

Value co-creation as practice

On a supplier's capabilities
in the value generation process

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¹ Center for Family Enterprise and Ownership

² Center of Logistic and Supply Chain Management

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Sarah Wikner

Jönköping, 13 December 2010

Preface

A prior discovery of the customer value concept

This doctoral thesis is preceded by a licentiate thesis³ entitled “On customer value – A study of the IT supplier Atea and Three of its Customers”. The choice of customer value as a subject came by accident. I was initially looking at business models. However in whatever way I approached the subject, customer value turned out to be the underlying logic and the key behind any business model. With time I have come to realise that customer value is much more than a marketing tool or a strategy of temporary nature. It is the base for competitive advantage.

Through interviews for the licentiate thesis, it became clear that suppliers co-created value with their customers through smooth processes, which was vital for customers. In addition, customers in highly competitive environments were keener on suppliers contributing to develop customers’ business. They demanded commitment, diligence and strategic thinking from their IT supplier and other suppliers as well. An interviewee at a customer company I met when writing the licentiate thesis has probably contributed to sow the seed of this thesis. His interest for customer value could not be questioned. Maybe this was due to the particularly competitive context his company was acting in and made them strive towards higher customer value. We had had several interesting discussions in forms of interviews and conversations. After all the interviews with the four companies included in the study for the licentiate thesis, I presented a first analysis of the interviews to his company. Then he asked me driven by genuine interest ‘What is the next step after bundled offerings?’ I interpreted the question as “how could we deliver higher customer value?” His question, or rather the answer to it, has haunted me since. This doctoral dissertation is an attempt to provide an answer.

³ A Swedish diploma considered the equivalent of half way through the doctoral thesis.

Abstract

How can suppliers contribute to their customers' value creating processes? Although this question is crucial for firms' collaboration with customers and for their competitiveness, it is not clear how firms co-create value with their customers. Research on value co-creation has increased notably the last years. However few empirical studies have been conducted on how value is co-created in the day-to-day activities. Therefore this thesis addresses value co-creation with a strategy-as-practice perspective. The strategy-as-practice enables to link micro-level activities with the structures in which they are carried out as well as the strategic outcomes they lead to.

In order to understand the process of value co-creation, a supplier and four customer companies are studied. The empirical context is a technical knowledge-intensive business service company providing its competence in product development and operating in a highly competitive environment. Focus is put on how the supplier's processes fulfil customers' requirements and expectations. The notion of value-in-use from the service logic forms a starting point in the analysis of customer's requirements. Dynamic capabilities in the strategy field is used to analyse the supplier's processes.

Based on interviews, annual reports, observations and workshops, the empirical material indicates that the supplier's processes play a crucial role for the customer. The findings in this thesis show that value-in-use is a contextual and compound concept that can take different forms as "values-in-use", "postpone value" and "value-after-use". Understanding customers' value-in-use requires an open dialogue between the customer and the supplier. In this sense, processes that help capture the more intangible and unconscious parts of a relationship, and the roles the parties take during the process are necessary. A finding in this thesis is that culture enhances certain processes at the expense of others. Another finding is that dynamic capabilities need to be more than well-performed processes in order for the customer to differentiate the firm from competitors. Dynamic capabilities necessitate the combination of smooth processes, understanding of customers' value-in-use as well as managerial skills in order for the supplier to co-create value, and this in a competitive way.

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I Introduction

I.1 Suppliers and value generation

In a business-to-business context, suppliers' role in supporting customers' business processes is fundamental. But what can suppliers do to contribute to their customers' value creation processes? Grönroos (forthcoming) argues that suppliers have to perform activities and processes that are relevant for increasing customers' business effectiveness. It is in the relevance itself, though, that the whole challenge lies. Apart from being skilled at their business, it implies that suppliers also need the ability to understand customers' business and co-create value in their customers' processes.

This thesis is about value co-creation and the challenges put on suppliers. There is a new understanding of economic exchanges where exchange processes are now considered to be embedded in relationships. This change is a shift from a goods-dominant logic to a service-dominant logic (Vargo & Lusch, 2004). The former is characterised by discrete transactions with tangible outputs. In the latter the major role of services is recognised. The new logic impacts the assumptions on suppliers' influence in the value co-creation process. Earlier, suppliers were considered to be value producers. Now they are regarded as service providers who co-create value with their customers and, just as their customers, integrate resources to do so (Vargo & Lusch, 2008a, 2010).

In their seminal article, Vargo and Lusch (2004) touched upon the argumentation that suppliers' co-creation of value is based on their core competence and dynamic capabilities. But the authors are now moving towards a systemic view of the value creation process. They aim at extending value creation towards a macro view (Spohrer & Maglio, 2008; Vargo, et al., 2010). However, the danger is that at such a level suppliers are no longer recognisable as they become actors among other actors.

Conversely, a micro perspective has developed on the study of the supplier's and customer's role in value creation in business to business markets (Grönroos, 2009). By adopting a different approach based on detailed studies of value co-creation, Grönroos delves into a nearby perspective, in which suppliers' process integration into customers' everyday practices are in focus (Grönroos, 2006). Grönroos (forthcoming) endeavours to answer to the same question that Vargo and Lusch (2008b): What exactly are the processes involved in value co-creation? Grönroos argues that there is a need to investigate the supplier and the customer's role (Grönroos, forthcoming).

Understanding the role of the supplier in value co-creation requires an answer to the “how” and “why” questions. If not, the risk is to miss important mechanisms that explain how suppliers contribute to value creation. Thus it seems appropriate to refocus on suppliers’ intra-organisational capabilities. One major argument in this thesis is that a system orientation to value creation without first understanding its micro aspects may mislead us. In other words, the macro level stands more steadily if it builds on knowledge from the micro level. Otherwise we take the risk of falling back into a similar misfit between theory and “reality”, which researchers in the Industrial Marketing and Purchasing group revolted against (Håkansson & Snehota, 2000), and which Vargo and Lusch also deplore (2008b). Therefore the ambition with this dissertation is to investigate how a supplier contributes to value co-creation, and what are the capabilities required.

Murtonen and Martinsuo (2010) suggest that supplier’s mechanisms for creating value start at the cognitive level, in the supplier’s value-conscious approach of service. According to them, value creation is a question of balance between the supplier’s representation of value for the customer and the customer’s expectations. This impacts the processes and the offering. In other words, the supplier’s understanding of customers’ needs put into action the processes they find are relevant for the customer. Identifying what is relevant for the customer may be more difficult when only services are implied.

1.2 Knowledge-intensive business services

Firms that particularly need to manage the challenge of services at a high level on knowledge are knowledge-intensive business services (KIBS). “Knowledge-intensive business services are often considered to be one of the hallmarks of the knowledge-based economy” (www.eurofond.europa.eu). Knowledge economies require that knowledge-intensive activities are supported by Research and Development, innovation and creativity (Stolarick et al., 2010), but also by the capability to contribute to value creation in a competitive way on a firm and country level. Such a context can be found especially in knowledge-intensive business services firms.

Knowledge-intensive business services are suppliers that belong to the category of business services. They distinguish themselves from other business services by offering knowledge and information. This implies that their business embodies the challenges put by services and presented in the service-dominant logic. Characterised by a high level of expert labour, knowledge-intensive business services firms contribute to their customers’ knowledge formation. KIBS firms or organisations are to be found in computer and related activities; R&D services; legal, financial and management consultancy; advertising and marketing services; as well as technical services (Toivonen, 2004).

Knowledge-intensive business services firms fit the challenge of this thesis, which is to study value co-creation in the service dominant view. Being knowledge intensive service firms, they offer only services. Toivonen (2004) argues that the integration of suppliers' services into customers' processes is a growing trend. For knowledge-intensive business services it means to adapt their business models in order to put the customer at the centre of their activities, and to argue for the customer what value they provide. Thus the old competitive strategy of beating competitors is no longer the focus of strategy but its results. It depends on whether value offerings are really valuable, or in other words, relevant for customers.

For example the company IBM, a KIBS firm, has changed its business model with effects on the company's culture, structure and business. The appointment of a new CEO⁴ in the mid-90's marked the beginning of the IBM transformation. The firm changed from a hardware company to a service company that aimed at integrating technology into customers' processes. The profound transformation meant developing new competences in order to be able to serve customers' needs (Harreld et al., 2007). This transformation epitomised the shift from goods dominant logic to service-dominant logic.

As a matter of fact, the transformation that IBM underwent is also its business. IBM's business is to help its customers to reconfigure their businesses so that they can better contribute to value creation. From their experience, IBM knows that changing offerings can require to transform the business. In their article on the fundamentals of service science, Maglio and Spohrer (2007) commented the IBM shift from manufacturing dominant logic to service-dominant logic as a joint and the "interdisciplinary effort" implied, which includes people, technology, shared information and last but not least, offerings.

1.3 Knowledge-intensive business services' offerings

Offerings are particularly interesting as they are at the intersection of suppliers' services and customer's needs. From a supplier's perspective, this means that offerings stem from the supplier's internal organisation, where offerings are designed and embodied by processes. Externally offerings are meant to be integrated in customer's processes in a way that is value creating for the customer. This implies in turn that offerings should contribute to value creation for the customer. Indeed, offerings are considered as a means for facilitating value creation for the customer through supplier-customer interaction (Payne et al., 2008).. But designing valuable offerings is a challenge, and realising them too,

⁴ Lou Gerstner

which might explain why firms compete with offerings (Normann & Ramirez, 1993; Wikström & Normann, 1994).

KIBS offerings are not made of goods but knowledge packaged into services. Difficulties associated with selling services compared to goods (Normann, 2000) have been widely discussed and acknowledged in research. A service characteristic that is fundamental for knowledge-intensive business services to manage is intangibility and thus the difficulty to demonstrate the relevance of an offering to the customer in advance. In industries where price competition is fierce it can be even more difficult to prove the value of one's knowledge for customers and argue for a price accordingly. Further these activities will only occur in the future, and their outcome cannot anyone be certain about. This implies that unplanned elements may occur that could influence the offering, its design and its realisation. For example, interactions can lead to unintended consequences that the parties are not aware of at first (Spohrer, forthcoming).

In order to contribute to value creation for the customer, offerings need to be built on information on customer's needs. The design of offerings is one of the early activities that suppliers and customers undertake in front of a new transaction. It requires interactions, which in the business to business context can imply many persons. That is due to the large number of persons involved in the process, known in marketing research as the buying centre (Webster, 1972). Value creation results from many issues as the one of responsibility (Spohrer, et al., 2008) between the supplier and the customer. For knowledge-intensive business services firms, which business is to provide knowledge, there is the concern of transferring knowledge to the customer. At the core of offerings lies these interactions between the supplier and the customer, which are the value co-creation process (Grönroos, 2008).

1.4 Purpose and research questions

This thesis addresses the issue of the suppliers' capabilities for value co-creation. It implies to take into account the whole value generation process that starts in the supplier's organisation and continues in the customer's organisation. In the context of a Knowledge-Intensive Business Service firm as a supplier, value is created by the customer with the participation of the supplier. The interest lies in what the supplier actually does to contribute to value co-creation. How the supplier understands what the customer considers is value creation, and how this understanding is embodied in the supplier's processes. Since value co-creation implies that the customer defines value, including the customers in the study is a prerequisite.

As my ambition is to address the issue from a micro-perspective, I will draw upon strategy-as-practice to investigate strategic practices. The micro perspective on suppliers in this thesis and their influence in the value creation process

I Introduction

is embodied in different manners. More precisely I would like to explore which strategic issues in the supplier's organisation underpin value co-creation, how activities related to value generation lead to strategic outcomes. Further I intend to study how the supplier organises itself around these strategic practices, but also how the customer and the supplier co-create value. I will discuss the relevance of processes for the customers, and how the supplier thinks, considers, and interprets processes related to value generation in general and value co-creation in particular.

Hence, the purpose of this thesis is to

understand how a supplier's capabilities contribute to value co-creation in a business to business context.

In order to fulfil the purpose, three research questions will serve as a guideline through the study. The first question addresses the concept of value co-creation, that is what customers conceive to be value co-creation and their perception of what leads to value co-creation in the context of a Knowledge-Intensive Business Service provider and relates as follows.

- What is value co-creation built on and how does it emerge in industrial services?

The second research question is devoted to the supplier's organisation, its ability to support the value generating process and to facilitate value creation both with its internal organisation but also in interaction with the customer. In order to investigate the supplier's processes I will draw on the theory of dynamic capabilities in the strategy field (Helfat et al., 2007; Teece et al., 1997). For the first this theory opens the door to a meticulous distinction between processes, which enables to sort them in term of strategic outcomes. Secondly, dynamic capabilities argue that processes can be qualified as dynamic capabilities are a source of competitiveness. My deduction is that the study of a supplier's dynamic capabilities can inform on the type of value that the supplier can contribute with. From this relates the second research question.

- Which supplier processes are dynamic capabilities?

The last research question forms the connection between the supplier's processes and the value co-creation process. It forms the link between the supplier's organisation, strategic choices and activities with their outcome in terms of value creation from the customers' perspective. Therefore it is important to answer to the question:

- How do dynamic capabilities contribute to value co-creation?

These three research questions will serve as a guideline for fulfilling the purpose of this thesis. Since this thesis investigates how suppliers contribute to customers' value creation, it seems natural to use the service logic terminology as it is more detailed and thus more appropriate for describing different phases in the

value creation process. For example, Grönroos (forthcoming) proposes to distinguish between value generation and value creation, as well as value facilitation and joint value creation.. So in this thesis the empirical material stems from a supplier and four of its customers. Thus the various customers, through the details raised by each of them, may bring better understanding of the role and influence of their common supplier in value creation. In order to capture the micro perspective, from a methodological point of view, this thesis will draw on strategy-as-practice from the strategic field. Researchers in the strategy-as-practice field focus on the day-to-day activities (Johnson et al., 2007). They urge to leave the traditional abstraction level found in strategy in order to “grip with concrete details”. Interestingly, they, too, argue that a micro perspective provides an integrating mechanism that helps adding insights serving the macro-level concerns in the field.

A first contribution in this thesis lies in the discussion on and the questioning of value co-creation as a key concept in service research, where an ideal picture of supplier-customer interactions is inherent to the name. The notion of “constellation” (Normann, et al., 1993) would better reflect the range of interactions between the parties at work, where value is not necessarily achieved (Spohrer, forthcoming). Another contribution is that dynamic capabilities are a central mechanism by which suppliers can contribute to customers’ business effectiveness. However dynamic capabilities require organisational and managerial skills as well as specific knowledge in order to be well-performed, relevant for the customer and a source of competitive advantage for the company.

1.5 Limitations

Although this thesis draws on customers’ judgements and the contexts in which they use the supplier’s services for creating value, it is not aimed at discussing value creation from a Customer Dominant Logic point of view (Heinonen et al., 2010; Voima et al., 2010) as their proponents advocate it. The difference lies in the focus put on the supplier and its organisation, whereas Customer Dominant Logic would put the customer primarily at the centre of the study.

1.6 Key concepts

In this thesis I will refer to several key terms defined below.

Offering

“In a business relationship, an extended service offering is an interactive process consisting of several sub-processes and resources supporting customer

practices in a way that helps the customer create value in all its practices (operational efficiency), and through this ultimately has a value-creating impact on the customer's business process (business effectiveness)" (Grönroos, forthcoming, p. 2).

Value generation

Grönroos (forthcoming) argues that all activities carried by the supplier and the customer for the final purpose of value creation are part of the *value generating process*. Because it is the customer who integrates resources, its own and those external as the ones of the supplier, it is more correct to consider the customer as the *value creator*. However the role of the supplier can vary. In cases where the supplier raises resources outside of the customer's organisation, there is no or little overlapping between the supplier's production's process and the customer's creation of value. Thus the supplier is a *value facilitator* (Grönroos, 2008). In cases where the supplier is actively participating and thus influencing the customer's value creation process, the supplier takes the role of a *value co-creator* in a *joint value creation process*.

Value-in-use

A central notion for value generation is *value-in-use* as it catches much the value creation purpose. It is the value that stems from the use of goods or services (Grönroos, 2008) and the fulfilment of a specific purpose from the customer's point of view. Grönroos (2008, p. 303) described that "when customers use suppliers' resources (goods or services) and add other resources (goods, services, and information) and skills held by them, the value potential of the resources is developed into value-in-use". For suppliers it means that their efforts are directed towards the creation of value-in-use through relevant offerings. Managing offerings is crucial for any supplier because it is in offerings that value-in-use for the customer gets articulated through services. Indeed, Grönroos (forthcoming, p. 1) states that "Service is redefined as how offerings are put to use in ways that support the creation of value for [customers]".

I.7 Outline of the thesis

Although the starting point in this thesis is the one of a supplier, both the supplier and customers' points of view are taken into account. Indeed, a supplier's point of view does not impede, rather, necessitate delving into customers' context too, as it is where value emerges. This implies that some chapters adopt the view of the customer. In this sense the view of the supplier and the customer are integrated to provide a comprehensive picture.

Chapter 1: Introduction

The first chapter problematises the issue of value co-creation from a suppliers' perspective by considering the whole value generation process. It builds on the challenge that knowledge-intensive business services firms have to face such as designing service offerings. Then, the purpose and the research questions are presented. Finally this chapter ends with the definition of some key concepts and the outline of the thesis.

Chapter 2: Value co-creation

This chapter presents the main concepts and theories related to value generation in general and value co-creation in particular. The contribution on interactions from the IMP tradition is outlined first. The chapter draws further on service marketing from the Nordic school perspective and the American view on service marketing with service science. This chapter concludes with a first stage framework on value co-creation.

Chapter 3: From capabilities to dynamic capabilities

This second theoretical chapter adopts a process-oriented approach on value generation. It delves into the nature and characteristics of capabilities and dynamic capabilities as discussed in the strategy field. The result takes the form of an analytical tool for classifying capabilities in the suppliers' organisation. The chapter concludes with a framework on value co-creation including the analytical tool is presented.

Chapter 4: Strategy-as-practice

This chapter forms a transition between theory and method. It gives the reader a complementing theoretical view on the tools and terms strategy-as-practice use to capture interactions leading to strategic outcomes in day-to-day activities. This micro perspective impacts the methods through which value generation is studied.

Chapter 5: Method

Chapter 5 corresponds to the classical method chapter. It addresses the underlying assumption of social construction upon which value creation is conceived. Thereafter, this chapter depicts the design and the research process. The method chapter ends with considerations on the quality of the study.

Chapter 6: Combitech

The supplier is depicted thoroughly in this empirical chapter from the perspective of the local site. But for a more comprehensive picture of the local site's activities, thoughts, constraints and context, the parent company is presented first.

Chapter 7: Customer companies

Four customers to the local site, namely Getinge, Saab Avitronics, Saab Training Systems, and Sensys are described in their context. Thereafter, the focus is

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put on the value generated for them and in co-creation with suppliers in general, and the focal supplier in particular.

Chapter 8: Analysis of value co-creation

This chapter marks the start of the analysis of value creation. It corresponds to the first research question. The chapter analyses how customers' conception and perception of value influences the relationship with their supplier, and thus the outcome of the interactions and processes. I argue that value creation stems from different forms of value-in-use because it depends on how the customer wants to integrate resources. How well the supplier can support the customer's processes depends on the supplier's understanding of value-in-use in the specific case and the customer's role in the value co-creation process.

Chapter 9: Analysis of the supplier's capabilities

The second analysis chapter focuses on the supplier's organisation and capability that contribute to their customers' value creation process. It aims at first analysing which processes are dynamic capabilities and then at investigating how dynamic capabilities contribute to value creation. The analysis shows that dynamic capabilities have to rely on more than well-performed processes if there are to sustain the firm's competitive advantage. Furthermore, the corporate culture has an impact on how the processes, and thus also dynamic capabilities, are carried out.

