enabled to market the covers without influence of competing distribution of the same products. Over time the relationship will also have a positive impact on logistics and distribution. Once the relationship is further developed Alfa Laval branded and packed products can be shipped directly from Zorzini to customers around the world resulting in cost advantages.

A well functioning alliance may be even more beneficial to Zorzini. While Zorzini manufactures the volume required to make production efficient and have excess capacity

[310] See chapter 4.4.1 Commodity selection process.

in production, they lack an adequate sales and distribution organization to expand globally. This gives Zorzini a strong position in core markets but insignificant presence elsewhere. Consequently the main benefit offered by Alfa Laval through the alliance is the global distribution and sales network, potentially rendering a substantial increase of sales volume. Such benefits are well in line with Zorzini's internal situation and should therefore be attractive to Zorzini.

Upon forming the alliance, a major increase of sales was projected and the alliance was agreed and optimized based on those assumptions. The expected increase has however yet failed to appear. Since the start of the alliance the ordered volume has remained the same and the sought benefits for Zorzini has therefore largely been unfulfilled. Within the alliance the parties have also tried to achieve benefits for Zorzini through joint sourcing activities, but so far no such synergies have been realized.

6.2.3 Analysis of relationship attributes

In spite of the limited benefits achieved so far, both firms seem to remain strongly committed to the alliance. Zorzini has shown noteworthy commitment through flexibility and responsiveness to Alfa Laval's needs. Efforts have been made to keep lead times at a minimum, maximize quality conformance and Zorzini has agreed to hold stock of Alfa Laval's products to service urgent orders. When the second phase of the alliance is now entered this commitment seem to remain in spite of the obvious failure to reach forecasted volumes, which is a clear disappointment to both parties in the alliance.

In return Alfa Laval has shown commitment and long-term belief in the relationship by allowing the net result of the alliance to be negative over a substantial period of time. Alfa Laval can now see a positive trend in the margin level, but the forecasted increase of sales seems distant. Also the decision to expand the alliance and move into the second phase, including the outsourcing of the remaining manhole cover production, can be seen as a sign of commitment, which inevitably strengthen the alliance.

Trust building takes time. The relationship between Alfa Laval and Zorzini are relatively old and also seems fairly trustful. Information is shared and issues are discussed candidly. However complete trust between the organizations seems absent. The fact that customer orders are hidden and all distribution is handled through Alfa Laval's site in Kolding, in spite of obvious cost disadvantages, clearly indicates lack of trust in the relationship. However, as the relationship develops and more activities are included in the collaboration trust is likely to develop, rendering reduced levels of control.

While trust is strongly related to information quantity, i.e. the organizations' willingness to openly share information and to which extent this is done within an alliance, yet another aspect of information sharing is the quality of information shared.[311] While Zorzini openly offers Alfa Laval information about cost structures and other sensitive information Alfa Laval seems more restrictive with information. Information offered by Alfa Laval is limited to inventory levels and demand forecasts. In this context Alfa Laval fall short in information quality. As seen in Figure 5.3, considerable deviations from forecasted volumes are more rule than exception. Naturally insufficient information

[311] See chapter 4.6.2 Communication behaviour.

quality reduces Zorzini's possibilities to plan according to forecasts, resulting in increased cost. This will inevitably affect Zorzini's satisfaction with the alliance.

Another attribute of an alliance is the interdependence between parties. In the relationship between Alfa Laval and Zorzini no party is heavily dependent on the other. However while the manhole covers' importance to Alfa Laval's overall success has been described as insignificant, Alfa Laval remains Zorzini's single largest customer with over 10 % of total turnover (increasing to approximately 15 % during the second phase). Although of great importance to Zorzini, a loss of Alfa Laval's businesses would not pose an overwhelming threat to Zorzini. In conjunction with the limited level of specific investments discussed above, this leads to the conclusion that Zorzini, although more so than Alfa Laval, is little dependent on the alliance.

In terms of conflict resolutions techniques this relationship is no different from other supplier relationship at Alfa Laval. No formal process has been established to handle conflicts within the alliance.[312] With a limited number of people involved in the collaboration and strong personal relationships this may threaten the alliance should a conflict arise. However the good relationship and personal bonds may also prevent a conflict from emerging. So far no conflicts have occurred.

6.2.4 Analysis of relationship management

Based on the current state of the relationship between the companies, the choice of Zorzini as the allied supplier seems to have been a good decision. The benefits offered by Alfa Laval correspond well to Zorzini's current situation with over capacity in production and limited marketing abilities. Additionally Zorzini's strengths and competitive advantages suit Alfa Laval's requirements in quality, design and delivery precision. The supplier selection and alliance implementation processes were naturally cut short and made easier by the fact that Alfa Laval had an ongoing relationship with Zorzini and related production competence in-house.

As discussed above there are many benefits involved for both parties in this alliance. But as seen in Figure 6.5, manhole covers are non-critical products for Alfa Laval. The amount of time and resources invested in relationship management and purchasing of manhole covers needs to be kept low. If cost of alliance development and management is allowed to bolt without a corresponding increase of revenue, it may undermine the benefits created through the collaboration.

6.2.5 Summarizing analysis

The relationship between Alfa Laval and Zorzini is an ongoing and well functioning strategic supplier alliance including the trading of manhole covers to be resold by Alfa Laval as part of the tank equipment product range. Both parties seem committed to the relationship and Zorzini's commitment seems to derive from the fact that Alfa Laval offers substantial and valuable benefits. Zorzini's strengths appear to match those

[312] See chapter 4.6.3 Conflict resolution.

required by Alfa Laval and the benefits offered the firms through the alliance are of significant value.

The choice of supplier might have been facilitated by the fact that Alfa Laval had a transactional relationship with Zorzini prior to the alliance, and thus had good understanding of Zorzini's strengths and company culture. It should however be noted that the traded product is a non-critical product for Alfa Laval. Time and resources spent on alliance management and development should be kept low. In Table 6.2 below the key results of this case study analysis is gathered.

Table 6.2 Key analysis findings from the Zorzini case study.

		Zorzini
Product type		Trading product
Relationship type		Strategic supplier alliance
Product category		Non-critical
Supplier selection		Ongoing relationship
Benefits for Alfa Laval		Cost reduction, assortment expansion
Match between required and existing strengths		Medium/High
Supplier's value of offered benefits		High
Relationship Attributes	**Commitment**	High
	Trust and coordination	Medium/High
	Dependency (AL / Supplier)	Low / Medium
	Information sharing	High
	Conflict resolution techniques	No formalized

6.3 Case analysis: Roplan

Roplan, identified by Alfa Laval as a strategic supplier, is since the 1970s the sole supplier of mechanical seals. The relationship is not identified by Alfa Laval as an alliance but Roplan is considered to be a strategic supplier, which within Alfa Laval requires a different managing process in comparison to other suppliers.

6.3.1 Relationship type

As stated in chapter 4.3.4, alliances form with different purposes as well as at different levels. Returning to the interorganizational relationship scale, see Figure 6.7, it is however inevitable to place the relationship between Alfa Laval and Roplan in the upper end of the long-term relationship field.[313]

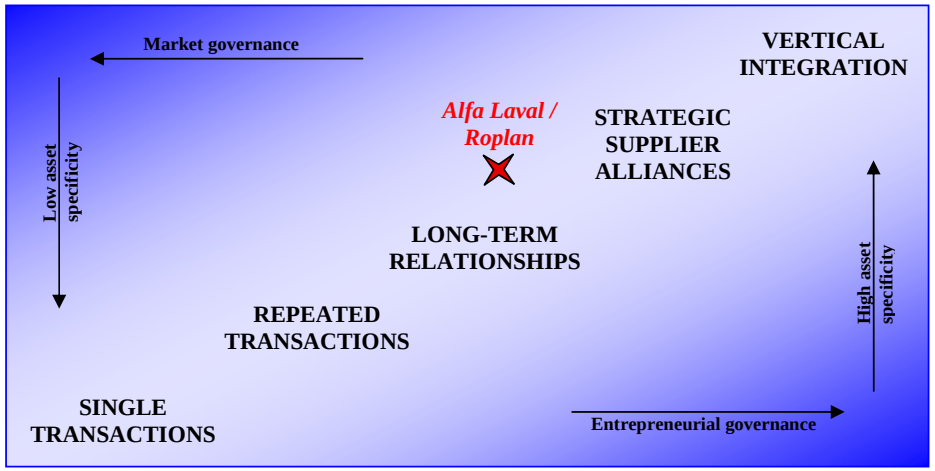


Figure 6.7 The Alfa Laval and Roplan relationship placed in the scale of interorganizational relationships.