Chapter 10: Conclusions, contributions and implications

This chapter provides a conclusion based on the purpose and the research questions laid out in this thesis. Contributions to the fields of service marketing and dynamic capabilities are outlined. A contribution lies in the extension of the concept of value co-creation to comprise both the positive and negative elements it consists of. Another contribution is to link efficiency strategy with market positioning in order to ensure that dynamic capabilities give competitive advantage. A discussion on the contribution of the field of strategy-as-practice to value co-creation is brought up. A section on practical implications is introduced. Finally suggestions for further research conclude the thesis.

2 Value co-creation

In order to study how a supplier contributes to value creation and value co-creation, it is appropriate to present a series of research streams in service marketing and management as well as B2B marketing. This chapter starts with an outline of each research stream and a discussion of their contributions to the supplier's role in value co-creation. Drawing on theoretical contributions, I will propose a two-step framework for the analysis. This framework will be built along this and the following chapter. A final version is presented in the next theoretical chapter.

2.1 Introduction

This chapter will outline the Industrial Marketing and Purchasing (IMP) group's research, research in service marketing and management, the Service Dominant (SD) logic, the Service logic, the Customer Dominant (CD) logic, and service science. All these research streams originate from the marketing field and have addressed more or less directly the issue of value co-creation. However their assumptions differ and in order to highlight the differences each research stream is presented separately. Among the schools, service-dominant logic can be considered as a turning point in service marketing and management. Indeed, the schools of Service logic, Customer Dominant Logic and service science both take their departure in service-dominant logic or are reactions to it. Of course, service marketing, both the traditional one and the one from the Nordic school existed before service-dominant logic; they just did not adopt a specific name for their logic. Interestingly some of the conceptualisations from the different research streams find empirical support in the industrial marketing and purchasing group's large descriptions of relationships in B2B contexts, which started in the 70s. The combination of B2B research setting and its long empirical tradition are two reasons for starting with a presentation of the work of the industrial marketing and purchasing group.

2.2 The industrial marketing and purchasing group

Triggered by their dissatisfaction with the prevailing micro-economic theories, European researchers studying buyer-seller interactions initiated a large-scale research project in the 70s. The aim was to create a large, multinational database on buyer-seller relationship interactions that would serve as a starting

point for studying buyer-seller relationships in industrial markets. This project – later named IMP1- marked the birth of the Industrial Marketing and Purchasing Group (IMP) (Håkansson, et al., 2000).

Actually researchers did not settle to investigate buyer-seller relationships. According to Håkansson et al. (2000), researchers' focus was decisions in single market exchange episodes. Not only did decisions turn out to be scarce or at least difficult to find, but also they did not seem significant in the context of single market exchange episodes. Instead, researchers realised that companies' interactions could be characterised as relationships.

[Buyer- seller] were acting and reacting based on each others' acts over time and with specific considerations for their counterparts. There were interaction processes in which reactions were as important as actions, listening was as important as talking, and mutuality seemed to be a necessary condition for both parties to reach their goals. (Håkansson, et al., 2000, p. 38)

The excerpt above illustrates that there is a vast empirical knowledge of supplier-customer relationships in the industrial marketing and purchasing group. Although their first project meant to be empirical (Håkansson, et al., 2000), it also resulted in a theoretical contribution in form of the interaction model (Håkansson, 1982). What IMP researchers revealed was the “nitty-gritty” of interactions. By describing mechanisms of actions-reactions, scholars underlined the importance of the context for the actors involved. By naming “considerations” and “mutuality”⁵, they show that actors thought in terms broader than their own interests. By reminding the importance of listening, academics illustrated the dynamism, and thus complexity, of interactions.

One of the findings in IMP1 was that interactions in industrial contexts were characterised by interdependencies and often took place in long-term relationships (Hammarkvist et al., 1982). Inspired by this finding (Håkansson, et al., 2000), it came out naturally for the industrial marketing and purchasing group that the second project, IMP2, would focus on network forms, and more precisely on networks of relationships. This project resulted in deepened empirical descriptions and further conceptualisation on business networks (Håkansson, et al., 2000).

IMP's contribution to value co-creation

IMP's assumptions and descriptive tradition have led to a different approach of value in business markets. Their key concepts are relationships, reciprocity and interconnectedness. Indeed, IMP researchers consider that business markets are

⁵ Mutuality was defined by Ford (1986, p. 82) as “a measure of how a company is prepared to give up its own individual goals or intentions in order to increase the positive outcomes of others, and through this, increase its own ultimate well-being”.

2 Value co-creation

made of interactions and relationships between actors who are searching for solutions to their own, and the counterpart's problems. Thus the unit of analysis of IMP is not individual actors but processes; value gets its meaning from processes between supplier and customer who are in interaction with one another (Ford, forthcoming).

As a matter of fact the term value has been rarely mentioned in the industrial marketing and purchasing research tradition (Ford, forthcoming). If so, it was not the focus of the research but a finding. For example, in their study of business networks, Håkansson and Snehota (1995) described long-term business relationships based on three interacting components, namely, actors, activities, and resources, which lead to the ARA model and stands for Activities links, Resources ties and Actors bonds. They declared "these connections are productive on their own merit: they are a source of value" (1995, p. 176).

To IMP researchers, observations of supplier-customer interactions appear as episodes of actors solving problems. Value is created in relationships, hence the concept of relationship value. The first to discuss dimensions of relationship value (Payne & Holt, 2001) are Wilson and Jantrania (1994). They argued 'in order to be able to understand how value is created in a strategic alliance, we need to look into the basic question: What is value?' (Wilson, et al., 1994, p. 59). Their findings were that value originates from the relationship itself by sharing knowledge, technology and other resources; and value is also created for the buyer. Three value dimensions stand out; these are economic, strategic and behavioural⁶.

Up until now, research in the industrial marketing and purchasing group has showed that value is related to processes such as information, technology, finance, assurance of continuity, investment and adaptations in procedures, product services, access to other relationships (Ford, forthcoming). Further, what customers perceive as a relationship benefit varies along the stage of the relationship (Eggert et al., 2006). Customers are more likely to appreciate personal interaction and service support in the first stage of the relationship. Later on in the maturity phase when customers get to know their supplier it becomes easier to understand relationship benefits such as know-how transfer and time-to-market. In case of key components, the core offering is less likely to create superior value for customers (Eggert, et al., 2006).

With the assumptions of reciprocity, it is considered that both parties are interacting. Finally, since each interaction gets a meaning through the actors' inter-

⁶ On the economic scale, value is created in form of cost reduction, value engineering, investments quality, and concurrent engineering. Strategic dimensions are goals, time-to-market, strategic fit and core competencies. Finally, behavioural dimensions, the most difficult to measure, are social bonding, trust, and culture. (Wilson and Jantrania, 1994)

pretation, value stems from these interpretations and thus is considered as unique. So contrarily to service marketing research, value for IMP researchers is not linked to what is in the interaction episode but to the meaning it gets from the actors (Ford, forthcoming).

The strength of the industrial marketing and purchasing group is its empirical investigations, which is also challenging as they unveil the complexity of relationships. For example, in their study, Woodside et al. (2008) showed that most customers do not behave according to earlier assumptions represented into value equations. On one side, it gives support to the industrial marketing and purchasing group's argumentation on complexity in business markets. On the other side it may hinder an evolution towards more generalisation, as Ford (forthcoming) deplores.

Indeed, the descriptive, non-normative IMP research dates back to the origins of the group. At the beginning of its research career, the industrial marketing and purchasing group considered that the prevailing normative marketing theories were built on little understanding of marketing processes. Consequently, they were opposed to normative recommendations. Even if the industrial marketing and purchasing group, in strength of its increased understanding, would accept to give recommendations, it is faced with the difficulty of predicting complex interactions due to interconnectedness (Håkansson, et al., 2000).

So the contributions of IMP group for value co-creation are several. It is to remind of the interconnectedness of the context in which value is created. Lindgreen & Wynstra (2005) state that value is created within interactions, relationships and networks. My interpretation, which relates to the discussion on relevant processes in the introductory chapter, is that it may not be enough for firms to support their customers' processes. Suppliers have to outperform their competitors, and maybe collaborating in the network could be a solution. If applied to the service marketing notion of value-in-use and taking into account the competitive context, one should think of "value-in-use-in-comparison" as value-in-use is assessed in a broader context of competitors' offerings.

The other contribution that is particularly interesting from the point of view of value co-creation is the one of reciprocity and value relationships. In the IMP tradition, both the supplier and the customer are searching for solutions to their problems, and to the other's problems, simultaneously or sequentially (Ford, forthcoming). The notion of reciprocity serves as a reminder of the importance of balance in the relationship. Indeed, in very imbalanced relationships, suppliers may continuously seek to please the customer without thinking of possibly negative long-term strategic consequences (Johnsen, 2005).

In relation to other value logics developed in service science, and service management and marketing presented in the next sections, the research of the industrial marketing and purchasing group provides valuable empirical contributions based on many case studies. Case studies in IMP research take up day-to-day practices and other details that can help better understand value creation

and co-creation. For example, IMP research has underlined the complexity of supplier-customer relationships. Customers may develop, the relationship with the supplier evolves, and market conditions change. In other words, IMP's numerous case studies bring the empirical evidence against which the value logics can be discussed, revised and developed.

2.3 Service marketing and management

This section aims at describing some important influences from service marketing and management. Researchers and practitioners in the United States, France, England, Sweden and Finland pioneered with many concepts and ideas from which today's research derives. Their contribution and the historical development of service marketing research is thoroughly depicted by Fisk et al. (1993) and Berry and Parasuraman (1993). Four specific concepts discussed in three points will be brought up. They are chosen for their relevance in the value generation process. These concepts are the offering, customers' expectation and assessment of value, and relationship management.

The offering

The work of Levitt on the concept of offering is precursory. Although the offering is conceptualised as bundle of good(s) and service(s), which differs from today's idea of it as a process (Grönroos, forthcoming), it embodies the reason for customer-supplier interactions. Today as well as then, the offering is the reason for interactions between suppliers and customers. The offering can also be a model that guides suppliers in designing and generating value for customers. The offering epitomises the "promise" made to customers in negotiations (Levitt, 1980), and it is still so now.

The augmented product concept was introduced by Levitt in the early 80s. It is considered to be one of the main influences in the field of customer value (Lindgreen, et al., 2005; Payne, et al., 2001). The augmented product concept can be used by suppliers to design offerings that meet customers' needs. This concept builds on the assumption that "a customer attaches value to a product in proportion to its perceived ability to help solve his problems or meet his needs" (Levitt, 1980, p. 84). The rationale behind the augmented product concept is that offerings should be flexible and meet customers' needs at customers' problem-solving perception level. The higher the problem-solving perception is, the more advanced the offering needs to be in order to solve the customer's problem. Levitt (1980) suggested a four-level model in Figure 2-1.

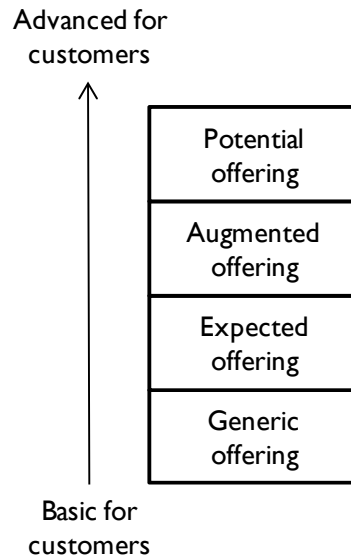


Figure 2-1: The total offering concept, source: reworked from Levitt 1980.

The lowest level is the one of the “generic product”. This level corresponds to the minimal bundle of products and services necessary for the customer to consider the offering. The next level is the one of “expected product”. At this level the offering meets customers’ buying conditions, such as buying terms, delivery, support and new ideas in form of use suggestions. The ‘augmented product’ includes additional services and products that surpass customers’ expectations or requirements. At the highest level, the one of “potential product” a supplier offers whatever can hold and attract a customer. The drawback with the total product model is that it still may not be clear for the supplier which elements are more valuable for the customer (Payne, et al., 2001). Levitt (1980) indirectly answered this remark by arguing that the secret of differentiation lies in the supplier’s ability to identify “gaps in market coverage”, “manage the process” and “operate the business”.

The model conceptualises the possibility of extending offerings by assuming that goods and/or services can simply be added to the generic, or the core, offering. Further this implies that value is created when customer’s expectation levels are met. Research on offerings carried by Collins (1989) and later on, Lovelock (1995) drew on the augmented product concept. Collins (1989) described a computer purchase with the total product concept. With the “flower of service” Lovelock (1995) structured the same concept. In the same line of thoughts, Vandermerwe and Rada (1988) declared that new additional services, namely, knowledge and self-service, could help increasing value for customers.

Since the offering was considered as content, much attention was given to the quality of goods and services. Stuck by the poor quality performance of Ameri-

can companies, Garvin (1987) urged for an improvement. He argued that the concept of quality had to be made more manageable and suggested the following eight categories to describe it: performance, feature, reliability, durability, serviceability, aesthetics, and perceived quality.

In parallel, drawing on Swan and Combs, Grönroos (1984) coined the notions of technical and functional quality. “Technical quality answers to the question of what the customer gets” and is related to the outcome of the service. “Functional quality corresponds to the question of how [the customer] gets it”. This latter relates to the service process. The two notions are necessary for the customer to perceive quality. Further the customer’s assessment of quality is influenced by the expectations that can be built in many ways.

Parasuraman et al. developed in 1988 a tool named SERVQUAL to assess customers’ perception of service quality. The instrument was meant to apply on service and retailing organisations and rely on five final dimensions. These were tangibles (physical facilities, equipment, and appearance of personnel), reliability (ability to perform the promised service dependably and accurately), responsiveness (willingness to help customers and provide with prompt service), assurance (knowledge and courtesy of the employees and their ability to inspire trust and confidence) and empathy (caring, individualised attention the firm provides its customers)(Parasuraman, et al., 1988).

The strengths of the SERVQUAL are threefold. First it linked service delivery to customers’ perception of service quality. It became thus concrete for firms that service delivery was pivotal for their survival. Second, it provided a structure for mapping perceived service quality, which could be a starting point for strategic work. Third, as SERVQUAL was a measurement tool, the development in each area could be followed up over time. However, the weakness of this tool was its lack of effectiveness. After several critiques on the scale’s reliability and validity, Parasuraman et al. (1991) refined the tool and enabled a better measurement⁷. Already in the first version of the SERVQUAL, the authors insisted items had to make sense and be adapted to the context of the organisation.

Customer expectations and value assessment

The insight for researchers and the need for suppliers to understand what matters for customers led to early research on customer expectations and assessment. Zeithaml and Bitner (1996, p. 37) defined customer expectations as “the standards of or reference points for performance against which service experi-

⁷ Negations were moved away from the sentences to enable a coherent and consequent measurement of the perception-minus-expectation gap. Mixing affirmative and negative sentences did not allow a consequent measurement. The second change was the introduction of two items that covers issues not mentioned in the first article.

ences are compared, and are often formulated in terms of what a customer believes should or will happen”. Further how customers’ expectations are built depends on factors controlled by marketers -pricing, advertising, sales promises- and on external factors such as customers’ needs, word-of-mouth communications, alternative offerings (Zeithaml, et al., 1996). Yet, in reality, there is often a gap between what customers expect and what they perceive they receive (Zeithaml, et al., 1996). As customers’ desires and needs evolve with time, it is necessary for suppliers to stay updated by sustaining strong relationships with customers in order to prevent such a gap (Zeithaml, et al., 1996).

As for value assessment, Young and Feigin (1975) suggested a model named the Grey Benefit Chain. This model linked consumers’ perception of value to their way of retaining information at several levels of abstraction. The advantage of such a model is that it connected a product’s attribute to the functional, practical and emotional benefits a consumer could get from it. Further Zeithaml (1988) developed a means-end model inspired by the theory on consumers’ cognitive structure from Young and Feigin (1975). These two research contributions are important as they led to the Customer value hierarchy model (Woodruff, 1997), depicted below.

The endeavour behind Woodruff’s model (1997) was to increase the manageability of customer value as a concept. In his model, the customer value hierarchy model ‘incorporates both desired and received value and emphasises that value stems from customers’ learned perceptions, preferences, and evaluations. This model links products with use situations and related consequences experienced by goal-oriented customers. His model lays on his definition of customer value. “Customer value is a customer’s perceived preference for and evaluation of those product attributes, attribute performances, and consequences arising from use that facilitate (or block) achieving the customer’s goals and purposes in uses situations” (Woodruff, 1997, p. 142).

The customer value hierarchy model (see Figure 2-2) unravels the link between products and customers’ perception of their value.

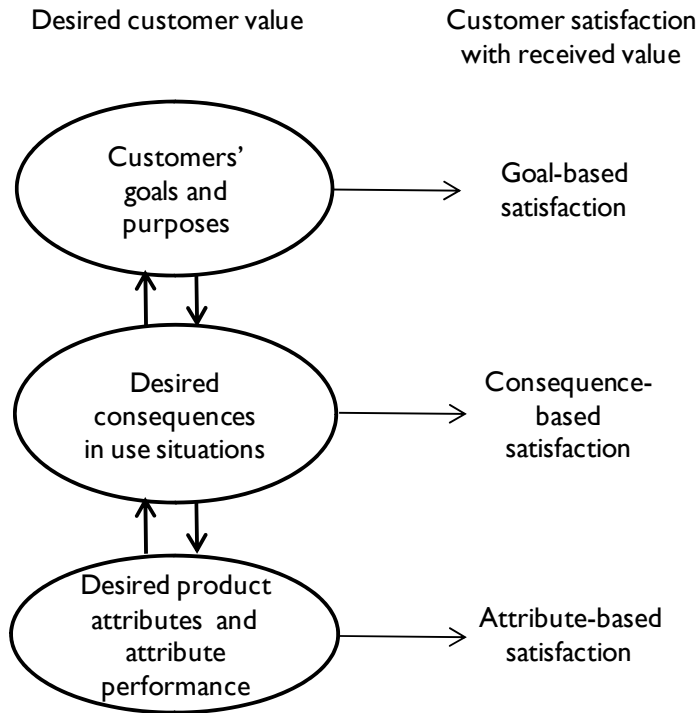


Figure 2-2: Customer value hierarchy model, source: Woodruff, 1997.

What this model shows is that value is not just a matter of intrinsic or extrinsic products attributes; it is the result of how customers' perceive the product and its attributes. As a consequence, customers with similar purposes and identical products could perceive the same value proposition differently. The customer value hierarchy model posits that customers' different perceptions hinge on their cognitive logic of information processing. But the model also suggests that customers' perception of value is influenced by their desired customer value, that is, their expectations.

Other well known conceptions of value judgements are the one of Flint et al. (1997, p. 171), who stated "a value judgement is the customer's assessment of the value that has been created for them by a supplier given the trade-offs between all relevant benefits and sacrifices in a specific use situation". Benefits stem from technical, social, service and economic aspects that are evaluated in monetary terms (Anderson & Narus, 1998). Sacrifices are time, effort, and of psychological nature (Flint, et al., 1997).

Relationship marketing

The concept of relationship marketing is an important one as it broadens views beyond the exchange and over to relationships (Fisk, et al., 1993). The primary

concern that led to relationship marketing for suppliers was the one of long lasting revenues. Researchers realised that by nurturing relationships with customers, suppliers could make customers loyal and ensure a source of revenue (Fisk, et al., 1993). Researchers began studying related notions as customer retention, the cost of a customer, which later developed into Customer Lifetime Value, and the cost of losing a customer, to which the notions of loyalty and satisfaction are linked. Even if these notions can give the reader an uneasy feeling of customer exploitation, they symbolise the recognition of customers as valuable, and by extension of relationships as revenue sources. In this sense relationship marketing is an advancement (Fisk, et al., 1993).

The notion of relationship marketing was adopted by other researchers, reinterpreted and redefined. For Gummesson (1994) relationship marketing evoked the notions of networks, interactions and relationships. Wilson and Jantrania (1994) posited that relationships between suppliers and customers create value and therefore it is important for the parties to understand what kind of value is created in order to be able to share it and position themselves in the relationship. Normann and Ramirez (1994) proposed that customers contribute to the creation of customer value. Thus customers become an asset in the offering. Normann and Ramirez (1993) coined the term ‘value co-creation’, which implies that value was not just the concern of one part. Tsokas & Saren (1999) proposed that customers are the motor of value creation and contribute to it by means of competition and but also collaboration.

Since then and in parallel with the industrial marketing and purchasing group there has been a growing interest in supplier-customer interactions and value creation. Value is created in acts (Grönroos, 2004). These acts are part of episodes that form sequences that constitute a relationship. Acts, episodes, sequences and relationship are levels of analysis (Grönroos, 2004) and dialogue is a type of acts. Further being involved in a dialogue means that one avails one-self existing knowledge but also is involved in creating new knowledge (Gummesson, 2002), which among other things may lead to the development of better solutions for customers than otherwise would not have been possible (Wikström, et al., 1994).

Service marketing and management’s contribution to value co-creation

It is under the service marketing and management literature that the term “value co-creation” was conceived. This idea is interesting as it includes customers (actors) and offering (the reason for the relationship) into one whole. Later, schools and research streams have extended this view. Service marketing and management have laid the ground for conceptualising supplier-customer interactions as relationships. It was followed by notions such as dialogue, knowledge creation, and solution. The evolution of relationship marketing has gone towards a more human direction. Maybe it hinged on the insight that

value can be best created in relationships where the parties are acting in a trustful way towards each other.

As for the term offering, its significance for investigating interactions and understanding value is still high today. With time, offering has come to encompass more and more dimensions of the interaction. Although at the beginning offering was considered as content, its management implied that suppliers had to adapt its content to the customer's need. Thus the adaptation created a dynamism. Today the dynamism lies in interactions between the customer and the supplier, which are embodied by processes and sub-processes. Grönroos' (in press) argumentation of processes supporting customers' practices underlines the notion of value-in-use that was first defined by Miles (1961). In the augmented product concept of Levitt (1980), focus was on value-in-exchange. Levitt's model was clearly more static and less integrated than Grönroos' view of offering but it laid the foundations for the concept of offering.

Not only the customer value hierarchy model links the supplier's tangibles goods to the customer's intangibles perception, but also it almost integrates the whole chain of perception from the supplier to the customer, embodied by the exchange of goods and the performance of services. This model stretches the understanding of value from goods and services to customer's perception and assessment.

2.4 The service-dominant logic

Since 2004 the service-dominant (S-D) logic (Vargo, et al., 2004) has experienced a huge expansion both among academics and as a theory. The success of Vargo and Lusch's article (2004) lies in the concretisation of different prevailing marketing thoughts into a new logic. The articulation of eight founding propositions encouraged to look at economic exchanges from a value co-creation, service and relationship perspective. The eight founding propositions provided a foundation to be further developed.

Based on the Vargo and Lusch (2008b) article and the reworked fundamental propositions, value is created by at least two actors who exchange services. Services are complex, as they require the combination of resources from various sources. This does not mean that goods are absent from economic exchanges but they are subordinate to services; and it is only through customer use that the value of goods can emerge. Goods and services stem from knowledge and skills, which are termed operant resources. At the highest system level, economies are service economies, where anything exchanged stem from knowledge and skills. Between two actors, for example a customer and a supplier, interaction is a prerequisite for value creation. The customer alone can define value, not the supplier. The role of the supplier is to formulate value propositions and

collaborate with the customer in order for the customer to create value. Finally value for the customer is phenomenological and thus unique to each customer.

Service-dominant logic has evolved toward a macro level (Vargo, et al., 2010). The previous ambition to reconcile fragmented thought in marketing theory and build a framework is now being extended to a theory of the market. Vargo and Lusch (2010) deplore the lack of theory of the market and aim at developing one that could explain how actors participate in the value creation process. To do so they develop a “linguistic telescope”. Further they erase possible differences between actors by “normalising” them and stating that “it’s all B2B” or “A2A”. Thus it becomes possible to take a macro level for conceptualisation. Yet, the authors’ purpose is to explain value co-creation done by “single, specific actors”. As a result it is not clear which level, the micro or the macro, Vargo and Lusch want to advance theory of value co-creation. At least there is room to think that the micro level could be relevant too, which I argue below.

Open questioning of the basic marketing assumptions among academics (Håkansson & Waluszewski, 2005) and the overwhelming positive reaction to service-dominant logic reveals a real need of a theory of the market in marketing. More, unnecessary fragmentations between different marketing fields (Håkansson, et al., 2005) reinforce the need for a change. However, if a theory of the market is to explain value co-creation done by single actors and since Vargo and Lusch posited that value creation could only be done in collaboration, should we not investigate the details of the interaction? In other words, what happens in the details of the “co” in value co-creation? Can we make a theory of the market without building micro level foundations first? Are we sure that the “co” is managed similarly by all actors? According to Vargo and Lusch (2010) it seems so as they state that all actors are resource-integrators.

Service-dominant logic’s contribution to value creation

Since the dissemination of the service-dominant logic has been so wide, focus on value co-creation in service marketing research has increased particularly these last years. By integrating marketing thoughts into a framework, researchers can benefit from a common platform from which to take up a stance. The framework can be further developed. More the inclusion of all social and economic actors into the framework reinforces the importance of the service-dominant logic for marketing research.

In terms of value co-creation, service-dominant logic recognises the context, made of networks, in which actors are interacting. service-dominant logic also states that customers and suppliers share the same context and therefore dividing them could be fallacious. Customers and suppliers also strive towards a common goal that is to “exchange service for service”. Services are defined as “the application of specialised competences (knowledge and skills) through deeds, processes, and performances for the benefit of another entity or the entity itself” (Vargo, et al., 2004, p. 2). Value co-creation also implies a common

language as well as actors helping one another, and co-producing service offerings. Interestingly, here a distinction is made between actors where one part is “value proposing actor”, while the other one integrates resources to create value, which reveals that interacting actors do not integrate the same resources in the context of that particular interaction.

The capability to use resources, either operand⁸ or operant⁹, is crucial and relates to the process of resource integration by the actors. Vargo and Lusch (2010) argue that the usefulness of a resource may hinge on the availability of other resources. Further, the actor’s propensity to use resources and its ability to integrate them will impact on the usefulness of that resource. Since the combination of resources and actors’ abilities may be considered as infinite, value is viewed as unique.

2.5 Service science

Service science, which builds on the assumptions of service-dominant logic (Spohrer, et al., 2008), is a new research stream in service research. Its proponents are two IBM researchers, Jim Spohrer and Paul Maglio. The two researchers (2008) narrated that they were given the task to help their company’s research unit develop its service innovation capability. After IBM acquired PriceWaterhouseCoopers Consulting in 2002, the company’s profile became more service oriented, but nonetheless it had little knowledge of services. Yet, customers did not only demand IT systems but also help to transform their organisation so that the new IT system could provide solutions to their problems.

Service science researchers aim at understanding how systematic service innovation can be produced with the help of service systems. They define service science as

The study of service systems, which are dynamic value co-creation configurations or resources (people, technology, organisations, and shared information) (Maglio, et al., 2007, p. 1)

In turn service systems consist of

Value co-creation configurations of people, technology, value propositions connecting internal and external service systems, and shared information (e.g. language, laws, measures, and methods) (Maglio, et al., 2007, p. 1).

⁸ Operand resources are those that require an action on for value to emerge, as natural resources (Vargo and Lusch, 2010).

⁹ Operant resources are those that can be used to act, e.g. knowledge, human skills (Vargo and Lusch, 2010).

To them, service-dominant logic constitutes the ground on which the researchers can build their assumptions and find a common language.

From its own experience described more thoroughly by Harreld et al. (2007), IBM staff understood that more than just technology was needed in order to change a business. IBM researchers endeavour at gathering various competences in their organisation and reflect the variety within service systems. As Maglio and Spohrer said “providing any complex business-to-business service means creating an interdisciplinary effort – incorporating people, technology, value propositions, and shared information that is matched to each opportunity” (Maglio, et al., 2007, p. 2).

Service science seems to be a tool for designing and implementing technology changes at a level that affects business models, people and work organisation. So the change is first of all technology driven. Then, in order for the customer to perceive the success brought by the technological change, other organisational aspects have to be managed as the excerpt shows:

For example, nowadays clients rarely buy an IT system simply because of its technical capabilities (faster, more capacity, etc.) but instead require a business model (return on investments) and an organisational change model (re-engineered processes and job roles) that will make the technology an effective solution to their business problems (Spohrer, et al., 2008, p. 239).

Service science’s contribution to value creation

Although service science is still in its infancy, some strengths can be identified and some issues raised. One of the strengths lies in the use of definitions as it forms a base on which to build discussions. Another strength of service science is to assume the interconnectedness between organisational, human, business and technological factors for firms’ service generation. As an extension service science recognises the need for knowledge in various disciplines, which is reflected in the design of tools, e.g. services systems, coping with this numerous configurations made of diverse factors. When service science researchers argue that the smallest service system is made of one individual and the largest one is the global economy (Maglio, et al., 2007), they go beyond the concept of interconnectedness. They adopt the concept of replication (my own interpretation), which implies that Service Systems are configurations made of similar components, which are to be found at all economic levels. They see Service Systems as a structure at the core of all economic systems. Therefore they argue it is appropriate to use Service Systems as a unit of analysis (Maglio, et al., 2007).

Two major issues arise out of these assumptions. The first issue relates to the place and the role of “people” in the service science view. In a configuration where people are a factor like technology, or value propositions, it seems that the inherent complexity of people is disregarded. For example, people’s emotions in the board can have a great impact on the board’s work (Brundin, 2002),

and thus on the rest of the configuration. Further, what happens when the system has too many components so that a human mind no longer can understand it? Will mathematical optimisation take over the management of people? And what does it imply?

The second issue is the one of IBM's cumulative roles as a supplier and a research unit, and more generally of the role of actors. According to Vargo and Lusch (2010), firms, customers, etc, are social and economic entities which integrate resources. Therefore they can all be considered as generic actors. Does it mean that any generic actor will integrate resources similarly to IBM? Along with the publications of Vargo and Lusch in service-dominant logic, service science adopts the advances made on actors. A discussion on the definition of actor has been raised by Spohrer (forthcoming), but it does not stretch to the double role of IBM. Further, if one actor is represented by a service system, how do two actors co-create value through their service systems?

2.6 The service logic

The Nordic school of service marketing has been active for three decades. The particularity of the Nordic school approach has been to consider services as processes and successful customer-supplier interactions as the ultimate goal. Therefore services are meant to support customers in a value-creating way. With such assumptions, neither goods, nor marketing models developed on a goods dominant logic could disturb the development of service marketing in the Nordic school. By focusing mainly on consumers and recognising that production and consumption of services are partly simultaneous, researchers have been able to study the process of value creation (Grönroos, 2006). Perceived service quality and internal marketing are two of the concepts developed by the service logic school and that have had international spreading.

With the assumptions mentioned above and in accordance with Vargo and Lusch (2004), the notion of value-in-use is central for value creation (Grönroos, 2006). Value-in-use is the lighthouse towards which suppliers will focus their efforts at each interaction episode and along the whole relationship. In order to be attractive, suppliers make promises in form of value-in-use in their value propositions. During the offering, that is, while the customer is creating value by using the service, suppliers have more opportunities to make value emerge if they coordinate as many customer contacts as possible in a value supporting way (Grönroos, 2006).

Originally developed for a consumer perspective, service logic addresses businesses too. Customers influence the service process towards what can be assumed to be more valuable to them. Therefore suppliers need to be able to catch customers' expectations and value-in-use purposes. As a matter of fact, Payne et al. (2008) argue that suppliers have two major ways of differentiating

themselves from competition. They can either add competence and capabilities in line with the customer's missions and values, or improve the customer's ability to be more efficient or effective. What is interesting is the fact that the authors go beyond customer processes and include the customer's mission and value. The authors implicitly suggest that supplier's processes have to fit with the whole business idea of the customer in order for the processes to facilitate value creation.

Service logic's contribution to value creation

One of service logic's main contributions is to provide a set of concepts for describing supplier-customer interactions in the value generation process. There is a need, yet, to further refine the concepts. For example "offering", as defined by Grönroos (forthcoming) is not clear in relation to value generation. According to Grönroos, value generation are all the activities carried by the supplier and the customer for the final purpose of value creation. Grönroos on the other side defines the extended offering as the interactive process made of all sub-processes and resources supporting customer practices in a way that helps the customer create value in all its practices. If the extended offering is defined as made of process so what is 'value co-creation'? According to the definition, value co-creation seems to be a result and not a process. But the process that results in value creation is named value generation. This is where empirical studies could help refine the concepts.

With these concepts the "black-box" of consumption can be opened and investigated. Actors' role is made clear: the customer is value creator and the supplier probably a value co-creator, at least a value facilitator depending on the degree of interaction with the customer during the value creation process. Grönroos (forthcoming) has illustrated a supplier's and a customer's matching processes in the business process. To each customer process there should be a corresponding supplier process. Maybe this illustration is a seed towards a service logic offering for business markets.

As for the supplier, a set of challenges is to be met in order to participate in the value creation process. One major challenge lies on the information level. Indeed, the supplier cannot support the customer's practices if the customer does not open up and inform the supplier. This points at the quality of the relationship, or at least of the interactions, as a crucial prerequisite (Grönroos, forthcoming). Without proper information exchange, the supplier's ability to facilitate value creation is hampered. The role of the supplier is reduced maybe down to the one of a value facilitator. Hence the supplier cannot play a satisfying role in the value co-creation process. The next challenge for the supplier is to understand which kind of value-in-use the customer is aiming at. In this regard, value-in-use is the ultimate goal, the intended value. Expressed differently, value-in-use is the type of value that emerges when the customer uses the sup-

plier's goods and services. The next challenge for the supplier is to organise in order to support the customer's processes that lead to value-in-use.

In the process of value creation the understanding of customers' business, processes and needs is crucial. In the next section, Heinonen et al (2010) as well as Voima et al. (2010) argue that the different logics have not really put the customer at the centre.

2.7 Customer-dominant logic

Recent research in service management emphasises the importance of understanding customer's activities, practices, experiences and context. Heinonen et al. (2010) coined the Customer Dominant Logic (CDL) in order to break away from the service-dominant logic that they believe is essentially provider-oriented. The rationale is that service providers need to completely understand what customers do with services and how they use them in order to offer relevant services. This level of understanding can only be reached if the customer is truly at the centre of the analysis. Other logics, have put the service, the dyad (supplier-customer), the interaction or the system at the centre of the analysis. A customer-dominant logic implies a new perspective, which is to enquire what customers do with services instead of figuring out how suppliers create competitive services. With this logic, customers' activities, processes, practices, context, mental and emotional experiences, as well as sense-making activities become crucial (Heinonen, et al., 2010). The proponents of customer-dominant logic argue that the role of the supplier is not ignored. It is to create service offerings that support the customer's processes. Instead, the first concern of customer-dominant logic is the customer and her world.

Voima et al. (2010) argue further that the notion of "value creation" itself may not really reflect how value emerge. They prefer to use the term "value formation" as customers themselves are not necessarily active in or conscious of value creation. Value formation goes beyond the control of the supplier as value emerges in customer contexts that are out of reach for the supplier. The concept of "value-in-life" embraces better the temporal, situational and cumulative (before, under and after experience) aspects of the customer's life (Voima, et al., 2010). Since customers are in contact to others value is not isolated. The authors state that discovering what value is implies to go beyond what the customer says or does. The researcher needs to use other methods to study who the customer is and the customer's emotional foundation.

Customer dominant logic's contribution to value creation

The proponents of customer-dominant logic raise a number of issues that go far beyond earlier logics. Heinonen et al." (2010) and Voima et al. (2010) argue that value do not stem from the use of a good or service, but from its integra-

tion into the customer's activities, practices, experiences and context. Thus they take one more step away from the value-in-exchange notion according to which value stems from goods or services acquired by the customer. The authors explicitly blame the value-in-use notion for being too narrow. They suggest considering the value-in-life notion that is more comprehensive. This argumentation makes sense as it follows the trend toward higher customer-orientation and understanding. However, the drawback of the value-in-life notion is the difficulty for the researcher to get the type of access this notion implies, especially in a B2B context.

Other far-reaching implications of the customer-dominant logic are the critical stance adopted against value co-creation as such. If there are many situations, places and processes that neither the customer nor the supplier control or are conscious about, this means that value can only be influenced and not created. This leads logically to the following question: "Is the customer always a co-creator of value?" (Heinonen, et al., 2010). This question suggests that the supplier, or other actors, could have a greater influence on value creation than the customer itself. This raises a core concern. We do not really know how value is created, and even less what is the role of the supplier and the customer for that matter.

2.8 Concluding discussion

This literature review on value creation highlights a trend away from customer-dominant logic towards service-dominant logic and later customer-dominant logic. The importance of understanding customers' needs, processes, and goals is emphasised in service-dominant logic, service logic, customer-dominant logic and in line with Industrial Marketing and Purchasing research findings. However, this change implies an enormous challenge for suppliers. From a supplier's perspective it means to go from a self-centred interest to a customer-oriented approach. Value-in-use is not only central for the customer but also for the supplier (Grönroos, 2008). This makes the supplier's business much more complex as relevant information has to be collected outside the organisation. The former perspective was more inward oriented and thus more natural, whereas the new one demands reflection and maybe even empathy. A major implication is the need for customer interactions based on dialogue and collaboration. In the B2B service context it may require long-term relationships. Research from the industrial marketing and purchasing group shows there is a positive correlation between value and long term-relationships, where cooperation and dialogue are central means for value creation (Ballantyne, 2004).

The trend towards service orientation and customer centricity stems from a general insight and increased interest on value creation from academia. Value creation is now linked to value-in-use, where it is the customer who defines

value and makes it emerge through use. The supplier's role is redefined and it plays a more or less active role in value creation. Thinking in terms of service orientation, customer centricity and value-in-use entails many changes for how supplier-customer interactions are perceived. For example the issue of responsibility (Spohrer, et al., 2008) has been raised. In a situation where a customer does not want to provide the supplier with important information, who is responsible for the unsuccessful project? On the contrary, there could be unintentional value co-creation (Spohrer, forthcoming). Some authors suggest that value creation is the result of complex, interactive, and non linear processes and that some of them could be unconscious (Payne, et al., 2008). Consequently the supplier loses control of the value creation process and visibility of how and when value emerges (Heinonen, et al., 2010; Voima, et al., 2010).

The new insights that have appeared in the literature are also a challenge for researchers. They need to question the role of the supplier and the customer (Heinonen, et al., 2010) and conduct more empirical studies. But is it possible to catch the invisible in customers' value formation, and the daily practices in firms (Grönroos, 2009)? One of the prerequisites is to come very close to the customer, as close as possible. This implies a micro approach, which I argued earlier is a foundation for building further a macro theory as service science aims at. The following section introduces the analytical framework.

2.9 First stage framework

The following illustration is the first step towards a value co-creation framework intended for the analysis. Based on this chapter and the next one, this framework will be built and proposed in section 3.8. At this first stage, the aim is to build a representation of the process of how the customer creates value in a B2B value co-creation setting. The structure of the framework rests on my understanding of the service marketing literature and my interpretation of value co-creation in a B2B context.