This is a natural conclusion based on an analysis of the established characteristics of long-term relationship versus a strategic supplier alliance. Regardless of the underlying purpose, the relationship between Alfa Laval and Roplan lack some of the more prominent features of an alliance. Primarily, the relationship includes a low level commitment to the collaboration. Consequently the relationship is more transaction focused than most strategic supplier alliances. As a result of that focus, the relationship lacks shared goals of mutual benefits. Further more, the relationship is pushed down the scale by the absence of joint ownership of product designs, brands, equity or other assets of strategic importance.

[313] See chapter 4.3.3 Long-term relationships.

Nevertheless, some characteristics of the relationship push it up the scale, towards strategic supplier alliances. Even though transaction focused, the relationship is long-term and general agreements are indefinite or easily renewed. The joint or relationship specific development activities undertaken result in transactions, not only of products and money, but also of processes and capabilities. Consequently, in combination with Roplan's consignment stocks at Alfa Laval's sites, the relationship is given a fairly high level of relationship specific assets. The level of specific assets are further increased by Alfa Laval's investments in Roplan's products by designing separators and other applications tied to the specific seals owned and supplied by Roplan. Such investments increase the individual firm's dependency on each other.

Thus remains the question of the purchased products strategic importance for Alfa Laval. Roplan supplies Alfa Laval with mechanical seals, like the one shown in Figure 5.4. When used by Alfa Laval, in pumps and separators, the seals represent an insignificant part of the total product value. Consequently, from a manufacturing point of view, the purchasing of the components is of little importance for Alfa Laval. However the seals impact on Alfa Laval from a bottom line perspective is dramatically enhanced by aftermarket sales. The seals have shorter life time than the applications in which they are used, offering Alfa Laval substantial revenue as high margin spare parts. As a result the seals' financial impact on Alfa Laval is increased, giving the products a greater strategic importance.

As seen in Figure 6.8, the strategic importance of a product is also affected by the supply risk for the buying company. In this case the supply risk is considerable, as similar seals can not be bought by Alfa Laval outside the relationship, since Roplan is the formal owner of the design. Hence the supply risk in this situation is a result of the initial contractual construction, since suppliers with similar capabilities can be found on the market.

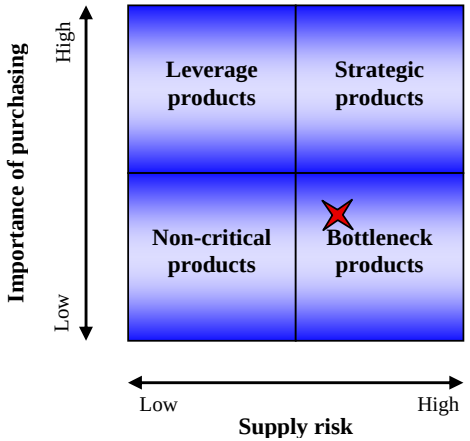


Figure 6.8 The Roplan seals placed in Kraljic's matrix of products.

Placed in the matrix in Figure 6.8, the seals are pushed down vertically by the relatively low value, but lifted by Alfa Laval's substantial profit on aftermarket sales. On the horizontal axis, the products end up on the right side due to the supply risk involved. Consequently, the seals bought from Roplan are classified as bottleneck products. As seen in Figure 6.9 below, products placed as the Roplan seals in the upper part of the category are compatible with transactions within closer buyer-supplier relationships, such as a long-term relationship or a strategic supplier alliance.

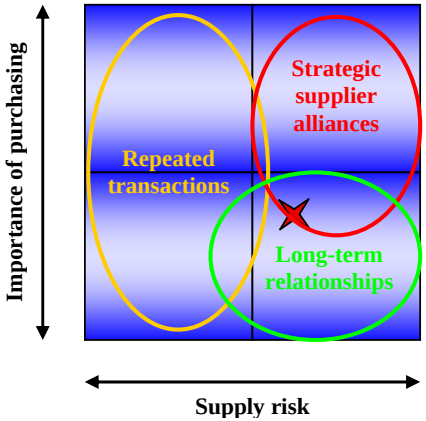


Figure 6.9 The Roplan seals placed in the product/relationship matrix.

This analysis corresponds well with the conclusion that the relationship between Alfa Laval and Roplan falls in the upper end of the long-term relationship field in the scale of interorganizational relationships.

6.3.2 Analysis of the benefits

The initial benefit pursued by Alfa Laval was to find a reliable supplier of mechanical seals in order to eliminate the need for Alfa Laval to develop seal manufacturing capabilities in-house. Alfa Laval wanted access to design and production capabilities.

Over time, these benefits have been increased by the aftermarket sales of customized seals not obtainable through other channels. These benefits do however come with a cost; increased supply risk. Naturally a close, healthy relationship is means to handle the supply risk, but from Alfa Laval's point of view the risk must be measured against the profit made through sales not achievable with a standardized seal.

Benefits offered to Roplan through the relationship are less clearly connected to an alliance type relationship. Once again the transactions come into focus as the primary benefit gained by Roplan is a substantial sales volume. The benefits of the volume are further enhanced by the long-term security Roplan enjoys due to the captive buyer situation in this case. Such conditions allow Roplan to plan investments and similar long-

term engagements accordingly. Yet another benefit enjoyed by Roplan is the possibility to purchase materials on Alfa Laval's supplier agreements. Naturally, due to volume discounts, this offers Roplan savings on procurement of raw materials in cases where synergies with materials used by Alfa Laval can be found. Such savings can then be used by Roplan to increase margin on sales to other customers.

6.3.3 Analysis of relationship attributes

The relationship between Alfa Laval and Roplan is largely marked by the captive buyer situation in which Alfa Laval is placed. It seems evident that this is the underlying cause of the close relationship. However, as mentioned earlier, the balance in dependency is evened out by the relatively large part of Roplan's total turnover represented by Alfa Laval. Consequently, the relationship is characterized by a fairly high level of interdependence. The undesired supply risk experienced by Alfa Laval has an impact also on Alfa Laval's commitment to the relationship. Even though a healthy relationship exists today, Alfa Laval shows little or no commitment to creating value and additional benefits through the collaboration with Roplan. The relationship is, to Alfa Laval, only means to secure supply of customized mechanical seals for use in the designated applications.

The level of closeness in the relationship is however reduced by the relative lack of information sharing. Even though the seals supplied by Roplan are components in Alfa Laval's production and forecasts of component requirements are offered by Alfa Laval, Roplan claims to have little use of those forecasts or other information from Alfa Laval. The consignment stocks kept at Alfa Laval's sites are planned by Roplan as internal inventories and only transaction data used for invoicing is shared continuously. During negotiations and similar situations, as little information as possible is shared, leaving fairly little room for mutual improvement work.

Also the sharing of risks and rewards are effected by Alfa Laval's purchasing department's focus on cost. Alfa Laval acts in strict accordance with their risk aversion, and risks are pushed entirely on Roplan. The rewards created are therefore tried to be achieved entirely by both parties, in spite of agreement to the contrary. Consequently, all improvements pursued by Alfa Laval are improvements with the potential of resulting in a price reduction. As a result, Roplan has no incentive to pursue improvements effecting Alfa Laval's processes, as the relationship is managed by Alfa Laval's purchasing department and such improvements, which might include an increased price, would only be beneficial to the producing functions within Alfa Laval.

6.3.4 Analysis of relationship management

The lack of information sharing and commitment to the relationship is a natural result of Alfa Laval's internal purchasing focus. The characteristics of this relationship are well in line with, and a result of the established purchasing strategy within Alfa Laval. As discussed, the mechanical seals have a fairly low level of technical complexity and a relatively low financial impact on Alfa Laval's overall result. The long product lifecycle make rapid product or quality improvements of little value to the parties and the even demand of the seals, for both production and after market sales, makes logistics easily manageable. Consequently, it seems as if Alfa Laval has chosen to engage in a closer

relationship only as means to manage an undesired supply risk and has no wish to make the relationship deeper than necessary. The benefits commonly sought through alliances with component suppliers seem to be of little importance to Alfa Laval in this case. This inevitably leads to the conclusion that a closer relationship than the companies have today would have little to offer Alfa Laval in the pursuit of established purchasing objectives.

6.3.5 Summarizing analysis

The relationship with Roplan is, as discussed above, characterised by the inter dependency between the companies. This dependency is evidently undesired by Alfa Laval, but is nevertheless bringing the companies into a close long-term relationship. Yet Alfa Laval's relationship management strives to keep Roplan at arm's length distance, which appears to be a result of Alfa Laval's purchasing strategy. The classification of the seals as bottleneck products is a result of an undesired supply risk due to contractual oversights in the past. However it should not be forgotten that the collaboration with Roplan offers benefits for Alfa Laval. By offering access to seal technology and competence, Roplan allows Alfa Laval to work with customized mechanical seals and thereby ensure quality as well as aftermarket sales. Nevertheless standardized seals available through other sources may offer benefits through significant cost reductions. In Table 6.3 below the key analysis findings from this case study are listed.

Table 6.3 Key analysis findings from the Roplan case study.

		Roplan
Product type		Component
Relationship type		Long term relationship
Product category		Bottleneck
Supplier selection		Ongoing relationship
Benefits for Alfa Laval		Technology, product development
Match between required and existing strengths		High
Supplier's value of offered benefits		Medium
Relationship Attributes	**Commitment**	Low
	Trust and coordination	Low/Medium
	Dependency (AL / Supplier)	High / Medium/High
	Information sharing	Low/Medium
	Conflict resolution techniques	No formalized

6.4 Case analysis: SKF

Like Roplan, SKF is identified as one of Alfa Laval's strategic suppliers and has been supplying the better part of all bearings since the 1920s. Today the companies have a close relationship with primarily joint development projects.

6.4.1 Relationship type

When analyzed, the relationship between Alfa Laval and SKF is difficult to label. The relationship falls right between the long-term relationships and the strategic supplier alliances, including characteristics from both relationship types. The relationship is positioned in the scale of interorganizational relationships in Figure 6.10.

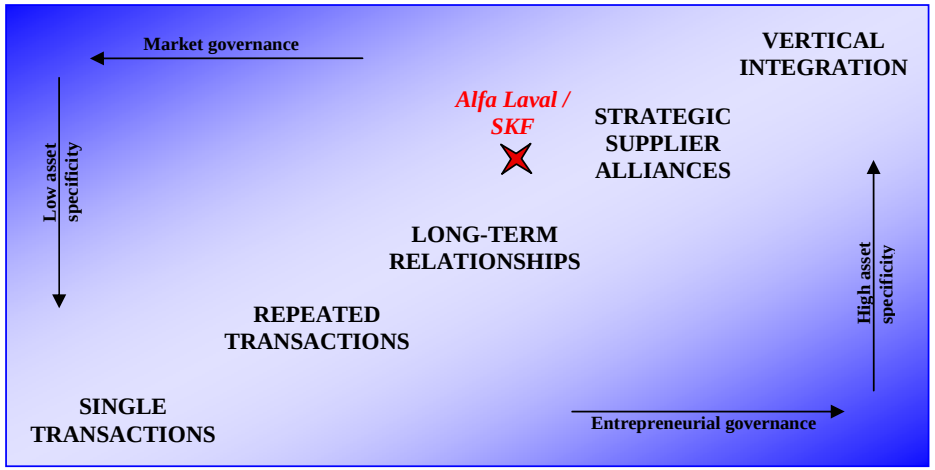


Figure 6.10 The Alfa Laval and SKF relationship placed in the scale of interorganizational relationships.

When considering the level of relationship specific assets it is easy to get the impression that the relationship is a high level of close cooperation. Substantial investments have been made within the frames of the relationship, especially by Alfa Laval. Several of Alfa Laval's core products are designed for use with SKF's components and SKF's unique quality and functionality make a change of suppliers difficult. Such change would require considerable testing and investigation to ensure proper quality as the bearings bought are critical to the overall performance of the separator or decanter in which they are used.

Relationship specific investments made by SKF are however less significant. Over time SKF has engaged in several development projects especially dedicated to Alfa Laval applications. Bearings developed for Alfa Laval is given unique Alfa Laval article numbers and sold only through Alfa Laval channels. Together the companies have also invested in logistics development projects to increase efficiency in SKF's planning of production of Alfa Laval bearings. But most investments made by SKF can not be considered relationship specific as they can be easily transferred to other customers.

While the majority of investments made by SKF are fairly unspecific to the relationship, investments made by Alfa Laval have made Alfa Laval greatly dependent on SKF. The dependence is yet another feature driving the organizations closer and thus the relationship up the scale in Figure 6.10. But although a top 10 customer within SKF's Industry division, Alfa Laval represents an insignificant part of SKF's total sales. SKF's dependence on Alfa Laval is therefore negligible, creating a significant imbalance in interdependence between parties.

SKF's involvement in Alfa Laval's product development processes can be considered another deviation from a long-term arm's length relationship. But even though extensive development activities are undertaken jointly, the relationship is still focused strictly on

transactions. Alfa Laval's relatively small part of SKF's sales (>0.1 %) do not constitute incentives for SKF to add resources to engaging in an alliance. Commitment to the relationship is therefore low and both parties strive to minimize undesired dependence on each other. Testing and simulation services of SKF's bearings in Alfa Laval's products are sold as separate services and are therefore to be considered as transactions in themselves rather than services offered to an allied partner. As a supplier SKF is measured purely on hard measures, such as quality and delivery precision, and price is a major issue, similar to any other supplier relationship.

Consequently, the analysis of the relationship shows that it does not meet the requirements of strategic supplier relationship, nor should do. The bearings supplied by SKF represent little value in comparison to the sales price of the end product. As components in Alfa Laval's core products they are nevertheless critical. In addition to SKF's good reputation and strong brand an "Intel Inside" effect is created. Unique article denotations, securing after market sales via Alfa Laval further increases the financial importance of the bearings. Consequently the bearings are placed right below the vertical centre of the product portfolio matrix in Figure 6.11.

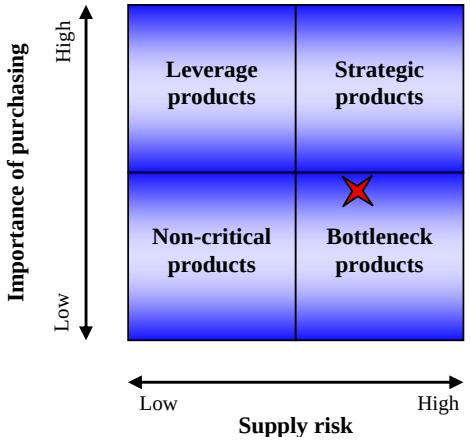


Figure 6.11 SKF's bearings placed in Kraljic's matrix of products.

As established above, Alfa Laval is largely dependent on SKF for supply of bearings to critical applications in separators and decanters. Since Alfa Laval's separators rotate at over-critical speeds, a product failure would have severe consequences. A change of supplier would require extensive testing and documentation and thus be extremely costly and time consuming. This creates a substantial supply risk for Alfa Laval for these particularly sensitive applications. As a result, the bearings are positioned well to the right in the matrix in Figure 6.11 above, defining them as important bottleneck products.

When analyzed from a supplier management and relationship perspective, thus place in the product/relationship matrix in Figure 6.12, closer supplier relationships seem preferable to strictly transactional relationships.

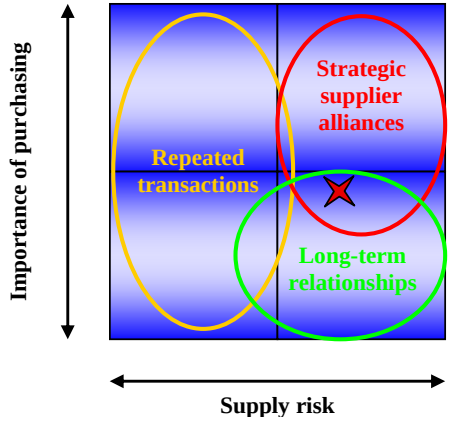


Figure 6.12 SKF's bearings placed in the product/relationship matrix.

The actual relationship level seems to correspond well with the theoretical view in this case. Although enclosed by the strategic supplier alliance field the relationship must be considered to have more features of a long-term relationship. A full scale alliance seems distant, primarily due to the limited commitment from both parties.

6.4.2 Analysis of the benefits

The primary benefit for Alfa Laval offered by this relationship is access to critical knowledge and competence in bearing applications. As separators are among Alfa Laval's oldest core products and include several bearings, the need for reliable bearings has existed for decades. Over time the performance requirements for the bearings have steadily increased and at the same time SKF has strengthened its position as a world leading supplier of quality bearings. This has lead to a continuous drift of Alfa Laval into a captive buyer situation. Today Alfa Laval is exposed to a great supply risk, making them exceedingly dependent on SKF. Consequently, another primary benefit with a close relationship is the reduced supply risk it may offer.