The basic assumptions that are illustrated in this picture (see Figure 2-3) are that value co-creation needs at least two actors in order to emerge. As the subject of this thesis is the supplier's role and capability in the value creation process, it makes sense to picture both a supplier and a customer. Further literature suggests that value co-creation is embedded in interactions, which is represented by the horizontal arrows between the two parties. Another assumption has been made, which is that supplier and customer interact on different levels, issues and/or manners. This multiplicity is embedded in the arrows as an endeavour to leave open multiple aspects, or interpretations. Expectations, offering and value-in-use are three essential notions for the customer. In a business relationship, customers enter a new episode in a relationship with specific ex-

pectations. This guides the type of offering and interactions the customer requires from the supplier.

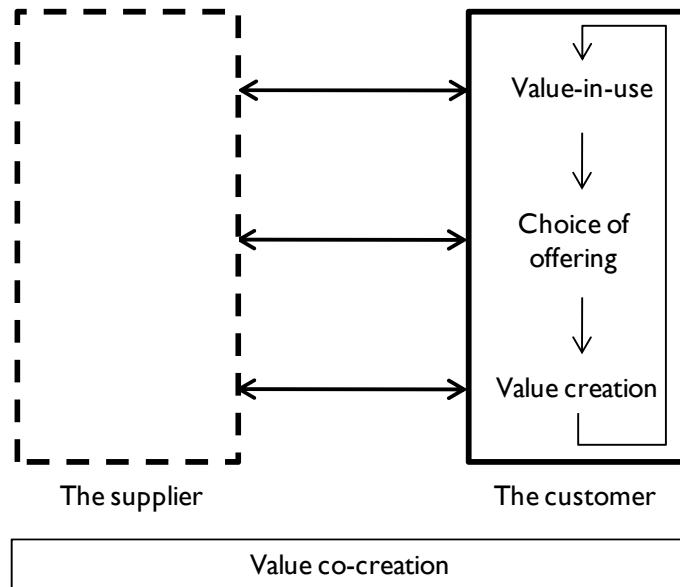


Figure 2-3: First stage framework.

This figure illustrates my understanding of the customer's process towards value creation. It starts with value-in-use. The customer wishes a specific value-in-use, which guides its choices of offering and how the internal and external resources acquired are integrated in the customer's processes. The value that is created is assessed against the initial value-in-use. At each step of the process, the customer may have interactions with a supplier, which is represented by the horizontal arrows. If the supplier is taking an active part in the customer's value creation process the customer and the supplier co-create value.

3 From capabilities to dynamic capabilities

‘Strategy is the art of creating value’ (Normann, et al., 1993)

This chapter provides the second framework of this thesis. Whereas the previous chapter focused on value co-creation, this chapter is devoted to the supplier’s organisation. The ambition is to acquire a tool to analyse a supplier’s capability to contribute to value creation from an organisational point of view. In order to do so the dynamic capabilities theory is introduced. Dynamic capabilities is a research stream in the strategy field interested in the nature of processes and their strategic outcomes for the firm. Dynamic capabilities try to answer the fundamental strategy question how firms can achieve and sustain competitive advantage by recognising the importance of processes. This chapter starts with an outline of the origins of capabilities and dynamic capabilities. The notion of capabilities and subsequently dynamic capabilities are presented. Further, a discussion on the evolution of dynamic capabilities is carried out. The following section addresses the identification of dynamic capabilities. The chapter ends with a tool for identifying dynamic capabilities and a general framework for this thesis, which contains the tool for dynamic capabilities identification presented previously.

3.1 Origins in the resource-based view

The seminal work of Wernerfelt (1984) on the resource-based view (RBV) of the firm was an endeavour to find the origins of competitive advantages. Research had shown that firms in the same industry could perform very differently, which implied that the reasons for varying performances were to be found inside firms. Hence, by developing tools that could explain how resources impact profitability, one could identify strategic options for firms and set guidelines for managing firms’ strategies. Indeed, earlier strategy theories, based on economics, had been unable to answer the fundamental question of firm competitiveness (Hoopes et al., 2003). With its focus inside firms, the resource-based view broke against the previous strategy theories that took an industry level approach to competition.

The idea of firms as a combination of resources dates back to Penrose “The theory of the growth of the firm” in 1959 (Penrose, 1995). Wernerfelt’ contribution was to suggest that firms’ resources impact on competitiveness and if well-managed those could secure market position. For this thesis, the contribution of the resource-based view is to point out the importance of resources on a firm level for achieving outcomes, and by extension, value creation.

Despite the difficulties of identifying which resources that are relevant (Wernerfelt, 1984), the resource-based view received tremendous support (Peteraf, 1993). Indeed it gave a plausible answer to the fundamental strategic question of ‘why do some firms outperform others?’ This view offered a new perspective, new tools and it felt intuitively right. Later on Barney (1991) developed indicators to better identify those resources that could lead to competitive advantage. Resources had to be valuable, rare, imperfectly imitable and non-substitutable, later reduced to the VRIN expression.

Among the major critics against RBV, and indirectly against dynamic capabilities, one can mention Priem and Butler (2001) who accused RBV of being tautological. “Competitive advantage is defined in terms of value and rarity, and the resource characteristics argued to lead to competitive advantage are value and rarity” (Priem, et al., 2001). The sources of competitive advantage, rare and valuable resources, are defined with the same characteristics for describing competitive advantage, i.e. value and rarity. In other words, “the RBV seems to assume what it seeks to explain” (Hoopes, et al., 2003, p. 891). Further they stated that the all inclusive, and therefore unclear, definition of resources made it difficult to use RBV as a theory. Finally the static approach of RBV did not reflect the dynamic context of firms, which scholars tried to solve by further developing this theory (Eisenhardt & Martin, 2000).

3.2 Capabilities

Capabilities are not necessarily dynamic capabilities. A capability “can be operational or dynamic, and refers to the capacity to perform a particular task, function or activity” (Helfat, et al., 2007, p. 121). Confusion between the terms of capabilities and dynamic capabilities has occurred in the literature (Ambrosini & Bowman, 2009). It is nonetheless necessary to distinguish between the two. Contrary to dynamic capabilities, capabilities are static and contribute to run daily operations, and they do not impact the resource-based (Ambrosini & Bowman, 2009). So far researchers have identified two types of capabilities, operational and functional capabilities presented below. Identifying these different capabilities enables to analyse firms’ processes in depth (Helfat, et al., 2007) and maybe reveal if there are patterns of capabilities that are more or less well managed.

Operational capabilities

At the most basic level, researchers distinguish first-level capabilities (Collis, 1994). First-level capabilities, also termed ordinary, operational or zero-level capabilities (Winter, 2003) are those that enable the firm to perform its day-to-day activities. Winter underlined that

3 From capabilities to dynamic capabilities

The zero-level is only locally defined. For a firm that does its own R&D, the producing and selling the product is a zero-order activity. For an independent R&D lab, developing new products is zero order activity (2003, p. 992).

In the first case, daily operations do not necessarily depend on R&D. In the second case, R&D is at the core of daily operations, and thus is considered as an operational capability.

The term of zero-level' capability (Winter, 2003) issued from the mathematical approach to capabilities (Collis, 1994) is unlucky as it could be understood as 'no value' capability. As they are operational, these capabilities are not considered to enable the firm to create and sustain competitive advantage. Yet, operational excellence could be a means of competition (Treacy & Wiersema, 1993) but not in the long term (Teece, 2009), though. First-level capabilities get all their meaning when named operational capabilities. They are essential for the efficient running of daily operations.

Functional capabilities

Perhaps the most obvious and straightforward classification is the one based on functions. Although functional capabilities do not traditionally belong to the hierarchical classification of capabilities, they can be categorised either in capabilities or in dynamic capabilities and thus form an intermediary level. The Bruni and Verona (2009) example illustrates this.

Lately, researchers have studied single functions as sources of dynamic capabilities such as new product development and marketing (Easterby-Smith et al., 2009). Arguing that science-based firms often lack market knowledge, Bruni and Verona (2009), in their study of the pharmaceutical industry, showed how marketing knowledge contributed to reconfigure the product development process. The rationale is that dynamic capability in specific peripheral functions can strengthen the core activity of the firm and change the resource base of the firm. Indeed, firms competing on the same function could build uniqueness and rarity by combining their core activity with another kind of dynamic capability (Easterby-Smith, et al., 2009).

Bruni and Verona (2009, p. S102) defined the concept of dynamic marketing capabilities by stating that 'dynamic marketing capabilities are specifically aimed at developing, releasing and integrating market knowledge'. What distinguish marketing capabilities from dynamic marketing capabilities is that the former deals with existing activities such as current customers, existing products and brands, and distribution channels. The latter creates new configurations. In their case, the product development process was redesigned, which shows that the marketing capability was a dynamic one.

In practice dynamic capabilities can apply to many functions. "Capabilities that would change the product, the production process, the scale, or the customers

(markets) served are [dynamic capabilities]” (Winter, 2003, p. 992). In my view, to “change the product and the customer (market)” affects the offering. On the other side, to change production process and scale affects the company’s organisation, but not necessarily the offering or value-in-use. This distinction is important as companies may increase their revenues due to more efficient production methods but may not improve their competitive advantage. The result might be a short-term revenue or profit increase. As Teece (2009, p. 57) underlined it, “superior operational efficiency, while valuable, is not a dynamic capability”. The author does not make a difference between activities that are core for the company and those that are only supportive. This may explain the scepticism among some scholars (Winter, 2003) on whether or not dynamic capabilities lead to competitive advantage. For instance, Collis (1994) stated that organisational capabilities were not always the sources of sustainable competitive advantage nor the ultimate source. It is not enough to have organisational capabilities in any function. Some functions are more crucial than others for gaining and sustaining competitive advantage.

Findings, as well as logic, speak for the need to take into account marketing capabilities in a study of value creation. For firms that intend to create value for their customers, customer and market information channels seem necessary. More, in their longitudinal study, Bruni and Verona (2009) did not only investigate the presence of marketing capabilities but also how these influenced the core activity of the business, i.e. product development capability. Therefore it is appropriate to investigate a supplier’s core activity and analyse the interactions between marketing capability and the core activity of the firm. Whether or not this marketing capability impacts on the reconfiguration of resources and thus can be termed dynamic capability will be studied in the analysis.

3.3 Dynamic capabilities

In the literature, dynamic capabilities are seen as higher level capabilities compared to operational capabilities. Dynamic capabilities distinguish themselves from operational capabilities by their ability to change resources and, not least, to improve operational capabilities.

Ambrosini and Bowman (2009) made clear that a dynamic capability is a process that has an impact upon resources in order to create the most adequate resource base. Applying dynamic capabilities onto value creation would mean that a firm possesses an ability to modify its resource base in order to sustain or increase the value it creates in changing environments. This value resource base stems from its assets, resources, organisational and managerial processes as well as internal and external competencies, which are influenced by the firm’s path dependency.

3 From capabilities to dynamic capabilities

Some authors consider dynamic capabilities to be a stream in the resource-based view, whereas others think they are an extension (Ambrosini & Bowman, 2009). Teece et al. (1997), the founders of the dynamic capabilities concept, departed from the static approach of the resource-based view (Easterby-Smith, et al., 2009).

Teece, Pisano and Shuen's legacy

The seminal work of Teece, Pisano and Shuen (1997)¹⁰ on dynamic capabilities received attention¹¹. One of the reasons for that was the appropriateness of the view for firms and researchers. As mentioned earlier, the authors took into account the dynamism of markets in a timely manner. During the 90s the pace of information exchange raised significantly with the Internet. This contributed to an increased dynamism of markets. As information became available worldwide, it forced firms to compete on other factors. Later, Teece (2007) argued that dynamic capabilities are particularly important for firms evolving in rapidly changing technological environment such as firms in high-technology sectors. In these sectors, competition is no longer based on economies of scale but rather on the discovery and development of new opportunities, which is what dynamic capabilities imply. He argues further that protection of intellectual property, upgrading of best practice business processes, invention of new business models, the ability to make unbiased decisions and protect against imitation from competitors are crucial abilities in high velocity markets.

The article “dynamic capabilities and strategic management” (1997) gave definitions of key concepts, and in particular of dynamic capabilities, which many scholars drew on later. The major strength of the Teece et al. (Teece, et al., 1997) definition of dynamic capabilities was to link strategy content to strategy process. In concrete terms the authors related competences to activities such as integrating, building and reconfiguring. Hence, the dynamic capabilities definition offers guidance of what to achieve internally in order to be competitive on the market.

We define dynamic capability as the firm's ability to integrate, build, and re-configure internal and external competences to address rapidly changing environments. Dynamic capabilities thus reflect an organisation's ability to achieve new and innovative forms of competitive advantage given path de-

¹⁰ Their work was already presented at the Academy of Management Annual Conference in 1989 (1995).

¹¹ This paper received the best paper of the year award from the Strategic Management Society in 2003. Further, it was the most cited paper in the top hundred academic journals in business and economics worldwide for the period 1995-2005, according to Science Watch. Source: Teece, 2009.

pendencies and market positions. (Leonard-Barton, 1992) (Teece, et al., 1997)

From a value creation point of view, this definition points indirectly at the need to adapt value through the term of 'rapidly changing environment'. Although unclear, this expression reminds of the context of the firm, made of competitors' strategies and customers' changing needs.

Advances on dynamic capabilities

A prolific research has derived from the work of Teece et al. (Teece, et al., 1997). The major issues have been the definition of dynamic capabilities and the nature of dynamic capabilities (Easterby-Smith, et al., 2009). Linked to the nature of the term, the issue of processes has also been central. Indeed, scholars view the concept of process as key to perform daily activities but also to reach competitive advantage. Even though researchers use different denominations, such as routines defined as 'pattern of collective activity' (Zollo & Winter, 2002), or consider that routines are a form of process in less dynamic markets (Eisenhardt, et al., 2000), they agree that specific processes impact the firm's performance.

For some researchers, dynamic capabilities create competitive advantage (Teece, et al., 1997). But Zollo and Winter (2002) only admit the outcome of dynamic capabilities is improved effectiveness for the firm. Eisenhardt and Martin (2000) argue dynamic capabilities just imply best practices. "Since the functionality of dynamic capabilities can be duplicated across firms, their value for competitive advantage lies in the resource configurations that they create, not in the capabilities themselves. Dynamic capabilities are necessary, but not sufficient, conditions for competitive advantage." (Eisenhardt, et al., 2000)

Table 3-1: Dynamic capabilities definitions.

Authors (year)	Dynamic capabilities definitions
Teece (1997)	We define dynamic capability as the firm's ability to integrate, build, and reconfigure internal and external competences to address rapidly changing environments. Dynamic capabilities thus reflect an organisation's ability to achieve new and innovative forms of competitive advantage given path dependencies and market positions. (Leonard-Barton, 1992) (Teece, et al., 1997, p. 516)
Eisenhardt and Martin (2000)	Dynamic capabilities [are] the firm's processes that use resources - specifically the processes to integrate, reconfigure, gain and release resources – to match and even create market change. Dynamic capabilities thus are the organisational and strategic routines by which firms achieve new resource configurations as markets emerge, collide, split, evolve, and die.
Zollo and Winter (2002)	"A dynamic capability is a learned and stable pattern of collective activity through which the organisation systematically generates and modifies its operating routines in pursuit of improved effectiveness. (p. 340)"
Winter (2003)	"Dynamic capability are those that operate to extend, modify or create ordinary capabilities. (p. 991)"
Zahra et al. (2006)	"Dynamic capabilities are the abilities to reconfigure a firm's resources and routines in the manner envisioned and deemed appropriate by its principal decision- maker. (Zahra et al., 2006)"
Helfat et al. (2007)	"Dynamic capability is the capacity of an organisation to purposefully create, extend or modify its resource base, and consists of patterned and somewhat practiced activity."
Teece. (2009)	"Dynamic capabilities refer to the particular (non-imitability) capacity business enterprises possess to shape, reshape, configure, and reconfigure assets so as to respond to changing technologies and markets and escape the zero-profit condition. Dynamic capabilities relate to the enterprise's ability to sense, seize and adapt in order to generate and exploit internal and external enterprise-specific competences, and to address the enterprise changing environment" add ref till Teece and Pisano 1994 and Teece et al 1997

The common denominator between the definitions on dynamic capabilities in

Table 3-1 is the focus on processes. Processes are the means to transform assets, resources and other operational capabilities. Processes are influenced by a set of factors. Which processes, and eventually capabilities, are developed and how they are performed depend on the firm's position and path dependency. The choice of processes or daily routines hinge on the company's history, which conditions future choices. The firm's history influences "the strategic alternatives available to the firm" (Teece, et al., 1997) , which are termed path dependency. Positions too influence processes. Positions constitute the "strategic posture of the firm, [which] is determined not only by its learning processes and by the coherence of its internal and external processes and incentives, but also by its specific assets" (Teece, et al., 1997). Those assets can be technological, financial, reputational, structural (formal and informal), institutional, organisational (integration and coordination), as well as complementary (related assets to product and deliver new products and services) and to a lesser extent market assets. Zollo and Winter (2002) have underlined the importance of organisation learning for the creation of dynamic capabilities.

To a larger extent dynamic capabilities comprise assets and resources of all kind, both those internal and external to the firm as in the definition (Helfat, et al., 2007). Secondly, dynamic capabilities are intentional, which distinguish them from rote organisational activities (Helfat, et al., 2007) and implies strategic planning. Thirdly, the level of performance does not have to be competitive, just reasonable, otherwise the definition becomes tautological. Fourthly, dynamic capabilities are patterned processes (Helfat, et al., 2007; Winter, 2003) that change assets in order to meet the dynamic market environment. Finally dynamic capabilities do not have to be spread over the whole firm, they could be performed by an organisational unit or an individual (Helfat, et al., 2007). However, in the Helfat et al. (2007) definition, the link to sustained competitive advantage is not obvious. I argue that in order to stay focused on customer value and better understand competitive advantage, we need to embrace a more comprehensive picture including customers and competitors. The Teece (2009) definition fulfils better this purpose.

Dynamic capabilities refer to the particular (non-imitability) capacity business enterprises possess to shape, reshape, configure, and reconfigure assets so as to respond to changing technologies and markets and escape the zero-profit condition. Dynamic capabilities relate to the enterprise's ability to sense, seize and adapt in order to generate and exploit internal and external enterprise-specific competences, and to address the enterprise changing environment (In Teece, 2009, Teece & Pisano, 1994; Teece, et al., 1997).

Above all, the Teece definition points at a set of motives for firms to develop dynamic capabilities. In particular the threat of zero-profit as well as the new technology and the changing environment have raised concern for firms in the Western world in the last decades. The zero-profit condition is what threatens homogeneous firms in highly competing markets. That is, firms that are not

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able to differentiate themselves or communicate the value of their products find themselves trapped in the low price logic, which undermines their long-term profits. Teece points out high-technology sectors as particularly affected and adds 'the foundations of enterprise success today depend very little on the enterprise's ability to engage in (textbook) optimisation against known constraints, or capturing scale economies in production'. In the same vein, Teece argued for the requirement for non-imitability with regard to competitors, and by doing so underlined the importance of capability uniqueness. This opens for meta-capabilities which is discussed next.

Meta-capabilities

Dynamic capabilities are crucial to sustain one's competitive advantage on the market. Not less crucial is the ability of a firm to develop its dynamic capabilities. With other words, a firm needs to make sure it can develop, sustain and hone its ability to have dynamic capabilities. Collis (1994) suggested the term of "meta-capability" defined as 'the capability to develop the capability to develop the capability that innovates faster (or better)'. In fact he pushed the idea further by stating that there will always be a capability of a higher level that explains the origin of a capability. The mathematical equivalent is termed 'infinite regress'. It makes it clear according to Collis that researchers cannot find a specific level of analysis that is the source of competitive advantage. Yet, it is possible to study a firm's number of capability levels. According to him the firm having most levels will be the one winning the competition in the long term.