Nevertheless, there are other benefits involved for Alfa Laval. As previously discussed, the relationship allows Alfa Laval to capitalize on SKF's strong brand, especially in aftermarket sales. Through the unique article denotations and customized package solutions for the aftermarket, Alfa Laval has been able to seize control over virtually all sales of spare part bearings. Through early supplier involvement SKF has also contributed to reducing Alfa Laval's time to market with new products as well as cost for product development.

Naturally, also SKF can benefit from the relationship. However since the relationship is strongly transaction focused, there are few benefits involved for SKF not achievable through sales to other customers on the market. The main benefit is the reliable and long-term sales volume. Due to Alfa Laval's strong position on the aftermarket, bearing demand remains stable over time. When the economical situation makes demand of new separators decrease, the need for spare parts will inevitably increase thus evening the demand.

6.4.3 Analysis of relationship attributes

The dependence is in many ways the foundation of the relationship between Alfa Laval and SKF. In addition to the benefits offered, the dependence is Alfa Laval's main source of commitment to the relationship. Also SKF's commitment originates from the perception that Alfa Laval is unable to change supplier and therefore is a long-term bet. As stated, the commitment is however scarce from both sides and all effort put into the relationship is focused on specific transactions rather than any long-term relationship development.

The level of trust in the relationship on the other hand seems fairly high. Both parties appear to trust received information and it seems that sufficient information is shared to facilitate ongoing transactions and projects. Also the level of coordination between firms is higher than would be the case in a regular arm's length relationship. Coordination is achieved via EDI systems and improved supply chain solutions. The coordination is also supported by the fairly open flow of information between parties. It should however be pointed out that information shared is restricted to information related to joint activities or specific transactions. Sharing of general information or any open book arrangements, commonly seen in strategic alliances, is not taking place in this case.

Thus remains an analysis of the sharing of risks and rewards created through the relationship. The transactional focus of the relationship strongly characterizes also the division of risks and rewards. SKF charges Alfa Laval for all products and services used and Alfa Laval makes no commitment to certain volumes and considers price development a strictly contractual issue.

6.4.4 Analysis of relationship management

Although a strategic supplier, the relationship with SKF is managed largely in the same way as all other of Alfa Laval's suppliers. The strategic supplier rating however means that changes in supplier arrangements must be approved by top purchasing management. The Global Purchasing department has the formal responsibility for the relationship and is the point of contact between the organizations. The relationship management seems therefore strongly influenced by the current purchasing strategy. Consequently, the current relationship management holds the relationship down in the scale of interorganizational relationships.

6.4.5 Summarizing analysis

The relationship between Alfa Laval and SKF is defined as a long-term supplier relationship, making it a more distant relationship than a supplier alliance. As was the case with Roplan, the classification as a strategic supplier seems to be a result of an undesired supply risk and a closer relationship is means to manage that risk.

However, SKF's brand and technological competence offers more benefits through the relationship. Since the bearings are a critical component to ensure quality and functionality of Alfa Laval's products, Alfa Laval should strive to make use of those benefits. As long as Alfa Laval can capitalize on the brand and SKF's quality is superior, Alfa Laval should remain in cooperation with SKF, yet keeping the price development in the focal point. With the current setup, the two firms are kept together in a long-term relationship with the possibility to access each other's offers of businesses and capabilities. The conclusion is therefore that an extension of the collaboration into a strategic supplier alliance is undesired as the benefits involved seem small and Alfa Laval's importance to SKF as a customer would hinder proper commitment to such an arrangement. In Table 6.4the key results of this analysis are listed.

Table 6.4 Key analysis findings from the SKF case study.

		SKF
Product type		Component
Relationship type		Long term relationship
Product category		Bottleneck
Supplier selection		Ongoing relationship
Benefits for Alfa Laval		Technology, product development
Match between required and existing strengths		High
Supplier's value of offered benefits		Medium
Relationship Attributes	**Commitment**	Low/Medium
	Trust and coordination	Medium
	Dependency (AL / Supplier)	High / None
	Information sharing	Medium
	Conflict resolution techniques	No formalized

7 Cross case analysis

In this chapter the analyses of the different case studies are compared in order to describe patterns of differences and similarities. The cross case analysis serves as basis for the general conclusions to be drawn and the answers to the questions initially stated in this thesis.

7.1 Alliances and the purchasing strategy at Alfa Laval

The purchasing strategy and its main elements have been presented in chapter 5.6. Since the Global Purchasing department is the natural point of contact between Alfa Laval and its suppliers, the purchasing strategy has a great impact on any attempt to form a closer relationship with a supplier. It is therefore of great interest for this thesis.

As described in chapter 5.6, the main goal for the purchasing department at Alfa Laval is to reduce the cost of purchased goods by 45 MEUR. This is to be achieved by lowering unit prices without reducing product quality or delivery performance. Since evaluation criteria often serve as a primary incentive, the focus in relationships managed by purchasing staff will inevitably be price issues. Cost or price focused arm's length supplier relationships is, as described in the frame of reference, a good and potentially successful way to work with purchasing of technologically simple products found in the left side of the product portfolio matrix (non-critical and leverage products). Within Alfa Laval almost all purchased components and materials are found within these categories. Since most critical and value adding processes are kept in-house by Alfa Laval many of the benefits offered by a different strategy become less relevant.

When buying non-critical or leverage products, arms-length relationships through repeated transactions are preferred, enabling quick and inexpensive change of suppliers and using competition to pressure price levels. Discouragement from close personal relationship between company employees is therefore beneficial in such strategy. Strong personal bonds however builds trust and is therefore of value in closer supplier relationships, especially strategic alliances. The same reasoning applies to the open flow of information, strong interdependence and commitment and mutual goals for mutual benefits associated with strategic supplier alliances. A strictly cost focused purchasing strategy will consequently hamper all efforts to build successful alliances. The strategy and culture found within the Global Purchasing function at Alfa Laval can therefore be said to be incompatible with successful supplier alliances.

Even when engaging in long-term cooperations, Alfa Laval remains strongly focused on reducing prices. As seen in Figure 7.1 showing Alfa Laval's objective of long-term cooperations all development is aimed to minimize the cost of goods received.

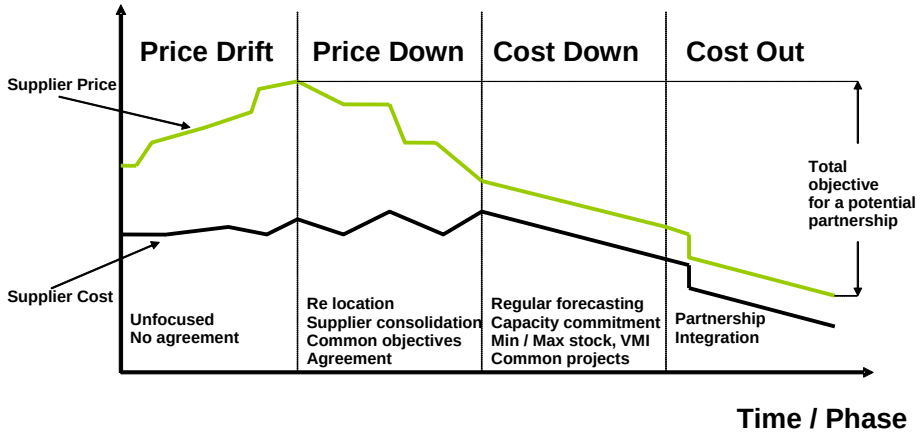


Figure 7.1 Alfa Laval's long-term cooperations objective.

With such focus many of the gains offered through close supplier collaborations (e.g. product or quality improvements) is neglected. No improvement made by a supplier is valued by Alfa Laval unless it results in a reduction of the price or landed cost. Consequently, suppliers have no incentives to make improvements to facilitate assembly or improve Alfa Laval's processes, if such an improvement would cause the price to increase. The employed purchasing strategy must therefore be said to spoil possible benefits for Alfa Laval Operations and thus for Alfa Laval's overall result. Such sub-optimization is a result of the functional organizations, but is outside the scope of this thesis.

7.1.1 Keeping the pressure on allied partners

Once an alliance has been established the question remains of how the buying company can keep the pressure on the supplier. As an allied partner, success is dependent on the supplier's ability to remain competitive. A supplier closely connected to a customer may feel comfortable with the security it offers and lose development pace. The question is as difficult as it is important.

In a normal buyer-seller relationship, change of suppliers is easy and the competition favours the strong. The player with the most competitive offer wins. In an alliance, change of suppliers is not an available means and the issue needs to be handled differently.

The most obvious available means is achieving strict conformity and alignment of the companies' incentives. In other words, establish agreements making results desired by Alfa Laval equally beneficial to the supplier. In line with arguments presented in the agency theory, this is one of the key success factors discussed in the frame of reference;

proper sharing of rewards.[314] The reasoning presented above regarding improvements of Alfa Laval's processes is a good example. An improvement made by a supplier offering savings of 50 € in Alfa Laval's assembly, should be allowed to cause a 25 € price increase.

Yet another aspect is continuous evaluation. The evaluation of both the relationship itself and the suppliers performance shall be based on criteria related to the incentives. Conducting regular audits and evaluations, as described in the last phase of the implementation model in chapter 4.8, allow the supplier to be pro-active and tackle problems at an early stage. By performance based agreements, the supplier is confident that the partnership will last as long as it is of value to the parties and remains competitive. An evaluation shall result in one of three possible outcomes. If performance is exceeding expectations or conditions change in a positive direction, the relationship should be considered for expansion. A relationship working according to expatiations should be maintained and possible improved, while an underachieving alliance should be immediately improved or otherwise terminated.

An analysis of these aspects from an Alfa Laval perspective shows that Alfa Laval is generally capable of setting proper goals for supplier performance and evaluate accordingly. In all case studies undertaken performance and price development requirements have been included in contracts, regardless of relationship type. In terms of evaluation Alfa Laval conduct follow-ups and regular supplier audits sharing the results with the supplier. In these audits however, almost exclusively hard measures are evaluated and the additional aspects of interest presented as selection criteria in chapter 4.4.2, are left out.

Alfa Laval has however not been successful in aligning the suppliers' incentives with those of Alfa Laval. As discussed earlier in this chapter, Alfa Laval's current purchasing strategy excludes a vast range of possible improvement due to lack of incentives. In many supplier agreements it is stated that savings or cost reductions made should be divided equally. Such contractual agreements seem however toothless unless accompanied by incentives to do so. With the current setup both Alfa Laval and the suppliers strive to seize as much of the savings as possible. In none of the studied relationships have any proper alignment of incentives been found.

7.2 Cross case comparison

At the end of each case study analysis, the key results were listed in a table to offer an overview. Put together in a summarizing table, these results will serve as basis for a cross case comparison. In Table 7.1 the results from all four case studies are gathered.

[314] See chapter 4.6.4 Risk and reward sharing.

Table 7.1 Key analytical findings from all four case studies.

		Supplier			
Aspects		**Nissens**	**Zorzini**	**Roplan**	**SKF**
Product type		Trading product	Trading product	Component	Component
Relationship type		Strategic supplier alliance	Strategic supplier alliance	Long term relationship	Long term relationship
Product category		Bottleneck product initially, then Non-critical	Non-critical	Bottleneck	Bottleneck
Supplier selection		Few suppliers evaluated	Ongoing relationship	Ongoing relationship	Ongoing relationship
Benefits for Alfa Laval		Access to new technology	Cost reduction, assortment expansion	Technology, product development	Technology, product development
Match between required and existing strengths		Low	Medium/High	High	High
Supplier's value of offered benefits		Low	High	Medium	Medium
Relationship Attributes	**Commitment**	Medium/High	High	Low	Low/Medium
	Trust and coordination	Medium	Medium/High	Low/Medium	Medium
	Dependency (AL / Supplier)	Low / Low	Low / Medium	High / Medium/High	High / None
	Information sharing	Medium/High	High	Low/Medium	Medium
	Conflict resolution techniques	n/a	No formalized	No formalized	No formalized

As seen in the table, there are some major differences between the relationship characteristics of the relationships with suppliers of trading products and the relationships with component suppliers. Further more there are some interesting differences between the Nissens alliance project and the Zorzini alliance.

7.2.1 Differences between component and trading product supplier relationships

Both studied relationships with component suppliers are classified as long-term relationships.[315] The relationships with suppliers of trading products are however both

[315] See chapter 4.3.3 Long-term relationships.

categorized as low forms of strategic supplier alliances. The difference in classification is due to lack of some prominent features defining an alliance. For comparison the main differences between the relationship pairs are highlighted in Table 7.2.

Table 7.2 Key differences between relationship types.

		Supplier			
Aspects		**Nissens**	**Zorzini**	**Roplan**	**SKF**
Product type		**Trading product**	**Trading product**	**Component**	**Component**
Relationship type		Strategic supplier alliance	Strategic supplier alliance	Long term relationship	Long term relationship
Product category		Bottleneck product initially, then Non-critical	Non-critical	Bottleneck	Bottleneck
Supplier selection		Few suppliers evaluated	Ongoing relationship	Ongoing relationship	Ongoing relationship
Benefits for Alfa Laval		Access to new technology	Cost reduction, assortment expansion	Technology, product development	Technology, product development
Match between required and existing strengths		Low	Medium/High	High	High
Supplier's value of offered benefits		Low	High	Medium	Medium
Relationship Attributes	**Commitment**	Medium/High	High	Low	Low/Medium
	Trust and coordination	Medium	Medium/High	Low/Medium	Medium
	Dependency (AL / Supplier)	Low / Low	Low / Medium	High / Medium/High	High / None
	Information sharing	Medium/High	High	Low/Medium	Medium
	Conflict resolution techniques	n/a	No formalized	No formalized	No formalized

One of the more striking differences is the different classifications of the products. Both studied components are classified as important bottleneck products with a high level of supply risk combined with limited but not negligible financial impact. The components supplied are required for production of some of Alfa Laval's core products and cut-off supply would have severe consequences for Alfa Laval. One of the trading products, Nissens' coolers, are initially classified as a bottleneck product since it is a new addition

to Alfa Laval's product portfolio and need market penetration, but would soon drift into the non-critical category, where Zorzini's manhole covers are found.

Both Roplan and SKF are identified by Alfa Laval as strategic suppliers. In light of the analyses presented above this seems to be a consequence of undesired dependency. As seen in the dependency row in the table, both component supplier relationships are characterized by a high level of dependency from Alfa Laval's side. The dependency seems to be the very foundation of these relationships. The closeness of the relationship and the level of information sharing, trust and coordination seem to be means to handle this situation. It has to be considered a safe assumption that Alfa Laval would at least consider changing these suppliers if possibility was given. A comparison to the relationships with the suppliers of trading products shows a clear difference in dependency. In these cases a better balance in interdependence between parties is found even though the total level of dependence is lower.

Instead the relationships with the trading product suppliers are characterized by willingness and commitment to the alliances. Such commitment can not be found in the relationships with Roplan and SKF. At one point Alfa Laval tried to source Roplan's components from other suppliers which resulted in legal aftermath and a conflict between parties. As benefits seem more valuable, the commitment to the relationship with SKF seem somewhat more considerable but does not come close to the level of commitment found in the Nissens and Zorzini alliances.

This may be a result of relationship management within Alfa Laval, where the relationships with Nissens and Zorzini are, or were to be, managed by market oriented functions like portfolio management, while the component supplier relationships are managed solely by the purchasing function. The commitment also seems largely affected by Alfa Laval's purpose of engaging in the relationship. Both trading product alliances were established to offer specific benefits for Alfa Laval. While the component supplier relationships primarily are means to manage the supply risk, the Nissens and Zorzini alliances were ways to exploit new opportunities and strengthen Alfa Laval's market position without the costs and risks involved in in-house development.

Consequently, the relationships with trading product suppliers are closer relationships, even though the products involved are of less importance to Alfa Laval's overall result. This gives the relationships a more collaborative spirit which can be seen through the significant difference in information sharing. It is however crucial to remember that the products traded are of low value and not critical to any of Alfa Laval's other products. Along with the fact that margins are generally lower on these products than on core products, this leads to the conclusion that the amount of time and resources spent on these alliances must be kept under control to ensure that the alliances become and remain profitable. Handled correctly, alliances with suppliers of trading product may be of great value to Alfa Laval.