Maybe what makes these meta-capabilities particularly valuable is that they require a cognitive ability. Meta-capabilities 'comprise the more metaphysical strategic insights that enable firms to recognise the intrinsic value of other resources or to develop novel strategies before competitors' (Collis, 1994). Teece (2007) stressed that cognitive and creative capacities are not equally spread among members in an organisation, nor among organisations.

The essential point with meta-capabilities is that it raises one's consciousness to a new level. We realise that we need to understand the factors behind dynamic capabilities in order to ensure sustainable competitive advantage. Translated in terms of value, firms striving at supporting the value creation process on a sustainable basis have to excel at recognising the resources and establishing the structures that pave the way for value creation.

Critics against dynamic capabilities

One of the major critics against Resource Based View, which is true for dynamic capabilities too, is the operationability of the framework. Indeed, it is unclear for example which organisational processes should be handled as dynamic capabilities. If we assume that all companies want to achieve competitive ad-

vantage, should they hone the same competencies, irrespective of their industry and market? On one hand, market heterogeneity leads to differences between firms that should influence which dynamic capabilities firms develop. On the other hand, all firms have many processes in common. So the issue is can dynamic capabilities emerge from a common process? Is it strategic to invest in this type of process for competitive advantage?

Another critic against dynamic capabilities is the ‘black box’ that represents ‘to integrate, build and reconfigure’ competences. What does it imply for practitioners? How can these be studied by researchers? Yet researchers argue that ‘integrating, building and reconfiguring’ are necessary for handling competencies in a dynamic aspect. Finally, the role of strategic management’s has been underlined as key but there is no further detail on how to proceed, and it could be more complicated than expected (Pandza & Thorpe, 2009). The critic towards dynamic capabilities and the interest, the reaction (Eisenhardt, et al., 2000) as well as the need to further develop the framework seems to only have promoted further research in the field. Most articles published on dynamic capabilities have investigated the content of dynamic capabilities this last decade. Researchers have distinguished different types of capabilities and dynamic capabilities that are essential to the framework in this thesis.

3.4 The evolution of dynamic capabilities

Capabilities stem from well-performed organisational processes (Bingham et al., 2007) and managerial processes (Helfat, et al., 2007). Organisational processes are made of activities that are repeated over time and allow managers to accomplish some business task (Teece, et al., 1997).

Processes, and specifically organisational and managerial ones, are prerequisites for developing dynamic capabilities (Helfat, et al., 2007). External and internal factors influence the development of processes. Eisenhardt and Winter (2000) argue that the dynamism of a market impacts dynamic capabilities. In more stable markets, dynamic capabilities are similar to routines. Conversely, in more dynamic markets, dynamic capabilities take the form of “simple, experiential, unstable processes” (Eisenhardt, et al., 2000). It is not possible to make a list of processes, because of their multitude, nor a list of those that are related to dynamic capabilities. Identification of processes that underpin dynamic capabilities is a matter of relevance, whether it is related to the resource position of the firm (Helfat, et al., 2007).

Further, dynamic capabilities evolve along with the experiences of organisations (Eisenhardt, et al., 2000). Learning through repeated practices, mistakes, failures, crises, as well as the pace at which organisations make new experiences all influence dynamic capabilities. For example, too many acquisitions, too close in time, impair managers’ learning from these acquisitions. Conversely, too few

3 From capabilities to dynamic capabilities

acquisitions also decrease managers' opportunity to learn from them. Acquisition performance is a function of acquisition experience. Put it differently, timing is central for learning and capability evolution. In the same vein, timing as the sequential following of capabilities, is a crucial aspect for learning, argued Eisenhardt and Martin (2000). Indeed, some capabilities cannot be learned before others. Capabilities that have to be developed first are foundational for the following ones.

Experiencing is the first step in the learning process described by Zollo and Winter (2002). How dynamic capabilities evolve hinges on the firm's learning mechanisms. The following steps are knowledge articulation and knowledge codification. By knowledge articulation the authors mean the formulations of opinions and beliefs regarding specific processes. Individuals learn by discussing what works and what does not when performing tasks, which improves their organisational competence (Zollo, et al., 2002). The core here is to link performance to action and understand how the former has been influenced by the latter. Hopefully, such an understanding can lead to processes changes, either incremental or radical. With knowledge codification, employees codify their understandings of the performance implications of internal routines in written tools. Those could be manuals, blueprints, spreadsheets, decision support systems, project management software. The authors underline that knowledge is rarely codified. Codifying mostly serve as guidelines and more seldom as analyses for 'uncovering the linkages between actions and performance outcomes'.

This notion of dynamic capabilities evolution is important because it makes clear that processes are 'living organisms' that evolve, change and die due to factors affecting them and not least managers' decisions and actions. Collis (1994) identified three threats against dynamic capabilities. When a dynamic capability become eroded, this capability is no longer relevant for the market due to changes. A dynamic capability could be replaced by another. And finally better capabilities simply outperform other less performing capabilities.

One can assume that more or less advanced levels of offering and therefore of customer value may require different types of capabilities. The underlying reasoning is that standard customer value may require basic processes, which might correspond to a certain type of capabilities, while higher customer value would entail other types or degrees of capabilities.

3.5 Identifying dynamic capabilities

Once in an organisation, researchers face the challenge of identifying dynamic capabilities (Easterby-Smith, et al., 2009). Ambrosini et al. (2009) suggested that dynamic capabilities could be incremental, renewing or regenerative. Incremental dynamic capabilities contribute with continuous improvement of the re-

source base. Dynamic capabilities that refresh, adapt and augment the resource base are named renewing dynamic capabilities. Finally, to be termed regenerative, dynamic capabilities have to influence how the firm changes its own resource base. This classification is still nascent but provides a detailed description of the effects of dynamic capabilities on the resource base.

Teece suggested quite early (1997) ways of identifying dynamic capabilities. Although researchers find this taxonomy still insufficient (Easterby-Smith, et al., 2009) it is to date the most developed one. The rationale was that the deployment of dynamic capabilities built on organisational and managerial processes. In particular three types of processes could be identified. The first type of process is static and relates to the ability to integrate and coordinate activities. The second type is dynamic as these processes enable to learn. The third type of processes are transformational and contribute to reconfigure the firm's asset structure. These processes provide the tools to analyse (Teece, 2007) whether or not a firm possesses dynamic capabilities. Dynamic capabilities hinge on the firm's capacity to sense and shape opportunities and threats, to seize opportunities, and finally to maintain competitiveness through enhancing, combining, protecting, and when necessary reconfiguring the business enterprise's intangible and tangible assets.

The first step is the one of sensing what happens outside the company. This could be customer needs, technical trends, new business possibilities or the like. The ability to sense emanates from individuals with cognitive and creative capacities. They gather, process and interpret information from internal and external sources whereby they can sense developments, create and recognise opportunities (Teece, 2007). To limit the risk of depending on one or few persons in the company, it is worth to ground this activity in organisational processes.

By seizing opportunities, Teece (2007) means the ability to take decisions and invest in new products, processes or services that will match the opportunities identified in the previous step. This implies for a firm to, perhaps, reconfigures its business model. This step requires good timing on the market and the active participation of leadership in 'making quality decisions, communicating goals, values, and expectations, while also motivating employees and other constituencies.

The third step consists of managing threats and reconfiguration. As firms grow and get established, they invest in assets and cement routines that may make it difficult to adopt change, that are nonetheless necessary if the company is to maintain its dynamic capabilities. Questioning rules, procedures, and path dependencies is a requirement. Here as well, the role of top management is crucial (Teece, 2009). A key issue is to keep top management close to the market, customers and new technologies.

3.6 Concluding discussion on dynamic capabilities

From a value creation point of view, the major contribution of dynamic capabilities is to argue for the importance of processes. In service research processes enable value creation. For strategists processes could lead to strategic outcomes. Although researchers in the dynamic capability field do not agree on the type of outcomes reached, they all recognise that the outcomes are beneficial for the organisation. Processes that are dynamic have to fulfil a set of conditions to be qualified as dynamic. Researchers' views vary here too.

However there are a couple of interesting points to raise that are particularly interesting from a value point of view. Firstly dynamic capabilities have been linked to intentional processes (Helfat, et al., 2007). The notion of intention implies that actors in the firm are aware of the goal they aim at with these specific processes. However intentional purposes do not prevent other processes, those done with other purposes than strategic ones, to reach positive strategic outcomes. In other words, it is not just dynamic capabilities that enable the supplier to contribute to value creation. With a 'dynamic' eye, one could argue that these isolated processes could be intentionally spread to the rest of the company in order to develop them into dynamic capabilities. Secondly, dynamic capabilities do not necessarily originate from internal resources but could stem from external ones (Teece, et al., 1997). This means that the study of a firm's dynamic capabilities has to stretch beyond its boundaries and include its suppliers and relationships with other stakeholders as partners, customers and/or even competitors.

The dynamic capabilities theory enables to open the black box of the organisation and map the origins of value generation. In this sense the taxonomy developed, although still in its infancy, provides a set of tools to investigate processes in the organisation. Indeed dynamic capabilities link resources and processes to organisational decisions and reconfigurations, as well as to business models and firm competitiveness. Although dynamic capabilities are presented as an organisational concept, some researchers have pointed at the role individuals play. Zahra et al (2006) point at the founding manager in an entrepreneurial setting. Bruni and Verona (2009) underline the role of top and middle management. Because of the strategic aspect of dynamic capabilities a top management implication is natural.

The literature review of the value co-creation followed by dynamic capabilities enables to make some assumptions on which to build a framework for the analysis. The first assumption is that value co-creation is concretised in the offering. It is in line with Grönroos' definition (2010) of extended offering, which is made of several processes, and uses resources to create value. For Grönroos

the extended service offering impacts on the firm's competitiveness, which matches Teece et al.'s view.

“End products are the final goods and services produced by the firm based on utilising the competences that it possesses. The performance (price, quality, etc.) of a firm's products relative to its competitors at any point in time will depend upon its competences (which over time depend on its capabilities).”
(Teece, et al., 1997, p. 516)

Another assumption is that, provided that the market is competitive, firms need to have a marketing capability in order to understand their customers, their needs and how to position their offering in the face of competition. As important, a marketing capability enables the firm to sense opportunities but also identify threats coming from changes.

3.7 An activity and process framework

Despite the definitions on different types of capabilities, it may be difficult to identify them in practice. Therefore a tool to cope with identification is necessary. Such a tool will also be used as an analytical framework in this thesis. This tool includes and starts with the identification of activities because an activity may reveal a process. Another rationale is that an activity may be further developed into a process and later a capability, therefore activities may be valuable. So this identification tool ranges activities from capabilities up to meta capabilities. The aim is to sort out processes through different steps in order to distinguish among them. All steps of the tool are based on the literature review made in this chapter. For example, the patterned and effectiveness aspects (Zollo, et al., 2002) are research anchored. Similarly the question whether “this process enables the firm to purposefully create, extend or modify its resource base” originates from Helfat et al. (2007)'s definition of dynamic capabilities. Adaptations have been made for the subject of value creation as depicted in Figure 3-1.

3 From capabilities to dynamic capabilities

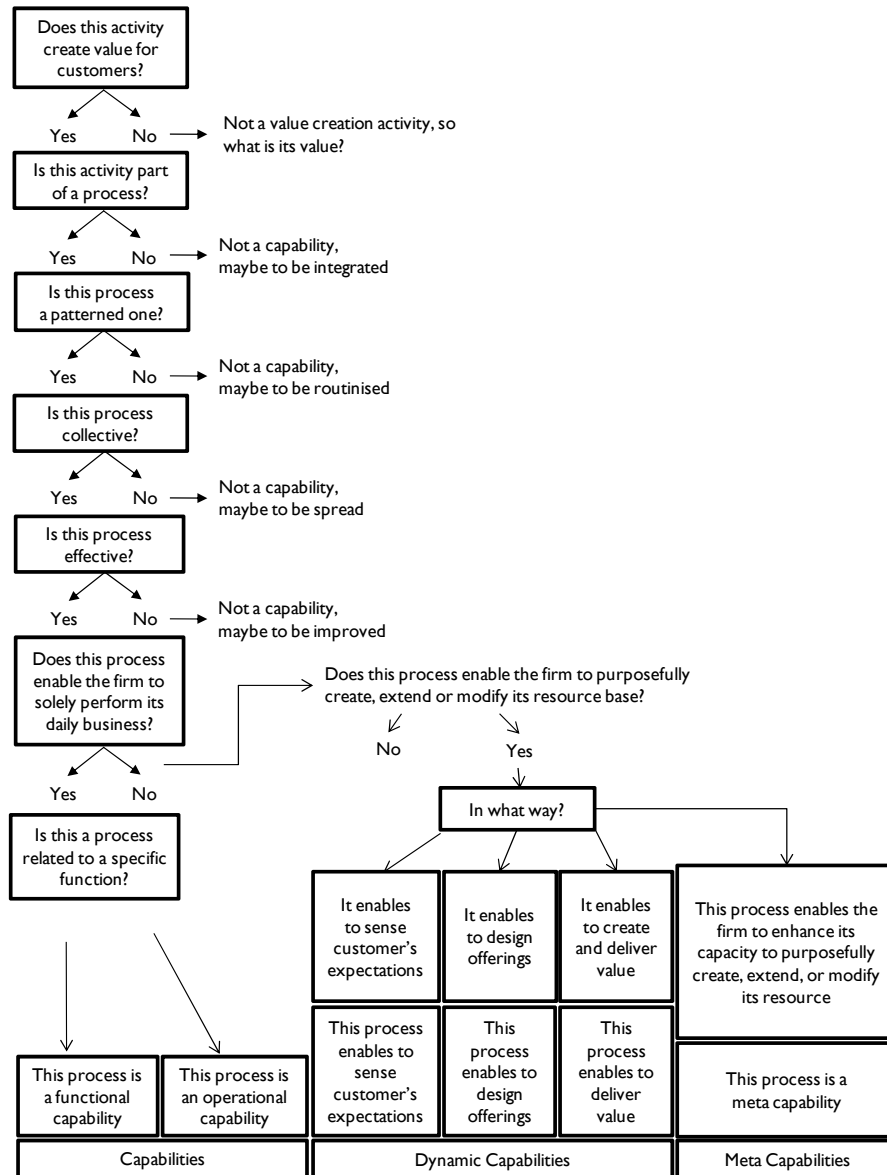


Figure 3-1: Analytical tool for classifying capabilities.

Beginning at the first square at the upper left corner, activities are classified by going through each step on the figure. Four classifications are possible. An activity may not qualify as a value capability and exit the classification process before coming down to the capability level at the bottom of the figure (value capability, dynamic capabilities or Meta value capabilities). Activities that create value for customers, are part of a process, patterned, collective, and effective

are at least capabilities, and can be thus considered in their larger context of process. By following the arrows and answering to the questions, one should be able to classify the processes into value capabilities, dynamic capabilities or meta value capabilities. Furthermore, several processes can end up in the same classification. However, each process should belong to only one classification.

3.8 The framework of this thesis

The rationale for the choice of service marketing and management as well as the Industrial Marketing and Purchasing framework and dynamic capabilities is to fulfil the purpose of exploring a supplier's capability to facilitate value co-creation. With the service marketing literature and in particular service logic, a set of terms are established. This literature depicts the role of the supplier as a facilitator of value creation; and the customer's role is to integrate the suppliers' resources and processes into its own. Dynamic capabilities came up as a framework to depict what happens in the supplier's organisation from a process point of view. The study of the supplier's processes enables to better understand how the supplier could develop its ability to support the customer. The strategy chapter on dynamic capabilities complements value creation theory by linking value creation to the supplier's organisation. In the analysis I will study the supplier's organisation in order to identify processes, routines, and various capabilities enhancing customer value creation.

My point of departure is that the theories contribute to build a picture of how value emerges. For value to emerge, one major condition must be fulfilled: it is that the customer and the supplier need to interact. Furthermore, each actor (the supplier and the customer) act by themselves. The supplier builds the conditions for facilitating the customer's processes and therefore the dynamic capabilities framework is placed on the side of the box that represents the supplier's organisation. The customer on its part has to integrate the supplier's resources and processes into its own. These assumptions are interpreted in a value co-creation context and are depicted in Figure 3-2. It shows interactions between the supplier and the customer at the centre of the framework, which are represented by the horizontal arrows.

3 From capabilities to dynamic capabilities

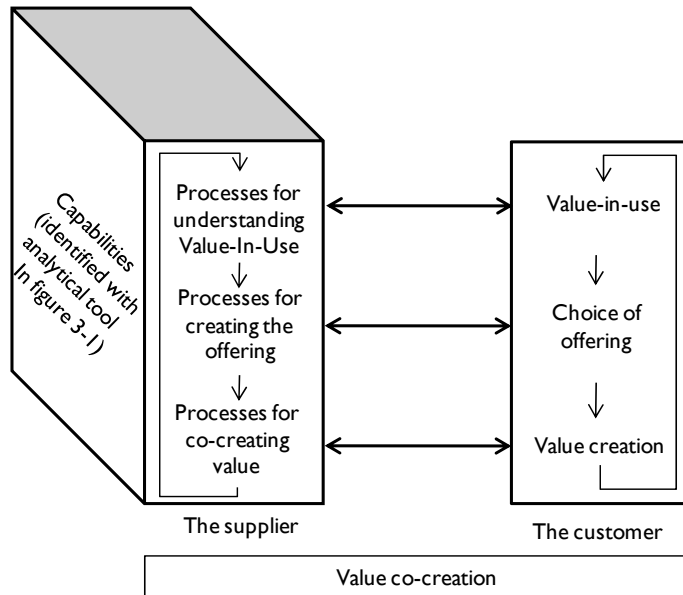


Figure 3-2: Final framework for value co-creation.

On the customer's side, value-in-use results from using the resources, services and goods included in the offering. The choice of offering and its form derive from the customer's expectations and goals with value-in-use. The loop from value-in-use to expectations and via offering illustrates the assessment done by customers on the value created. As for the supplier's value is a question of performing the relevant processes at each of the customer's phase. Each phase influences the next, that is, processes for catching customers' expectations and goals with value-in-use are translated into an offering that mobilises the necessary processes for co-creation value with the customer. Behind these processes stands the supplier's organisation and perhaps one or several capabilities that enable to build relevant processes for the customer. The framework presented in Figure 3-1 serves as a tool to analyse the suppliers' processes and capabilities. The final framework will be used for the analysis of the empirical material.

4 Strategy-as-practice

Throughout this dissertation, a stance point for a micro perspective has been taken and to also include the day-to-day life of organisations. We know very little on the strategic practices behind value generation and co-creation processes. At the same time researchers in the strategy-as-practice field endeavour at mapping those on-going micro processes that all in all lead to strategic outcomes at a macro level. This chapter is organised with a short introduction to the shortcomings of traditional strategy. Thereafter, strategy-as-practice is addressed, followed by a concluding discussion.

4.1 Shortcomings of traditional strategy

Strategy is an ancient term, whose first written trace comes from the work of Sun Tzu, 'The art of war' (In Gary Cagliardi 6th cent. B.C.). In the western world, strategy was confined to the military until academia started developing theories on business strategy in the 60's (e.g. Ansoff, 1965; Chandler, 1962; Sloan, 1963). At that time, strategy was conceived of as a planning instrument or tool in the hands of practitioners to help them make decisions (Whittington, 1996). Porter and Millar's value chain was a new tool to better understand how information technology would affect firms' competitiveness and how to plan strategies that would stave off the new threat (see Porter & Millar, 1985). However, in the 90's there was a growing concern on the effectiveness of strategy research for practitioners, which traditional theories had fail to address. The prominent problem was that research did not help strategy practitioners in their daily work (Johnson, et al., 2007).

Since the question of what it takes to be an effective strategy practitioner was left unanswered, Whittington (1996) suggested to adopt a new approach, the one of strategy-as-practice, focusing on 'how the practitioners of strategy really act and interact'. According to him, focus had to be put on managers' acts and interactions, which was not studied in traditional strategy literature and yet, could be the reason for effectiveness. This call was echoed by Johnson, Melin and Whittington (2003) who argued that former strategies had a macro approach to strategy-making in firms. The result has been incapability to guide managers and provide invaluable insights in their daily work. Johnson, Melin and Whittington (2003) concluded that 'much of the influential literature on strategy, important as it is, has left the manager bereft of insights, let alone guidelines for action, at this micro level'. Further, Johnson, Melin and Whittington (2003) argue that 'value lies increasingly in the micro activities of managers and others in organisations'. Translated to a value co-creation context, this

means that value emerges in activities and interactions, in how activities and processes are performed in the day-to-day life.

4.2 Strategy-as-practice

First suggested by Whittington (1996), the term “strategy-as-practice”¹² is one in a series of terms (micro strategy, strategizing, activity-based view on strategy)¹³ that express the need to take a micro perspective on strategy making. Johnson, Langley, Melin and Whittington (2007) gave the direction for strategy-as-practice.

We therefore conceive of strategy-as-practice as a concern with what people do in relation to strategy and how this is influenced by and influences their organisational and institutional context’. (Johnson, et al., 2007, p. 7)

Strategy-as-practice reflects a shift from traditional strategy. Contrary to traditional strategy researchers who consider that strategy is something that organisations have, strategy-as-practice researchers argue that strategy is done or performed (Johnson, et al., 2007). This is totally in line with the view of service management and service market researchers who state that value emerges only when it is ‘used’, thereof the term ‘value-in-use’. Regnér (2008) argues that strategy-as-practice fits with the dynamic capabilities perspective since it enables to catch the activities and processes performed in the firms.

Johnson, Melin and Whittington (2003) suggested that the activity-based view of strategy should ‘focus on the detailed processes and practices which constitute the day-to-day activities of organisational life and which relate to strategic outcomes’ (2003). The aim is to increase effectiveness of strategizing managers, and their reflexivity. Therefore researchers are to understand how practitioners who manage strategy do their work and if it is possible to relate practitioners’ way of strategizing to the performance of the firm. Whittington (2003) argued that focus is put on individual effectiveness, and not primarily on the performance of the organisation itself. Hopefully, strategy-as-practice research will contribute to give “practical, actionable guidance to practitioners” (Johnson, et al., 2003, p. 14).

¹² Johnson et al. (Mintzberg et al., 1998) and later on Brundin and Melin (2003) use the same definition, word by word to define respectively activity-based view of strategizing. The conclusion is that the terms are synonyms.

¹³ In the following statement, micro-strategy and strategizing seem to be synonymous too: ‘micro strategy and strategizing is concerned with the same strategic issues, but in terms of the organisational activities and practices which are their fabric’ (2006).

4 Strategy-as-practice

Understanding what strategic work is made of and how it is performed leads to a set of implications that differ from traditional strategy. Actors, that is, practitioners in firms are put back at the centre of activity. It is people who do things, or as expressed by Johnson, Melin and Whittington (2003), it is managers who manage activities. Therefore understanding the strategic importance of practitioners' acts and interactions may help explaining how they contribute to strategy and to firms' performance. Applying a strategy as practice approach in studies of supplier-customer interactions, a better understanding of value co-creation can be reached. The importance of routines, what is done repeatedly, is emphasised, although the paradox of stability and change is pinpointed in the literature (see for instance Jarzabkowski, 2003; Melin, 1987). Processes are studied through activities that are performed by actors. This change of focus is summarised by Whittington: 'There is a stronger focus on people than organisations, the routine as opposed to change, and situated activity rather than abstract processes (2003, p. 118). How strategy-as-practice could be conducted is described by Johnson, Langley, Melin, & Whittington who stated that

at the centre of strategy-as-practice are people, working with others and reliant on tools of all kinds, the success of those activities depends both on mastery of the minutiae deep within their organisations and connections to the wider world outside' (2007, p. 47).

Describing strategy 'in' practice can provide a close and comprehensive picture of managers' strategic work. This focus on practitioners may probably lead to a better understanding for the strategic outcomes but at the same time be sensitive for the individuals involved. This issue is to be managed on an individual case basis.

To strategize

Strategy-as-practice researchers have proposed many different terms for describing and classifying actions taking place while practitioners strategize. Praxis and practices, activities and routines, as well as interpretation and reflexivity, all central terms, are discussed next.

Praxis and practices

The first basic notions not to be mixed are praxis¹⁴ and practices. These have been interpreted in different ways (Whittington, 2003). In order to provide with a terminology of what practitioners do in organisations, Johnson, Langley, Melin, & Whittington (2007) defined practices as 'institutional and organisational [activities] with which people engage in order to carry out their strategy

¹⁴ Previously named "practice".

activity' (p. 26). To exemplify, these practices could be institutional procedures, systems such as strategic planning, and tools and techniques of strategic analysis. But there are also norms and scripted behaviour (Barley and Tolbert, 1997, cited by Johnson et al), as agenda-driven behaviour in meetings or boards. Hendry and Seidl (2003, cited by Johnson, et al., 2007) suggested strategy episodes, as board meetings, strategy away-days or temporal sequences in planning or budgeting. Johnson, Langley, Melin, & Whittington (2007) underlined that these practices are important for several reasons. These are not only organisational phenomena, but also organisational routines. Further they could be used as units of analysis by the researcher.

When using the word 'praxis', the aim is to direct focus on "the work done by people inside organisational processes" (Whittington, 2003, p. 118). Praxis is 'what people do in relation to strategy' (Johnson, et al., 2007, p. 27). Praxis embraces practices and relates what is done in term of strategy to the societal, institutional and organisational context. Jarzabkowski (2003) defined praxis as 'the interactions and interpretations from which strategic activity emerges over time' (2003, p. 24) and practices are 'those habits, artefacts, and socially-defined modes of acting through which the stream of strategic activity is constructed' (Turner, 1994, in Jarzabkowski, 2003, p. 24). Linking the different terms together, Jarzabkowski (2003) stated that 'practices may thus be seen as the infrastructure through which micro strategy and strategizing occurs, generating an ongoing stream of strategic activity that is practice' (p. 24).

In this thesis, praxis is the overarching stream of strategic practices. Firms that cooperate agree on a strategy, develop common practices and through these practices establish a praxis. By doing so, they link their staff, their organisations and specific tools together and create value or support value creation.

Activities and routines

Activities, together with actors, are a central theme in strategy-as-practice. It is through the description of activities that researchers can come closer to practitioners and study the day-to-day strategy-making. Jarzabkowski (2005) detailed the work done by researchers.

Strategy-as-practice is concerned with the detailed aspects of strategizing; how strategists think, talk, reflect, act, interact, emote, embellish and politicize, what tools and technologies they use, and the implications of different forms of strategizing for strategy as an organisational activity. (p. 3)

This quote pictures how interaction between actors both within a firm and between firms could take shape. Activities are the lowest common denominator to practices. Sometimes, the notion of micro processes, a set of activities for achieving a specific purpose, has been mentioned as well to describe activities taking place in organisations. In literature, authors name day-to-day activities

4 Strategy-as-practice

and micro activities to emphasise the concern for activities carried out by individuals. Repeated activities can be characterised as routines.

Feldman and Pentland (2003) distinguished between ostensive and performative routines. Ostensive routines shape our perception of what a routine is. Ostensive routines are the subjective understanding of what it is, the routine 'in theory'. Performative routines, conversely, are the concrete performance of the routine, implying the set of necessary actions to perform the routine. For instance the authors argue that different persons in a company may have a common view of what a job interview is. However, when interviewing a person for a job, a director may not ask the same questions and have the same purposes as a human resource manager. This difference hinges on performative routines, i.e. what is done in reality to perform the interview. Hence, employees from the same company may understand or conceptualise a routine in a similar way (ostensive routines) but perform it differently (performative routines) depending on their role and point of view. Eventually (performative) routines patterns develop and lead to praxis. Ostensive routines relate to practices in the sense that they cognitive.

Interpretation and reflexivity

Jarzabkowski (2003) argued that practitioners can have different purposes and interests. Contradictions or differences that can occur between ostensive and performative routines offer occasions to reinterpret the practices performed. Hall (2003) stated that the lack of understanding or the challenging of established understanding triggers the act of interpretation. So strategizing does not necessarily imply interpretation. In other words, actors can work and perform activities that have strategic outcomes without questioning what is done, how it is done and the purpose of it.

Close to interpretation is reflexivity. Johnson, Langley, Melin, & Whittington (2007) endeavoured to increase reflexivity among practitioners of strategy. "[...] We need to achieve a higher degree of reflexivity amongst those actors about what they are doing at that level and its effects" (Johnson, et al., 2007, p. 5).

Interpretation and reflexivity play a central role in making routines and praxis evolve. Indeed, it is through contested shared practices and their reinterpretations that practitioners can introduce change (Jarzabkowski, 2003). Thus, interpretation and reflexivity influence the activities performed and the perception of their outcome and in consequence the future strategy. In other words, interpretation and reflexivity influence how things are performed and why they are performed.

4.3 Concluding discussion

Strategy-as-practice offers a system of concepts for describing strategising and its related activities in the firm. In theory, actors interact through practical activities, such as actions or micro-processes towards a strategic goal and expect an intended outcome. Over time, actors develop patterns of actions and routines that can be identified as strategic practices. It is important, though, to underline that not all practical activities become routines. In the same way, not all routines become strategic practices. However the interest for the practice turn in social sciences (Golsorkhi et al., 2010) matches the focus put on activities and processes.

During the process of strategizing, actors may reinterpret their own goals and intentions. How actors interpret, interact and set goals hinges on the context in which interactions take place. However in her study in three UK universities, Jarzabkowski (2003) showed that actors not only constantly interpret and reinterpret the strategic practices and their impact on the desired outcome, but also sometimes do so with manipulative purposes. It appears that interpretations can reflect complex human interactions that go towards or against the intended strategy, consciously or not.

From a value generation perspective, strategy-as-practice offers an array of aspects, such as praxis and practices, to be studied. The strategy-as-practice lens corresponds to an endeavour to delve into the micro processes going on in the value generation process. Some of the questions that can already be raised are: What do people do? What is the role of different practitioners for value co-creation? Which activities performed by the supplier have strategic outcomes for customers? How much do practitioners reflect on their day-to-day activities and how it affects value generation? In practice, value generation, which includes value co-creation, occurs through activities, routines and strategic practices. All activities, routines and strategic practices give a hint on the praxis carried out between and within companies. I will design the method used in this thesis in order to allow for a strategy-as-practice perspective. This is discussed in the next chapter.

5 Method

The previous chapter introduced the perspective of strategy-as-practice, which adopts a micro level of inquiry on the studied subject. This chapter continues the methodological discussion and reflects on the quality of this study. Choice argumentation, process transparency and personal reflection are its pillars. The organisation is as follows: the first section is an introduction into the reflection on the nature of the studied phenomenon. The following sections address the practicalities of the research. Hence, in section two, research design is outlined. Section three describes the process of material collection. Section four narrates the material analysis. A concluding discussion on the quality of this research is provided.

5.1 A socially constructed world

As technology improves and new discoveries are made at an increasingly higher pace, academics question old ideas and redefine the truth about the world. It is when the scientific community rejects old information that it appears how clearly knowledge on the world is an act of mankind. In order to keep up with new knowledge, people leave their old representations and understand the world in a new way. Such times remind how dependent people are on experts for knowledge they could not verify themselves. Such a reviewed and up-to-date description of our world can be found on the website of the National Aeronautics and Space Administration (NASA).

Pluto, once considered as a planet, was degraded to a dwarf-planet in 2006. In the citation below, astronomers strived to put an objective aura around the decision taken on the status of Pluto. Words such as ‘formally’, ‘rules’ and ‘criteria’ reinforce the intended objectivity researchers aimed to give. To legitimate the new knowledge, they objectify with language as the main instrument (Berger & Luckmann, 1966). Researchers pretend their non-involvement by claiming it is a third criterion that ‘knocked out’ Pluto from the planet classification. Yet, formalities, rules, and criteria are decided by individuals.

On August 24, 2006, the International Astronomical Union (IAU) formally downgraded Pluto from an official planet to a dwarf planet. According to the new rules a planet meets three criteria: it must orbit the Sun, it must be big enough for gravity to squash it into a round ball, and it must have cleared other things out of the way in its orbital neighbourhood. The latter measure knocks out Pluto and 2003UB313 (Eris), which orbit among the icy wrecks of the Kuiper Belt, and Ceres, which is in the asteroid belt. (Nasa, 2008).

The new classification of Pluto is related to another dwarf-planet, called ERIS. In the citation beneath, the influence of human beings on knowledge and the

subjectivity in which knowledge is created is even more striking. The classification of Eris and its consequences on Pluto's classification were vehemently argued. Scientists had 'trouble', 'met' and 'voted' on the status of Eris. One can see how dynamic, almost chaotic, the decision process was in contrast to the previous picture rendered by NASA and presented in the citation above. Amusingly, astronomers added further evidence to the human construction of knowledge. Because of the discord that arose in the community, scientists named the dwarf planet orbiting around Pluto Eris, the Greek goddess of discord, warfare and strife!

In the astronomical world, Eris stirred up a great deal of trouble among the international astronomical community when the question of its proper designation led to a raucous meeting of the IAU in Prague. At the end of the conference, IAU members voted to demote Pluto and Eris¹⁵ to dwarf-planet status, leaving the solar system with only eight planets. (www.gps.caltech.edu, 2008)¹⁶

This aforementioned example, albeit an extreme one, illustrates that knowledge is socially constructed (Berger, et al., 1966). Because our view of the world is based on historic reasons, this view changes with time and the change is the result of concrete action of human beings (Berger, et al., 1966). Value creation, too, is socially constructed. Both scientists, suppliers and customers argue on what value is and how it emerges. Berger and Luckmann (1966) claimed that the reality adopted is not a matter of empirical justification but of power of a group over another.

Supplier selection is such an arena where different suppliers try to convince a customer on the value they can contribute to create. During supplier selection processes, customers and suppliers meet, discuss, argue, influence one another, and agree or not. This is not to say that similar discussions among employees at the customer company occur at the same time as well. Employees at the customer company have to agree on their selection criteria. From times to times, a purchasing manager who has not been part of the specific selection process, ar-

¹⁵ "Eris, the largest dwarf planet known, was discovered in an ongoing survey at Palomar Observatory's Samuel Oschin telescope by astronomers Mike Brown (Caltech), Chad Trujillo (Gemini Observatory), and David Rabinowitz (Yale University). "We officially suggested the name on 6 September 2006, and it was accepted and announced on 13 September 2006. In Greek mythology, Eris is the goddess of warfare and strife. She stirs up jealousy and envy to cause fighting and anger among men. At the wedding of Peleus and Thetis, the parents of the Greek hero Achilles, all the gods with the exception of Eris were invited, and, enraged at her exclusion, she spitefully caused a quarrel among the goddesses that led to the Trojan war." (Johnson, et al., 2003)

¹⁶ Caltech stands for California Institute of Technology.

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rives at the end of the process and takes a decision based on different criteria than those discussed. This person believes in value-in-exchange, while the other employees believed in or became convinced of value-in-use. In those cases it is obvious how two socially constructed views of value diverge.

By studying the issues of value and value creation, I also participate and thus influence the construction of value. This thesis is the lens I offer to the reader to look at value and value creation. My level of understanding forms a prism through which the studied phenomenon is interpreted and rendered back to the reader. The role of researcher is fundamental for understanding how knowledge is created on the issues studied (Stake, 1995).

5.2 Research design and process

The aim with the research design is to effectively plan empirical material collection that fits the purpose of the study. As the purpose is to explore a supplier's capability to facilitate value co-creation, this leads to a set of design choices that are presented below. However choices can be the result of coincidences or possibilities that lay open for the researcher and match the prior intentions. This is one of the reasons that makes it interesting to depict the research process.

Further, the issue of value creation demands a holistic approach that catches the interactions between the parties, the processes that underpin value co-creation as well as the customer's conception and perception of value creation (cf. Gummesson, 2000; Stake, 1995; Yin, 2003). Therefore, this study uses a case study method, which is what the next section addresses.

The choice of case study as a method

To fulfil the purpose of analysing the strategic practices that surround the creation of value a method for describing and explaining this complex phenomenon is necessary. The advantage of the case study method is that it allows to have a holistic view of a phenomenon (Gummesson, 2000). "The qualitative research interview attempts to understand the world from the subjects' point of view, to unfold the meaning of peoples' experiences, to uncover their lived world prior to scientific explanations" (Kvale, 1996, p. 1). In this thesis, it is not just value creation that is in focus, but also the way the supplier and the customer interact to co-create value. Hence, activities and processes performed by the actors, their points of view, and their interpretations of different aspects are at the core of the research. Therefore it is appropriate to choose case study as a research method.

Case study design

“[A research design] consists of overall planning and preparing the methodological procedures for obtaining the intended knowledge” (Kvale, 1996, p. 98). It is the supplier that is the main subject of this thesis. How the supplier acts, interacts with customers and interprets what has been created in terms of value is studied. The customers play also a major role as they are the one who define value. This context of a supplier and several customers create a common context. It entails a single-case study with several units of analysis (Yin, 2003) and several levels of analysis, as activities are also taken into account. This is in line with strategy-as-practice where the micro, meso and macro levels interact.

The interest is to explore how individuals develop, perform and interpret practices and how practices lead to value co-creation. These questions justify the need to come close to the studied process of customer value creation in order to understand what happens (Brundin, 2007). In order to understand how practices create customer value, focus is put on the micro processes of acting, interacting and interpreting. Through micro processes that are related to value co-creation and value facilitation, the study of their outcomes is carried. Some study will show which outcomes are strategic for the company. One of the aims is to map the numerous issues related to value co-creation, which constitute daily activities. Such issues may be related to the interaction in value co-creation, offering, and value-in-use.

The choice of case study is particularly determining as the case study is instrumental (Stake, 1995) and aims at answering the research questions. According to Stake (1995), the main purpose is to learn from the case study. Early in the research process, I made two attempts to contact companies. However in both cases, access was denied. Access to the study object (Gummesson, 2000) is the first criterion when choosing companies. It is conditioned by openness from the studied company and genuine interest from top management. Access is more easily given if top management supports the study. The subject of value co-creation is strategic and therefore sensitive. Because of this I planned to proceed in several phases during the material collection in order to create trust (Brundin, 2007; Brundin, et al., 2006).

Combitech as a study object

The choice of company for a case study is a process that combines a deterministic approach as the setting of specific criteria and the random of events. The Foundation Marketing Technology Center, MTC¹⁷, seemed to be the right place

¹⁷ The Foundation Marketing Technology Center, MTC, promotes value-creating interaction and learning between business and research in the areas of market, service development and business enterprising. The foundation was established by the Royal

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to find such a company. During several MTC seminars the company Volvo Bus showed particular interest, which made me take contact with the person representing the company at these seminars during fall 2008. But in October the started collaboration had to be interrupted due to the economic crisis. Fortunately during the same period the company Combitech, interested in the value creation issue, had been asking me to study its organisation, which I declined at that time. One of Combitech's employees was a former JIBS¹⁸ student who came in contact with me in 2008 while writing his master thesis entitled "Creating customer value: A case-study at Stilexo" together with his co-writer. Not need to say, his knowledge on the issue and our former contact were perfect for opening doors and getting access. Furthermore Combitech's insistence reinforced the positive impression I got from the company.