As stated in the previous chapter, most components and materials purchased by Alfa Laval are categorized as products best managed through arm's length relationships although preferably long-term. With the current purchasing strategy cost is, and should be, the focal point. It should however be mentioned that an increase of complexity, or technological uniqueness in purchased components, may require another approach. It

should also be pointed out once again that in spite of relationship type, improper incentive structure may prevent possible improvements made by suppliers in the future.

7.2.2 Differences within trading product supplier relationships

Naturally the relationships with Zorzini and Nissens have many similarities. Both involve complementary products to be traded by Alfa Laval without further processing. In both cases Alfa Laval sought to expand the product portfolio, and the benefit offered to the suppliers was primarily the possible volume achieved through Alfa Laval's global sales network. In order to customize the products and give them an Alfa Laval appearance, and to handle marketing related issues and coordinate marketing efforts, the alliances were formed. Many of the attributes identified as key success factors in strategic supplier alliances are present in these alliances and all parties seem to be, or have been, committed to success. One therefore has to raise the question what differences made one alliance successful while the other one failed. In the comparison made in Table 7.3 below the main differences have once again been highlighted.

Table 7.3 Key differences between the Nissens and Zorzini cases.

		Supplier	
Aspects		**Nissens**	**Zorzini**
Product type		Trading product	Trading product
Relationship type		Strategic supplier alliance	Strategic supplier alliance
Product category		Bottleneck product initially, then Non-critical	Non-critical
Supplier selection		Few suppliers evaluated	Ongoing relationship
Benefits for Alfa Laval		Access to new technology	Cost reduction, assortment expansion
Match between required and existing strengths		Low	Medium/High
Supplier's value of offered benefits		Low	High
Relationship Attributes	**Commitment**	Medium/High	High
	Trust and coordination	Medium	Medium/High
	Dependency (AL / Supplier)	Low / Low	Low / Medium
	Information sharing	Medium/High	High
	Conflict resolution techniques	n/a	No formalized

As seen in Table 7.3, one of the main differences is found in the match between the competences and capabilities required by Alfa Laval, and the ones offered by the supplier. In the Zorzini case we can se a clear match between Alfa Laval's requirements and Zorzini's strengths. Zorzini competes on delivering quality at a competitive price on a mature market. Manhole cover technology is simple and there is a vast range of suppliers available. Selling solely to industrial customer, price becomes the major issue, and efficient production requires volume sufficient to offer economies of scale. Such volume could not be achieved by Alfa Laval, while Zorzini had excess capacity and an already reasonably large volume. In the Nissens case a clear mismatch can be seen. Nissens also compete on mature market with technologically simple products offered by numerous suppliers globally. To manage competition Nissens has differentiated them selves by offering customization of coolers to match specific demands and applications.

Such differentiation enables them to be less dependent on price competition. Through an alliance however, Alfa Laval sough to develop a standard set of coolers to be sold with only a limited degree of customization. Such conditions imply different market demands. In addition Alfa Laval became an extra middleman in the supply chain, putting even more focus on cost and unit price.

Consequently it can be argued that while the Zorzini case offers significant benefits through outsourcing manhole cover production, an alliance with Nissens seem to be a far less valuable business opportunity for Alfa Laval. The natural conclusion is that the total profit available through the collaboration was insufficient to satisfy both parties' margin demand.

If there is an opportunity for Alfa Laval to start trading with air/oil coolers, it seems as if the selection and evaluation of the supplier was less successfully carried out. As discussed regarding supplier selection process in chapter 4.4.2, selection and evaluation of a potential alliance partner must be based on additional criteria, besides those used for regular supplier selection, to ensure proper match between the organizations.

Another main difference is the perceived value of the benefits offered by Alfa Laval through the alliances. Although strongly committed to the alliance project, it seems as if Nissens' value of the increased sales volume was fairly limited. While Zorzini was suffering from excess capacity in production and an insufficient sales and distribution organization, the volume forecasted in the Nissens case correspond to less than three months organic growth. Although the increase would be beneficial to Nissens aggressive growth strategy, the alliance offered few benefits Nissens could not achieve through sales to other customers within a traditional supplier relationship. In addition, the plan was for Alfa Laval to initially act only on Nissens' core market, where the value represented by Alfa Laval's global presence was lost during this phase.

Based on the above analysis, the overall conclusion is that although both relationships seem to have been managed correctly from a theoretical point of view, Alfa Laval appears to have failed in properly analysing the business opportunity at hand. In the Nissens case only a very limited number of potential suppliers were evaluated and a selection was made prior to initiation of the project. Consequently Alfa Laval has cut short the initial phases of the alliance implementation model found crucial to alliance success. As a result, the project began in the forth phase of implementation. As seen in Figure 7.2, the possibility to change direction or take actions radically affecting the outcome of the project is thereby reduced.

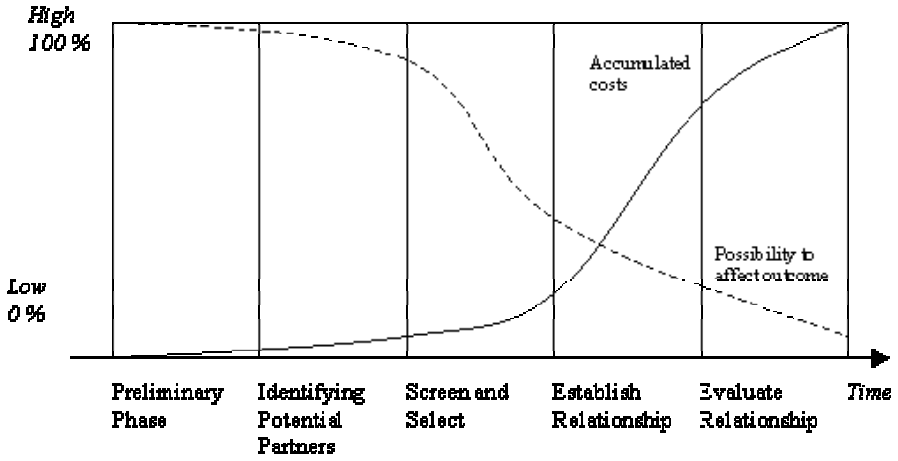


Figure 7.2 Costs of and possibilities to affect the outcome of an alliance implementation in different phases.

As a result, changes needing to be done will come with significant costs and the amount of accumulated resources spent in the project are climbing rapidly. Had a more proper work been done in the preliminary phases, the cost of any decision made might have been lower and the identified mismatches and problems described above might have been detected earlier, changing the direction of the project.

7.2.3 Differences within component supplier relationships

Also Alfa Laval's relationships with Roplan and SKF share many similarities. In these cases the similarities vastly outnumbers the differences. Both Roplan and SKF are strategic suppliers supplying bottleneck products. Both relationships are characterized by a captive buyer situation, largely affecting the level of relationships. There are however a few differences of interest to be found also between these relationships. In Table 7.4 these have been highlighted.

Table 7.4 The main differences between the SKF and Roplan cases.

		Supplier	
Aspects		**Roplan**	**SKF**
Product type		Component	Component
Relationship type		Long term relationship	Long term relationship
Product category		Bottleneck	Bottleneck
Supplier selection		Ongoing relationship	Ongoing relationship
Benefits for Alfa Laval		Technology, product development	Technology, product development
Match between required and existing strengths		High	High
Supplier's value of offered benefits		Medium	Medium
Relationship Attributes	**Commitment**	Low	Low/Medium
	Trust and coordination	Low/Medium	Medium
	Dependency (AL / Supplier)	High / Medium/High	High / None
	Information sharing	Low/Medium	Medium
	Conflict resolution techniques	No formalized	No formalized

The far most crucial difference is the level of dependency balance in the relationships. While Alfa Laval is more or less equally dependent on both Roplan and SKF, the suppliers' dependence on Alfa Laval differs considerably. The single cause of that difference is Alfa Laval's importance to the suppliers' overall results. Although businesses with SKF involves greater amounts, Alfa Laval only represents less than 0.1 % of total sales compared to over 14 % with Roplan.

There is also a difference in the underlying source of Alfa Laval's dependency on the suppliers. While the dependence on Roplan derives from legal matters of design ownership, the dependence on SKF is due to technological and brand superiority. Such differences also seem to affect the levels of commitment to the relationships from Alfa Laval's side. And as already established, higher levels of commitment inevitably lead to

increased levels of trust and coordination between participating firms, which is the final difference marked in the table above.

8 Conclusions

This summarizing chapter is dedicated to present all conclusions drawn in this study. Based on the analyses carried out the questions stated as the purpose of this investigation are to be answered.