Planning meetings

Only eleven days after we decided to meet, the first meeting among several was held at Combitech. The aim was to get acquainted and design a research plan. During the first meeting, my main supervisor and I met the Jönköping management team. We discussed on the issue of customer value and how I wanted to design the study. The team's complete commitment enabled a quick start. First the study would start at Jönköping, which is the local site that contacted me. The material collection would include the headquarter at Linköping and finally I would come in contact with selected customer companies. For this purpose I had prepared a list of interesting functions to interview both at Combitech and at customer companies, a list of criteria for selecting potential customers to work with, as well as a suggestion of different methods for material collection. It appeared that customers were segmented by markets and offerings. Some customers hired preferably what is named resource consultants and/or competence consultants, terms developed later.

Jönköping' top management selected shifting customers in terms of turnover (those that were most representative in terms of turnover), relationship (both very good and less good relationships), and offering type (resource or competence consultants for the most. Other types are represented as well). We agreed on five customers, which where the largest customers financially speaking. They accounted to 90 percent of Combitech Jönköping's revenues.

Swedish Academy of Engineering Sciences (IVA) and the Swedish Institute of Management (IFL) in 1974. MTC is a non-profit organisation, thus the projects are financed primarily by major corporations and government agencies. MTC invites enterprises to participate in programs and projects aimed at developing knowledge about influences of market- and service networks on business development. Source: www.mtcstiftelsen.se.

¹⁸ JIBS stands for Jönköping Business School.

The vice director had the task to contact the customer companies by sending an email to present the researcher and the research project. He also contacted each company by phone to assess their interest as well as the accessibility I could get during the study. All customers agreed.

The company Sensys was selected for its endeavour to develop closer cooperation and innovative ways to cooperate with Combitech. Two other customers were Saab Training Systems and Saab Avitronics. They are both owned by the Saab military group, in which Combitech belongs. Yet these customers cooperating differently with Combitech. Combitech was wondering why Saab Avitronics did not shared information openly, while the two other customer companies did. Saab Avitronics was not eager to develop new cooperation forms contrary to Saab Training Systems. This made Saab Avitronics extra interesting to study. Another company, Getinge, a Swedish company providing among others sterilisation in healthcare and life science sectors, seemed to be dissatisfied with Combitech. Yet they had had a long positive relationship with Combitech. Finally the company Kapsch Traffic Com was selected because it bought both consults-per-hour (meaning resource consultants) and whole projects (implying competence consultants). These five companies composed the initial customer pool. In November 2008, the first contacts were established with Combitech. During the year 2009 I collected empirical material from Combitech and five of its customers. Transcribing the material and writing down the thesis took until august 2010 for a first version.

5.3 Material collection

My aim was to use various methods of material collections. One reason was that different collection methods contributed to catch different types of information. Using different methods enabled comparisons and triangulation. Last and not least, I also wished to enjoy the particular freedom of inquiry that is accorded to researchers in Sweden¹⁹...

Initially I made interviews as a way to build trust (Brundin, et al., 2006), meet many respondents and collect a consistent amount of information. Interviews were semi-structured (Kvale, 1996, p. 124). I set up two workshops. I also made observations. It took several months before I felt the time was ripe for asking the Jönköping site manager to observe him “a couple of days”, actually three days. The site manager answered it was much better to observe his subordinate instead, which I interpreted as reticence. This prevented me from asking to video-film. The use of video-film is appropriate when both means (in this

¹⁹ I compare with France where I have my origins as well as with the tales of PhD students from all over the world that I have come in contact with.

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study: activities) and ends (the intended outcomes) are discussed (Jönsson, 2005). Anyway I had the privilege to follow the vice-manager for the Jönköping site during three days, which also gave unexpected gains. Many spontaneous conversations aroused as well as chat, small talk, exchanges of news (Kvale, 1996, p. 5) during these days. Last but not least, these first interviews and conversations provided with some storytelling and/or critical incident analysis (Balogun et al., 2003a) to be used in the second phase of the material collection. One example is presented in an excerpt named “the exception that confirms the rule” in section 6.6.

Interviews

Interviews of Combitech and the five customer companies stretched from December 2008 to November 2009. They took from 20 minutes to three hours, with most of them from 50 minutes to 1,5 hour. Interviewees at Combitech Jönköping gave a consistent picture of the state. The interviews questions (to be found in the appendices) addressed the interviewee in the company, Combitech itself, customers, customer value, competitors and partners. With customer companies I started interviews with the company’s customer and its market in order to better understand the context in which the customers were operating. This proved to be interesting because it settled from the beginning the context into which the interviewed company was competing. Questions on the interviewee’s activities come afterwards. It became then obvious whether the activities were well thought of and fulfilled customers’ requirements.

In practice, I presented myself and then the questionnaire and underlined that we would start from what was considered as the end, i.e. the final customer and finish with their supplier Combitech. The questionnaire started with three short warming-up questions on the interviewee and his/her company for the sake of politeness. By doing this, it became obvious how much performed activities were thought out and related to the final customer’s requirements or needs. A lot of interviewees looked uncomfortable with the questions. Some did funny faces. Others laughed nervously. I sometimes felt the need to comfort them and tell that the difficult questions were soon over. It became also obvious whether or not customers had thought of a strategy around their collaboration with their suppliers. When asked on the strategy of Combitech, one interviewee at a customer company got really surprised and answered:

-“I had never thought of it this way! I pass [the question]!”

Many other interviewees commented the questions by saying “That was a good question!”. I interpreted these reactions as good signs. We were probably revealing links that the interviewee thought should have been connected. No interviewees questioned the relevance of the questions.

The greatest challenge during the interviews was to make all interviewees describes their day in terms of activities. Instead some described the purpose of their work or the process itself. What I wanted instead was a description in

terms of activity as meetings, planning, etc. An interviewee had not answered to the question in term of activities but described his role in the organisation. So at the end of the interview I went back to this point and tried again. But he answered

“I have a mission and this implies plenty of activities. But once again, as I told before, [I] provide the business area with cost-efficient and up-to-date control systems. Then this involves a lot of activities but the priority is pilot studies and concepts.” (An interviewee)

Company drop-out

One of the five customer companies, Kapsch TrafficCom, was excluded from the thesis after four of the five interview transcriptions were conducted. This company was dropped because its profile did not differ significantly from two other customer companies in this study.

Catching other opportunities

I stayed open to other ways of collecting other material related to my subject. The Jönköping office had collaborated during two years with a person educated as a priest and working as a leadership consultant. The aim was to question and eventually widen the management team's way of thinking and leading. The consultant regularly attended their meetings and asked participants to take a break and think on specific issues manifested during the meetings: integrity, influence, authority and so on. Both the site manager and the senior business developer underlined how much they learnt from this experience. This shows that the Jönköping site was not afraid to adopt untraditional learning methods.

During my first interview with the executive vice president located at Linköping, it became clear that he had much to say about many issues. His long working history at Combitech combined with his tenure and his openness were perfect for keeping a dialogue on strategic issues. My interest was anything related to customer value. During the second interview we came to discuss his research topic as he had written a Swedish licentiate thesis²⁰. We have had an on-going mail discussion with a starting point from his current interests. Thus the first questions were: Is there anything from our interview that raised specific thoughts related to customer value? The second question was what are the strategic issues that you find most important at the moment? This on-going discussion gave increased understanding for the company and its specific issues.

Some additional interviews were carried out of curiosity and interest for my research subject. For example the person in charge of the customer relationship

²⁰ His thesis is entitled “Adventurousness and Risks - An explorative study of the creation of the Dialogue Seminar method”.

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management (CRM) tool named LIME in the company Saab Training Systems was interviewed. The rationale was that Combitech employees were complaining about their poor performing tool during meetings I observed. So I took the opportunity to get an interview on and a demonstration of LIME. I also took the chance to interview the former Saab Training Systems directing manager, Hans Robertson, which gave me more background information on Saab Training Systems. By coincidence, the former Combitech secretary of the late Per Risberg, the directing manager, got a position in my business school, which gave me the opportunity to ask some questions.²¹ These additional interviews/interviewees are neither transcribed nor used in an indirect way in the thesis. They are taped still.

An array of material collection methods

My main methods ended up to be interviews, but also observations (three days observations of Jönköping senior business developer both alone and in meetings). Two workshops were carried out as well. After twenty-four interviews with Combitech and the customers, three days observations, two workshops, mail exchanges on strategic issues with the vice-president I realise that observations were really a powerful method of inquiry²². They enabled to catch interaction, argumentation, habits and unconscious behaviours, thus revealing the internal and external business context and the culture(s) in which actors work.

Workshops have the advantage to put actors together and make them interact, question, comment, and add information. After collecting all empirical material, a preliminary analysis was presented in November 2009 to Combitech at Jönköping and one week later at Linköping. The president, executive vice president and Jönköping's site manager were present. (See the appendices for a complete list of the persons who attended.) At both places the analysis received great interest and appreciation, and opened up for further discussion, comments, and information for the study.

5.4 An interpretative analysis

The analysis of the case study is based on codification of the material in themes. Each of the thirty interviews is transcribed for itself and then coded in themes. I coded interviews by theme and used sub themes to reach a detailed level of analysis. Eisenhardt (1989) suggested within-case and cross-case analysis. The within-case analysis implies that detailed case-study write-ups of each

²¹ I also came in contact with Gunnar Vidén, the financial director at Combitech under the Per Risberg era.

²² An excerpt of an observation is provided in the Combitech case study.

case. The aim was to provide a base for comparison and find similar patterns of value creation practices across companies as well as insights that lead to theory building (see Johnson, et al., 2003).

Although I intended to have one case involving several companies, the use of techniques related to cross-case analysis as proposed by Eisenhardt (1989) was useful to deepen the analysis. In cross-case analysis the researcher I searched for patterns. Similarities and differences between identical and distinct sources of empirical material revealed patterns or inconsistencies.

Feldman (1995) advocates the use and combination of four interpretative methods. These are ethnomethodology, semiotics, dramaturgy and deconstruction. With ethnomethodology, focus is put on sense making of interactions and institutions in which people act. In particular it is taken-for-granted practices that are scrutinised. In this research, activities, strategic practices and the reason why these are performed were subject to ethnomethodologist analysis. Semiotics is the subtle interplay between surface manifestations, also named denotative meanings, and underlying structures, named connotative meanings. "Denotative meanings are explicit meanings and connotations are implied meanings" (Feldman, 1995, p. 5). While surface manifestations are explicit and obvious, underlying structures (Feldman, 1995) that make people consider value the way they do were more ambiguous and require more interpretation.

The third analysis method is dramaturgy. This method suits very well strategy as Practice as attention is given to actors, their purposes, acts, means, and scenes in which action take place. With dramaturgical analysis people are in focus, and in particular the roles they play, as well as the strategies they have for producing desired understandings or effects. Finally, the deconstruction method looks for disruptions which are elements revealing the possibility of other meanings in comparison to the dominant meaning in a conversation, a text or an event. This opens for alternative frames for understanding the conversation, the text or the event. Pinpointing disruptions is interesting in case study research as it can enrich the understanding of the studied phenomenon. Gummesson (2000) underpins the relevance of studying disruptions by stating that company processes are characterised by the unexpected and the ambiguous.

In this thesis, and with the use of strategy-as-practice it was appropriate to tap into all types of interpretations, since all signs were relevant for the analysis. Hence, practitioners, their acts (i.e. activities and strategic practices), the motives behind them the means used, the denotative and connotative meanings were relevant for forming a whole picture of interactions. Disruptions revealed interesting information. Alvesson and Sköldbberg argue that researchers may not perform as well in all types of interpretation but that a weak interpretation area or level is often counterbalanced by a strong one (Alvesson & Sköldbberg, 2000).

Finally it is important to underline that analysis of empirical material is a product of the researcher's mind. It is an act of creation. Interpretation means that there are no self-evident, simple or unambiguous rules or procedures, and that

crucial ingredients are the researcher's judgment, intuition, ability to "see and point something out" (Alvesson, et al., 2000, p. 248). Therefore the quality and the truthworthiness of my method need some discussion.

5.5 Research quality

Alvesson and Sköldberg (2000) suggested a set of criteria for judging qualitative empirical research. Empirical arguments and credibility are the first criteria. As a researcher I need to have an open attitude to interpretation of social phenomena. Research quality is strongly linked to the ability to lift up many points by developing insights and problematisations, in which empirical material is used as a starting point for interpretations. My research should show critical reflection on the political and ideological contexts of research. Being aware of the ambiguity of language and its limited capacity to convey knowledge is another criterion that I should pay attention to. Finally my study should contribute to theory development.

Creativity and interpretations do not prevent the researcher from being consistent and truthful. The aim was to be reliable and build credibility around my work (Brundin, 2007). Therefore particular attention has been given to the quality of the detailed notes in observations and to the transcription of each interview. Interviews were transcribed and sent back to the interviewees, who were asked to proofread their own interview and to confirm that I could use the material in the thesis. Most interviewees made some corrections of words. No one refused that I used the material. However, two persons from the same company were very concerned that their anonymity would be kept. One of the two persons asked me to take away a question and his answer. This raised a problem: how far should I let interviewees take control of the material? My question was mine so I decided not to take it away, which would have imply to take this particular question away from all customer interviews. Since I understood that he asked me to do so out some kind of fear, I took the decision to make his answer anonymous so that not even his company would recognise itself in the particular piece of information. Further another company asked me to check the company case as they are quoted on the stock exchange. The finished case was sent to them, and then returned with their approval.

Catching activities proved to be sometimes a difficult exercise as I asked the interviewees which activities they performed during a normal day. Some interviews described the purpose of their activities but not the activity itself, although I went back to the question alter and reformulated it in order to steer them into describing their activities.

Observations of groups of persons, as a methodological tool to catch interactions, were very powerful as the persons observed forget the observer after a while. Czarniawska's (2007) argued that observation can imply that the observer

becomes involved in interactions. In my case very little interaction occurred, and this under coffee-breaks. The reason probably lay in the fact that the attendees interacted and became absorbed by their interactions.

Further, observations seemed to be well adapted in order to study aspects of interactions that can otherwise be difficult for an interviewee to narrate, such as emotions (Jarzabkowski & Spee, 2009) and unconscious reactions. On the contrary, In discussion groups (Balogun et al., 2003b) participants were turned towards me, which did not allow the same level of absorption, and thus attitudes and responses might have been more controlled.

The choice of customer companies always influences the result of the study and therefore it could impact its quality. In this study it is Combitech that chose the customer companies. The first criterion was access, that is, the acceptance from the companies to be part of the study. The second criterion was to have a fairly representation of their main customers. From my side my first criterion was access. The second criterion was to select companies from different industries, in order to make sure that the patterns that would be identified would not be industry specific. In the next chapter the description of Combitech and the customer companies, drawing on strategy-as-practice and the methodological choices is provided.

6 Combitech

In this chapter, the company Combitech is presented with a focus on and from the point of view of the Jönköping site. This chapter begins with an historical and organisational description of the company. In order to introduce the Jönköping site, a description of this business unit in the larger context of the division will be provided. The economic context is depicted and leads to a closer inquiry into sales and marketing issues. Further, information on the relation to Saab as well as the primacy of technical knowledge and competence for Combitech is given. The conclusion summarises the Jönköping interviewees' concern for Combitech at Jönköping and their suggested solutions.

6.1 Introduction

This case is about the company Combitech in Jönköping, which is one of Combitech's sites. Combitech is a technical consultancy company that has its roots in the military part of the company Saab²³, by which it is wholly owned. Combitech, as of today, was established in 2006 when Saab merged the consulting part of the former Combitech group with another of its companies, Aero-techTelub. In 2009 Combitech employed around 800 persons, of which 21 % are female. 77 % of the staff is engineers. The company is present in over 20 locations in Sweden as well as in Germany and Norway. Businesses areas range from defence, aerospace and medicine to telecommunications industries (Combitech, 2009)

²³ In order to clarify a possible misunderstanding concerning the name Saab, the group Saab puts on its webpage the following. "The brand Saab is used by two parties – Saab AB and Saab Automobile AB. Since 2000 the car manufacturer Saab Automobile AB is 100 percent owned by General Motors [...]. Saab AB and the car manufacturer Saab Automobile AB are two different companies with unrelated ownership structures. The name and brand Saab is used by both Saab AB and Saab Automobile AB.

(Source:

http://www.saabgroup.com/en/AboutSaab/one_name_two_companies/one_name_two_companies.htm; date: 20100108)

Combitech facts	
Technical consultancy company	800 employees, of which 77% engineers.
100% Saab ownership	Since 2006 new organisation with solely consultancy

Combitech was founded in 1983, but the company that laid the ground for today's Combitech was a Combitech subsidiary named Combitech Software, which was founded in 1992. The old Combitech group was formally established in Jönköping in 1983 (Risberg & Öhrwall Rönnbäck, 2009, p. 13). Per Risberg was the CEO until his retirement in 1997. The group was wholly-owned by Saab-Scania and was made of a series of wholly-owned subsidiaries, first of all in the towns of Jönköping, Linköping and Göteborg. The basic idea was to conduct business in an entrepreneurial way in companies that were application oriented rather than technically oriented. This business would be backed up by a highly technological company, read Saab-Scania, that would enable collaboration on key competences as well as economic stability for alternating between investments and value realisation. (Risberg, et al., 2009, p. 13)

The story told unanimously by the interviewees is that the company Saab had to make redundancies but wanted to keep access to the competence of eight particularly skilled engineers. Therefore a company called Combitech Software was established to gather them. However the book written by the former CEO (Risberg, et al., 2009), does not confirm this version. His explanation was that Combitech Software AB was a spin-off of Combitech. The date of foundation, 1992, is the same in the two versions. Combitech Software AB would specialize in embedded real-time systems for Saab, the private market as well as an Australian customer towards which Combitech had made special commitments on aftermarket services.

The Combitech corporate group grew very quickly and counted almost 2000 employees. In 1997, Combitech consisted of Combitech Electronics (electronics), Combitech Innovation (development company), Combitech Network (IT security), Combitech Software (real time systems), Combitech Traffic Systems (automatic road toll systems), IV Image Systems (systems for movement analysis), Pronesto (technology trading), Saab Marine Electronics (radar-based level-gauging systems), and Saab Survey Systems (airborne measurement). (Saab Ab, 1997, p. 48)

However Combitech was dismantled by Saab according to Wallenberg's initial plans of value realisation (Risberg, et al., 2009). Saab gathered most of its consultancy business into one company. Left was the subsidiary, which had changed name to Combitech Systems in 1999, with around 300 employees. The new Combitech, simply named Combitech since 2005 would only work with consultancy towards the same customers. The head offices were moved from

Jönköping to Linköping in 2006, where Saab has its own head office. Linköping is situated 130 km north of Jönköping, approximately 200 km south of Stockholm, Sweden. However the Linköping site was settled already in 1987 as a subsidiary to the former Combitech.

Since January 2006, Combitech has been subject to organisational transformations. Indeed, the new Combitech was merged with AerotechTelub to form today's Combitech in 2006. AerotechTelub came from a different background. AerotechTelub's primary market was state-owned companies of which the Swedish Defence Materiel Administration ²⁴ was one of the largest customers. The company had a larger proportion of total projects driven in-house. Apart from technical consulting, the business also included business and management consulting. AerotechTelub employees were in average twenty years older than those of Combitech's and many had a military background.

6.2 The parent company

Combitech consists of two divisions, System Engineering and Security Solutions, which roughly correspond to the two original companies merged at the creation of the new Combitech. System Engineering originates from the old Combitech. The main competence is based on embedded technical systems said the CEO. According to her, this division has a wide range of customers but most of them come from the Saab group and the civilian market. Consultants from this division are often based in customers' companies, participating in product development projects side by side with the customers. This division is commonly referred to as "the industry" by interviewees. This is the division to which the Jönköping site belongs and therefore the one in focus in this thesis.