8.1 Purpose of this thesis

The purpose of this study has been to define a strategic supplier alliance and identify the main success factors as well as the greatest sources for failure. More specifically, the purpose has been to identify the requirements for a successful alliance with Alfa Laval as the purchasing party. To achieve this, we have attempted to found conclusions on how and when Alfa Laval should work with strategic alliances, and with whom alliances should be set up.

The purpose was also to analyze and evaluate how Alfa Laval should keep motivating suppliers to remain competitive and capable once an alliance is entered. This aspect includes recommendations on how to keep the pressure on the suppliers or in other ways provide incentives to enhance performance.

8.2 Definition of a strategic supplier alliance

Recently, the term alliance has become somewhat of a buzz word. As a result, different people use different definitions of the concept. Before conclusions on strategic alliances can be of value a specific definition needs to be established. In this thesis the definition presented in chapter 4.3.4 have been used exclusively. In chapter 4.3 definitions of other types of interorganizational relationships are also given and have been used for analyses of relationship types.

In this thesis, and according to established theory, a strategic supplier alliance is defined as *a long-term, cooperative relationship designed to leverage the strategic and operational capabilities of individual participating companies to achieve significant ongoing benefits to each party.*[316]

There are however a few additional criteria that need to be fulfilled for a relationship to be classified as a strategic supplier alliance:

1. Independence of the parties.
2. Shared benefits among the parties
3. Ongoing participation in one or more key strategic areas, e.g. technology, products, markets etc.

The conclusion is that strategic supplier alliances are relationships with a high level of commitment and with shared goals of mutual benefits. Although independent firms, both

[316] See chapter 4.3.4 Strategic supplier alliances.

partners in an alliance work in the best interest of the alliance which enhances the need for proper alignment of incentives within an alliance.

8.3 Situations for strategic supplier alliances from an Alfa Laval perspective

Before engaging in a strategic supplier alliance Alfa Laval is required to properly establish if an alliance is the right solution in the current situation. Alliances take time and effort to build and if used in the wrong situations alliances may be severely unprofitable and have negative effects. As discussed in chapter 4.4.1, alliances or partnerships are the generic strategy for purchasing strategic products, but can also be used successfully for bottleneck products.

From an Alfa Laval perspective, this results in the conclusions that strategic supplier alliances should not be established with component suppliers, as no component or material bought seem to fall within the strategic component category. This conclusion is also supported by the analysis of Alfa Laval's purchasing strategy and its implications on closer supplier relationships. It is however not said that all forms of closer supplier relationships should be avoided with Alfa Laval's component suppliers. As seen in previous analyses, some components are associated with high levels of supply risk, making them bottleneck products. When such conditions are present close supplier relationships are means to manage the situation. Nevertheless, the components' low importance leads to the conclusion that if other benefits are insignificant, there is no value in making the relationship closer or less price focused than necessary. It should however not be excluded that closer relationships may become increasingly attractive in the future if Alfa Laval changes direction of internal strategies and began purchasing more complex, uniquely processed or integrated component solutions.

As can be seen in the Zorzini and Nissens cases, there are situations where a strategic alliances can offer low risk solutions in pursuit of new business opportunities. It is in such cases strategic supplier alliances are of primary interest for Alfa Laval. By engaging in partnerships, Alfa Laval is able to use suppliers with the best matching capabilities and still reach sought levels of customization and exclusivity, without having to manage costs and risks involved in developing required competences internally or acquire suppliers.

It must however be carefully considered whether or not the benefits and rewards reachable through an alliance is sufficient and if the traded products' importance match the resources required to set up the alliance. The often low margins and the fairly small turnover on these products suggest that the amount of resources spent must be limited. As a result, most situations of this kind can only result in fairly low levels of alliances. Situations for higher forms of strategic supplier alliances seem absent Alfa Laval's current situation. This argument does however not include alliances with customers or competitors, which lies outside the scope of this study.

8.4 Alfa Laval's partner selection process

The choice of partner will greatly affect the outcome of an alliance. Improper supplier selection may render all future relationship building efforts futile. Naturally an allied

partner needs to meet all criteria established for other suppliers, such as quality conformance and delivery precision. These aspects are even more important in partner selection as an alliance limits the possibility to change underperforming suppliers. As described in chapter 4.4.2, there are however additional aspects Alfa Laval is required to be considered when evaluating potential partners for an alliance.

The first aspect is financial issues. Alliances generally include long-term commitments, typically more than four years, and the selected partner therefore needs to be financially stable. An economically weak partner tends to have an increasingly short-term focus which may be harmful to the alliance.

Further more organizational culture needs to be considered to ensure a strategic fit. Management structure and long-term strategies must be compatible between firms. As seen in the case studies it seems crucial to consider a potential partner's perceived value of the benefits offered by Alfa Laval. Additionally, supplier selection criteria must consider technological issues. It is of great importance to determine the match between the supplier's long-term strengths and capabilities, and Alfa Laval's requirements. This conclusion is supported by the analysis of the alliance attempted between Alfa Laval and Nissens.

The overall conclusion in this matter is that regardless of alliance purpose, a proper partner selection process must be employed. It is imperative that all relevant aspects, potentially affecting the outcome of an alliance, are considered at an early stage in the project. The importance of conducting all steps established in the implementation model described in chapter 4.8, without cutting corners in any phase, cannot be stressed enough. If no supplier meets Alfa Laval's requirements, selecting the best option is not a solution. If Alfa Laval is unable to find a suitable partner, there is no business opportunity at hand and no resources should be added to further development of the project.

8.5 Success factors and risks in supplier alliances

For an alliance to be successful a few attributes seem more critical than others. Primarily, an alliance is bound for failure unless both parties are committed to the alliance. While a key characteristic of an alliance, commitment is also considered as one of the most important success factors in strategic supplier alliances. Alliances should therefore only be sought when Alfa Laval sees a business opportunity sufficiently desirable to establish a strong commitment.

Somewhat related to commitment is the feeling of trust in the relationship. Due to its importance to alliance success, feeling of trust is identified as a partner selection criterion. It is inevitable to reach the conclusion that such assessment is significantly facilitated by previous experience of trading with a supplier, as was the case with Zorzini. Trust and commitment also builds the basis for coordination between companies at all levels. High levels of trust and coordination facilitates efficiency and further development of alliances and decreases the risk for conflicts. An increase of Alfa Laval's trust and coordination with Zorzini by allowing Zorzini to ship products directly to end customers would enhance profitability of the alliance and reduce customer lead time by up to seven or eight days.

In addition to commitment, trust and coordination, interdependence between firms is also a critical attribute of a successful alliance. Interdependence may occur at different levels and builds a foundation for trust and long-term focus. Interdependence is nevertheless a complicated issue. In the situations found suitable for Alfa Laval to engage in alliances, the low importance of the products will inevitably keep Alfa Laval's dependence on the partner fairly low. Since Alfa Laval in most cases will be the larger organization, an allied supplier's dependence on Alfa Laval may however be more significant. This creates an imbalance in interdependence which may not be beneficial to the alliance. Consequently involved parties will strive to reduce dependency.

In the component supplier relationships studied, the condition has however been the opposite. Alfa Laval has been more dependent on the supplier than the other way around. Especially in the SKF case, there is a considerable imbalance in interdependence in favour of SKF. This seems to affect SKF's commitment to the relationship and thus potentially prohibits a closer relationship to be successful.

Among the critical success factors in strategic supplier alliances, also the companies' communication behaviour is found. As discussed in the theoretical framework of this thesis, it includes both quantity and quality of shared information. In deeper relationships an open flow of common as well as potentially sensitive but useful information is characteristic. In many of Alfa Laval's closer relationships the scope of information seems satisfying. There seems however to be a lack of quality of information. In the Zorzini relationship, the weekly forecasts provided by Alfa Laval are of vastly inferior quality. Additionally Alfa Laval assumes no responsibility for the accuracy of the given information. Insufficient information quality is therefore, due to the poor division of risk, only harmful to the supplier. A commitment to information quality would probably enhance both trust within the relationship and future accuracy of information.

The final and perhaps the most important success factor is the sharing of risks and rewards associated with an alliance. This issue is strongly related to the discussion on establishing a proper incentive structure and set mutual goals within an alliance. It is also of importance to ensure a connection between risks and rewards. If either party within a strategic supplier alliance carries a major part of the involved risks, the same party should also be rewarded accordingly if the venture is successful.

The conclusion to be drawn from the above is that the main risk for failure in strategic supplier alliances is the absence of critical success factors. It should however be pointed out that an unnecessarily high level of certain success factors, such as trust and strong personal relationships, may also pose a risk to the success of an alliance. Many companies' strive for short-term rewards may cause opportunistic behaviour from either party. General recommendations on how to avoid such risks is therefore difficult to offer. However by proper assessment of suppliers' organizational culture and management attitude and continuous evaluation of alliance performance may aid management of these risks.

8.6 Sustaining competitiveness in alliances

To ensure long-term success in an alliance, allied suppliers need to remain competitive. During the supplier selection process Alfa Laval should ensure that the best possible supplier is chosen as a partner. Once engaged in the alliance, Alfa Laval needs however to ensure that the selected supplier remains the best match to Alfa Laval's requirements.

To achieve this, a three component strategy should be employed. Firstly Alfa Laval must strive to construct an incentive structure, making fulfilment of Alfa Laval's needs beneficial to the supplier. The most striking example of this is a proper sharing of rewards of made improvements or cost savings. An incentive structure should encourage all improvements of both products and processes made by either party. A supplier creating savings or valued quality improvements should be able to benefit from this, e.g. by increasing prices.

Secondly, continuous evaluation of supplier performance and relationship state should be undertaken. Results of the evaluation, positive as well as negative judgements, should be openly communicated to an allied supplier.

The third component of the strategy is joint development of capabilities. If either firm in an alliance has superior know-how in certain areas, this know-how should be employed to improve performance of both parties in an alliance. Consequently, in cases where Alfa Laval's capabilities can improve supplier performance it should be done and achieved savings or benefits should be divided properly between parties.

8.7 Further studies

When undertaking an investigation of this kind, several questions are found to lie outside the scope of the study and its delimitations. Some of which may still be of great interest, either for Alfa Laval or from an academic point of view.

8.7.1 Suggestions for further research at Alfa Laval

One of the more striking findings of this investigation is the absence of bottom line perspective within Alfa Laval, and the trade-offs it involves. This may be a natural effect of the organization's size, but may nevertheless be counterproductive in the long run.

The Global Purchasing department has as described a strongly price focused strategy while the production units within the Operations division is set to lower the value-added cost. The functional strategies are employed individually, without coordination. From a holistic perspective, actions to achieve goals set within these strategies may therefore be harmful to Alfa Laval's overall result. Consequently it may be of interest for Alfa Laval to investigate if current functional strategies and belonging measurements are optimized from an overall Alfa Laval perspective and synergies are maximized. An evaluation model based on total cost of ownership, including costs for production and R&D, might help reduce the risk of sub optimization. Such model should therefore be developed.

In line with such argumentation is the need to look further in to an improvement of the incentive structure included in supplier relationships at Alfa Laval. It would be of great

interest for Alfa Laval to thoroughly investigate the issue and develop an incentive model more advantageous to Alfa Laval's overall result.

Also found is that the use of special components, such as the mechanical seals supplied by Roplan, have both positive and negative effects. While a high degree of customization offers revenue in aftermarket sales, it also increases supply risk and thus the purchasing price. Currently, no function within Alfa Laval has an overall responsibility for ensuring the profitability in such a strategy. It should be analyzed by Alfa Laval if the profits offered through aftermarket sales exceeds the extra costs associated with customized components or if overall result would benefit from increased standardization.

8.7.2 Suggestions for further academic studies

Substantial literature can be found on strategic alliances. Numerous investigations have been conducted of companies engaging in close relationships, including activities related to core businesses and technologies. This thesis has however come to focus on low levels of strategic supplier alliances. In addition, the most successful alliances studied comprise the trading of complementary products. As discussed in the above conclusions, such alliances should only be allocated a limited amount of resources, due to their impact on companies' results. Such alliances seem however excluded from most literature on supplier collaborations and a more comprehensive study of the differences between such cooperations and more classic strategic alliances would be of interest.

Additionally it would be of interest to further develop the model for relationship assessment established in this thesis. The model used for analysis is based on difficult measures, originating from the key features and attributes of alliances, and other interorganizational relationships, found in existing literature. To apply the model to a wider range of relationships and allow it to be used in a more generalizing manner, the different aspects need to be operationalized and quantified. Such development would be beneficial to the model and the reliability of the results from use of the model. The development of quantified measures has however proven too time-consuming and has therefore been left out in this investigation.

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Appendix

Appendix 1: Interview guide for supplier interviews

To aid in conducting all-embracing interviews with Alfa Laval's suppliers, the following interview guide has served as basis. The questions presented here indicate the topics for discussions and have most often not been asked explicitly. Instead the questions have served as a check-list to ensure that the desired topics have been covered in the discussion. Answers and comments on topics have been clarified through a vast range of examples and attendant questions. As a result, the received answers have also been more widely usable for analysis than answers to these explicit questions would have been.

The cooperation

- How would you describe the relationship to Alfa Laval (relationship type)?
- What time frame is there on the cooperation? Does the cooperation span over a certain time or is it indefinite?
- How big is Alfa Laval as a customer?

Purpose and benefits

- What was/is your goal with the cooperation?
- What are/were your expectations on Alfa Laval's performance? Have they been met?
- What are the main benefits for you with the collaboration?
- Have you had to give up any thing or made major adjustments for the alliance to work?
- Have you made any investments to accommodate this relationship?
- In what way have the investments increased the benefits in this relationship? Have they been made mostly by Alfa Laval or by you?

Extent of relationship

- Which areas are included in the cooperation?
- What activities are included?
- Which functions/persons are involved?

Relationship characteristics

- How would you describe the level of trust within this relationship? Are there any concrete examples?
- Do you think that Alfa Laval trusts that you are working in the best interest of the relationship?

- Do you feel more confident and trustful now than in the beginning of the relationship?
- How important is this relationship for you? How committed are you to the relationship?
- How sincere do you consider Alfa Laval's commitment to the relationship to be?
- How is equity and ownership issues handled?
- How are the risks and rewards of the cooperation shared? Is this a fair division?
- How does the communication work? What information is shared with Alfa Laval? How does this differ from information other customers receive?
- Have there been any conflicts in the relationship, if yes how and by whom have they been handled?

Implementation

- How do you evaluate Alfa Laval as a customer and partner?
- Who is responsible for the evaluation/measuring?

Appendix 2: Interview guide for internal interviews

To aid in conducting all-embracing interviews with Alfa Laval personnel, the following interview guide has served as basis. The questions presented here indicate the topics for discussions and have most often not been asked explicitly. Instead the questions have served as a check-list to ensure that the desired topics have been covered in the discussion. Answers and comments on topics have been clarified through a vast range of examples and attendant questions. As a result, the received answers have also been more widely usable for analysis than answers to these explicit questions would have been.

The cooperation

- How would you describe the relationship to [the supplier] (relationship type)?
- What time frame is there on the cooperation? Does the cooperation span over a certain time or is it indefinite?
- How big is Alfa Laval as a customer?

Purpose and benefits

- What was/is your goal with the cooperation?
- What are/were Alfa Laval's expectations on the supplier's performance? Have they been met?
- What are the main benefits for Alfa Laval with the collaboration?
- What obligations does the relationship put on Alfa Laval?
- What do you perceive as the main benefits for [the supplier] with this collaboration?
- How important is the product supplied by [the supplier] for Alfa Laval? How large part of Alfa Laval products or offers does it represent, is there any other supplier that's able to supply an equivalent product?
- Are there any relationship specific assets or have any investments been made to reach or increase the benefits in this relationship?

Extent of relationship

- Which areas are included in the cooperation?
- What activities are included?
- Which functions/persons are involved?
- Who is the relationship owner at Alfa Laval?

Relationship characteristics

- How would you describe the level of trust within this relationship? Are there any concrete examples?
- Do you think that [the supplier] trusts that Alfa Laval is working in the best interest of the relationship?
- Do you feel more confident and trustful now than in the beginning of the relationship?
- How important is this relationship for Alfa Laval? How committed is Alfa Laval to the relationship?
- What is the difference in size between Alfa Laval and [the supplier]?
- How is equity and ownership issues handled?
- How are the risks and rewards of the cooperation shared? Is this a fair division?
- How does the communication work? What information is shared with [the supplier]? How does this differ from information other suppliers receive?
- Have there been any conflicts in the relationship, if yes how and by whom have they been handled?

Implementation

- How was the supplier selected? Which criteria were used?
- Who was involved in the process?
- How is the relationship measured, how often and what criteria?
- Who is responsible for the evaluation/measuring?