The other division, Security Solutions, reflecting the market of AerotechTelub, has the bulk of its customers in the Public and Defence sectors. This division has driven projects on its own account, but also entire customer projects in-house as well as projects at customers' companies. The missions included technical, business and/or management consulting. The System Engineering division, the division in question in this thesis, is composed of five business areas. This division has offices in the towns of Stockholm, Västerås, Linköping, Jönköping, Växjö, Göteborg and Malmö. The Linköping site, employing approximately 340 persons, is the only one to host both divisions and all business units.

²⁴ FMV is the Swedish Defence Materiel Administration, an independent, civil authority. [Its] primary task is to provide the Swedish Armed Forces with materiel, systems and methods [...].

(Source: <http://www.fmv.se/WmTemplates/Page.aspx?id=680>, 20100104)

The new Combitech after restructuration, mergers and divestments

Combitech as of today is very different from what it used to be. After a first period of structural continuity, from 1983 to 1997, Combitech has been subject to constant restructurations, through divestments, mergers or restructurations on a Saab level. The executive vice president declared that these changes mostly depended on strategic issues related to business and not technique itself. According to the actual chief executive, the company has undergone continuous organisational changes since its creation in 2006. The same can be said for the period between 1997 and 2005. During this period Combitech's organisation and strategy were profoundly remodelled. From being a subsidiary company, Combitech became a business area in the parent company Saab, on January 1, 1998. The aim was to redirect focus on Combitech's role as a "hothouse" for innovations with commercial applications originating from military programs (Saab AB, 1997, p. 35). Saab AB declared the intention to get rid of all operations not in line with Saab's core activities or operations showing weak profitability (Saab AB, 1997).

From the Saab annual reports it is not always clear how the restructurations were made and what happened to the Combitech companies in specific details. But still, annual reports report that many companies were divested in the following years. In 1999, the Jönköping head office was dissolved and operations were managed from Linköping (Saab AB, 1999a, p. 48). In 2002 Combitech Systems, registered in Jönköping, became a wholly-owned subsidiary (Saab AB, 2002, p. 30) and became part of Saab Systems on January 1, 2003 (Saab AB, 2003, p. 8). In 2005, Combitech, which was previously part of the business unit AerotechTelub provided consulting services as announced in the Saab AB annual report of 2005. This change was part of a comprehensive restructuration of Saab's legal corporate structure. It coincides with the new company name: Combitech (Saab AB, 2005).

"All operations, excluding the consulting portion of AerotechTelub AB, were also transferred to Saab AB, while the consulting operations remained in the company, which changed its name to Combitech AB. The operations of Combitech Systems AB were transferred to Combitech AB". (Saab AB, 2005, p. 27)

In 2006 Saab moved the remaining consulting services to the business unit Saab Combitech, which was also mentioned by the executive vice president during interviews. In 2007, the part of the business that dealt with the car industry was sold to the company Caran (Saab AB, 2007, p. 40). The business dealing with the Civil Security market was moved to Saab as the Saab group acquired its own Civil Security business. Among the acquisitions, there is Caran System Engineering, which today corresponds to the Logistics & Design Business area in Combitech. Combitech has reinforced its business with mechanical and logistics consultants and hired 70 new communication consultants to the defence

business during 2008. Today the company's only business is technical consultancy, which means that there are no tangible products as it was in the past. A description of the actual organisation is made in the following subchapter.

Combitech's organisation

The organisation is made of several hierarchical levels. The executive president at the top is followed by the two executive vice presidents each accounting for their own division. Since 2006, Combitech's CEO is an engineer who made a career in the company AerotechTelub. She has a strong interest for financial control and has endorsed different controller tenures since the beginning of her career.

I have worked a lot as a controller, with business management and business efficiency issues.[...] This is my experience and this influences what I am interested in. This type of issues is fun. (The CEO)

After being promoted as executive vice president of AerotechTelub she moved on to be Combitech's CEO. In addition she has also been a member of the board for Combitech Systems AB. The executive vice president of the division in question is also an engineer. He has worked for Combitech since 1994. He is the one who established the Combitech site in Linköping while the company had its head offices in Jönköping. He has therefore always had a leading role at Combitech in Linköping. His positions in the company have ranged from being an entrepreneurial consulting engineer to executive vice president. To the question which issues he finds most interesting he answered the following.

Something that I have been working much with is competence development. This is what [my] licentiate thesis is about. [...] The other thing I find interesting is business; customers and business. (The executive vice president)

Besides top management there is a staff that supports and advises top management. One of them is a senior business manager who holds this tenure in the System Engineering division. Each division is divided into a series of business areas, which are Industry, Aviation, Telecommunications, Logistics and Design, Information Security & Project Centre, Communication Control and Communication. Finally the business areas are made up of several business units accountable for their economic results.

The CEO argued that the company is not geographically organised, that is, all business areas have business in more than one place. She added that the organisation is not a matrix organisation either, rather a line organisation. She has little confidence in matrix organisations because they tend to complicate things unnecessarily. In case there is a plan or a project to be made in a specific customer segment, employees involved in the work have to form a working group that may go across business departments.

As a result, several geographical sites can form a business unit as is the case in Jönköping and Växjö. More, a site can have activities in both divisions and thus belong to two different business units, as is the case of Växjö. In other words, Jönköping and Växjö form collective a business unit but Växjö also belongs to the other division.

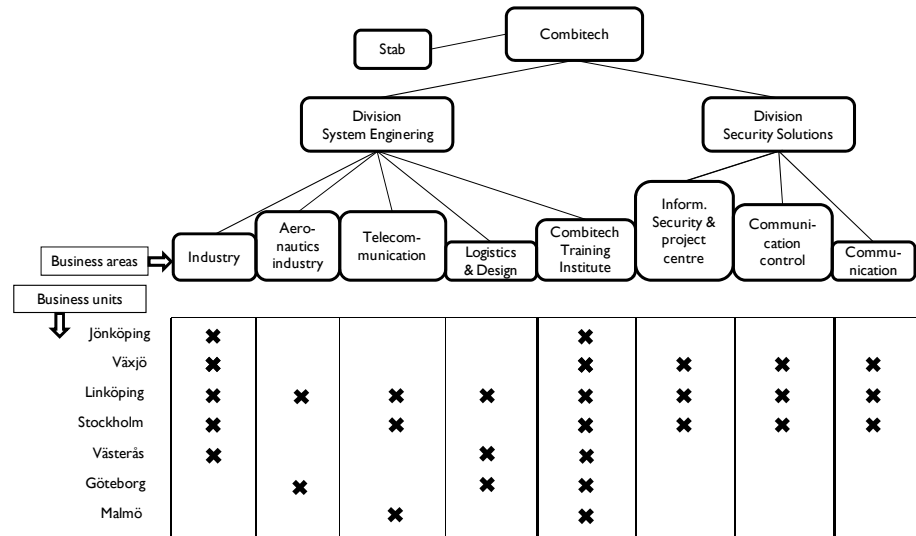


Figure 6-1 Combitech's organisational chart from a System Engineering point of view.

The activities from the Security Solutions division represented in Figure 6-1 are only those sharing an office with the System Engineering Division. Further, several respondents said that they knew the Security Solutions Division too little to be able to give an accurate picture of it.

The figure below is related to the previous one by the business area row. It illustrates how Combitech perceives and divides the market for consultancy services (at the bottom of the figure) and how business and competence areas are organised to meet the market (towards the top of the figure). The arrow links the logics of Combitech's organisation to the market structure.

Parallely to the organisational structure of the company, Combitech considers that the market to be made of three broadly defined segments, the civilian market, public-benefit corporations and the defence sector. Further, Combitech divides the customer market for technical consultancy into six segments, which are Industry, Telecommunication, Public-benefit organisations, Aviation, National defence (i.e. Swedish Defence) and finally Defence Industry, which includes the foreign defence sector. According to the CEO, these segments are aimed to cover the bulk of the consultancy market.

6 Combitech

Although some of the terms for business areas are similar to those chosen for describing customer segments, business areas are not limited to customer segment with the same name and work towards several customer segments. In fact all business areas work towards several customer segments. For example the Industry business area has customers in the Industry, Aviation and Telecommunication customer segments. The Industry business area offers an array of services based on different competence areas. Similarly, other business areas as the Logistics & Design area can offer purchasing services to customers in the Industry segment, Telecommunications segment as well as to public benefit corporations.

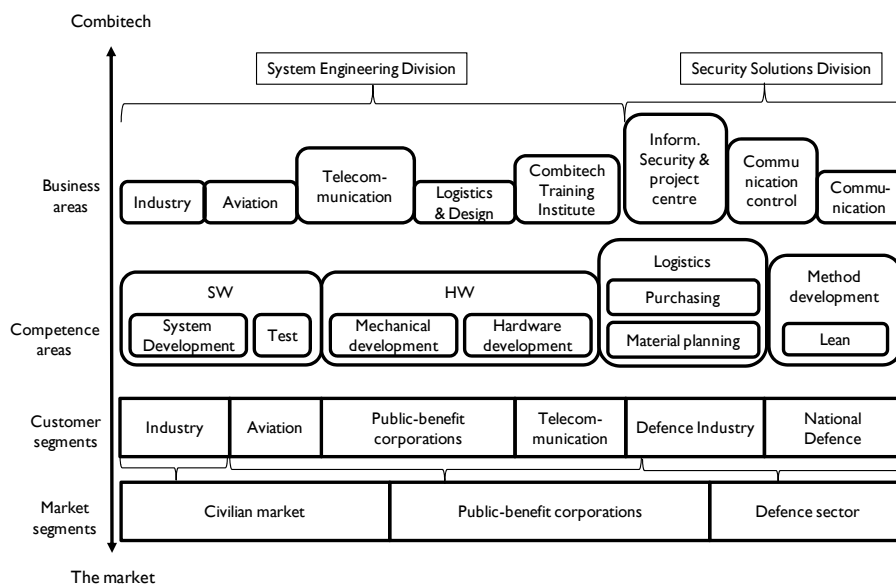


Figure 6-2 Combitech's organisation and the market structure, own adaptation.

The specificity of the Industry business area is its numerous customers and fragmentation. This customer segment is very large. According to the CEO, potentially interesting customers should have substantial consulting needs in the long term. Volume is a key factor for playing an influential role compared to other suppliers, said the executive president.

According to the CEO, the complex organisation is typical for companies in the consultancy business. Further Combitech offers a wide range of technical services from various competence areas to almost all customer segments. She admitted it is complex.

Now and again it is a challenge to explain what one is working with. (The CEO)

During the interviews, it became obvious that it was also a challenge for the employees to provide a clear picture of the organisation as well as of the historical background of the company. From the beginning Combitech was named Combitech Software, then Combitech Systems and now Combitech. At the same time Combitech can be considered as a relatively young organisation in its current form established as late as 2006. An interviewee stated that:

In a way we are rather young, the company was created 3,5 almost 4 years ago. (An interviewee)

Although the company is young, it has roots that go back to the former companies it is created from. When asked about the history of the company, some referred to Combitech in Jönköping and answered that the company was established in Jönköping in 1992. This is the case for Combitech Systems. But the group Combitech was established in 1982, formally on January 1, 1983.

6.3 The Jönköping site

The Swedish town of Jönköping is located in the most entrepreneurial region of Sweden. Jönköping is the fifth largest town in Sweden and the centre of the county Jönköpings län, the most entrepreneurial area in Sweden, where small businesses²⁵ are more frequent than in the rest of the country (28,8% compared to 25,2% in 2008)²⁶. 90 to 95% of the 60 employees at Jönköping site are consultants. The remaining members of staff work with administration and human resource issues. Some members of staff work in Jönköping but belong to the parent company in Linköping, a situation that occurred when the parent company moved to Linköping while some staff stayed in Jönköping. Some of the Växjö employees belong to the same business unit as Jönköping. Their manager is an engineer who started working at Combitech as a technical project assistant but soon became the Jönköping site manager. Since 2006 he is responsible for a business unit previously consisting of the Jönköping office, and parts of the Växjö and Göteborg offices. Today this business unit consists of the Jönköping

²⁵ Small businesses are defined as all companies employing from 1 to 49 persons. This means that one-man businesses are not included in this definition. According to this definition, the Swedish industry is almost only made of one-man and small businesses when counting the number of businesses.

²⁶ Source: <http://www.ekonomifakta.se/sv/Fakta/Regional-statistik/Alla-lan/Jonkopings-lan/Jonkoping/?var=2634>, 20100114.

site and part of the Växjö one, only. To the question which issues he is most interested in, he answered as below.

The most exciting and interesting is business development: to take the business ahead. It is not about to do all alone but to manage the development. This is really exciting. [...] Then to do sales and market work: it is always a kick to put a piece on business. To meet customers or co-workers is inspiring. Meeting people is what I like. (The Jönköping site manager)

The function of a business unit is to take care of business on a daily basis and ensure that consultants are hired out and work with new contracts. Business units are involved in long term business development for a specific segment for which they possess specific market and customer knowledge.

Customers of the Jönköping site come from different industries. Therefore there is a high level of fragmentation, and according to several interviewees, the highest level of competition. None of the business units in Combitech Systems Engineering has only one business area, except the Malmö business unit. However competition on the telecommunications market in which the Malmö business unit works is not as fierce. The other business units have several markets (as Aeronautics Industry, Telecommunication, and/or Logistics and Design). Further they host sometimes activities from Combitech Security Solutions Division, which mostly concentrate on the Defence industry.

The Jönköping site sells software and electronic product development consultancy and/or courses. Courses deal with management consulting for product development departments that are eager to increase their efficiency. These courses can be given at the customer's company if there are enough participants. They are named "Just-in-time Training" as they are conducted at the customer's company during the product development project. An interviewee ensured that these courses are effective for increasing technical knowledge in change projects.

Jönköping's customer companies have between 3 and 10000 employees. The smallest companies have no product development department whereas the largest ones have departments employing as many as 100 engineers. Many of the smallest customer companies imply an economic risk when doing a piece of business. Sometimes up-front payment is required to avoid taking the risk oneself.

[The size of the different customer companies] shifts enormously, which implies that conditions for doing business also vary very much. (An interviewee)

The management at the Jönköping site considers that the prevailing business model of fee per hour does not fit the specific and varying conditions of the Jönköping market. Top management is aware of the market differences prevailing and the competitive challenge Jönköping faces.

In Stockholm and Linköping we are used to get orders from customers. We have comprehensive contracts and large customers. We can lie back waiting for someone to call and say 'we need a consultant'. [We answer] 'Oh how nice!' and then we take a look at the ones who are not hired out. It is like doing a jigsaw puzzle. 'Soon this one will be finished and will fit here'. That is how the transaction looks like. (An interviewee)

On the contrary Jönköping has to fight for meeting shifting customer profiles and conditions. Interviewees at Jönköping are concerned with the threat of low margins, a fragmented market and harsh competition, which will be described more thoroughly in the next chapter.

6.4 Market pressures

The Swedish technical consulting market has developed tremendously in the last two decades. From the beginning prices were very high: it was the seller's market. The issue was not an economic one, but more a question of customers' use of consultancy services. The difference lies in whether customers were used to hiring consultants or not. But this situation has changed successively.

The market today

Today the technical consultancy market consists of three major competitor types, apart from technical consultancy companies like Combitech. There are the employment service companies, for example Manpower, Proffice or Poolia. Their strength rests on their ability to recruit manpower without having to give secure employment conditions. According to an interviewee, this type of companies has a business model that is not based on knowledge but on hiring out manpower. Therefore competence development is not prioritised. It is considered a cost not necessary. The second type of competitors is people with cutting edge competence who become one-man consultants. These persons are attractive for companies who need their knowledge. Competitor type three, which is growing, are organised into consultant networks. Examples on the Swedish market are ElanIT and Assistera. These networks give them access to numerous one-consultant or small businesses through databases. Their strength lies in the ability to quickly find the right competence in their network. More, they can look like large companies when having 20000 names in their database, although they are only five employees in the particular company, said an interviewee. Finally, Combitech System Engineering's direct competitors are the traditional technical consultancy companies as the ÅF Group, TietoEnator, IQ, ENEA. In Jönköping the competitor Cybercom is the second largest traditional consulting company after Combitech.

The trend on the consulting market is towards internationalization or even globalization. Although most of the Swedish technical consulting market is still national, more and more foreign competitors enter the Swedish market. Meanwhile Swedish firms are looking for solutions beyond borders. This is especially true for companies with mature products that have passed the early product life-cycle stages and now focus on production efficiency and lower costs.

[Customers with mature products] search abroad: where can this be produced the best way? (The CEO)

This trend develops at different paces according to the market type, said the CEO. On the civilian market (corresponding to the Industry customer segment) the demand for efficiency is the highest and so is the internationalisation process. On this market, competition occurs between suppliers having worldwide resources. According to the CEO it is then necessary to compete in a similar way. As for the military market product development is already very international. The similarity between the two divisions is the international trend.

The economic challenge

The core issue for the whole Combitech is the one of profitability. Despite excellent earnings in 2008, the company is aware of the dangerous trend of declining prices associated with higher costs. The business is suffering from lowering profitability. An interviewee compared costs with earnings.

It is a very sensitive system. [...] We start earning money on Friday afternoons. Before that everything is absorbed by costs. (A senior business developer)

The high earnings of 2008 are due to customers' effort to finish projects on time. According to an interviewee coming to an end is a sure sign of economic boost. Customers are in a hurry to finish all the projects they have taken on in time and are prepared to pay the price it takes to do so. This situation enables consultancy companies to sell more hours to the customer than in normal conjuncture. It is at the end of a boom year that one earns most. However high earnings are different from good profitability and several Combitech interviewees are interested in different business models.

From the Jönköping site's point of view, and compared to the Linköping market, competition is more fierce since many of the customers are small companies. Conversely to Linköping, Jönköping has not the possibility to rely on only a few large actors. The Jönköping site vice manager thinks that business models should vary to adjust to the different business conditions. Yet it is not so. In the overwhelming majority of cases the business model is a consultant per hour model.

If we take a look at our business models, it is based on fee per hour and we send a monthly invoice. There is also the fast price model as a complement of course, which implies that we take a greater responsibility, a “we-develop-this-software-or-product-for-this-price” responsibility. In those cases we send an invoice at the end of the project. In those cases we take more responsibility and more of a risk. But in the overwhelming majority of cases, we work a month and then send an invoice. (The senior business developer)

The consultant per hour model is commonly named resource business or resource consultant. It is characterised by a simple transaction where a consultant just “fills a hole”, that adds workforce to the project. The consultant does not develop the customer company by bringing new knowledge, as is the case with competence consultant.

An interviewee explained that in this type of resource business advantages are quick access to the right consultant and efficiency. This type of business model is easy and low risk for the consulting company that does not have to take responsibility for the length of the project nor for its result. If the project is delayed, customers ask for the consultants to stay longer in the project, which means that the consultancy company can send invoices to the customer an extra period. In other words, this business model is profitable with customers that are in a hurry to finish development projects on time. According to an interviewee, some customers consider that Combitech does not contribute so much when they hire this type of fee per hour model. The Jönköping site vice manager stated that there is a urge to change business models to get paid for something more than a consultant per hour.

Other business model concepts

The unsecure context provoked by the economic crisis compels companies to rethink their ways of doing business. Business models are questioned and new ones are invented. Focus lies on business models nowadays, declared Combitech’s vice-president who added that several were developed in collaboration with customers. These new business models epitomise a change in the technical consultancy business. In order to create new business models, the management team in Jönköping organises creative thinking sessions. Some of the business models below stem from these sessions.

The fixed price model

The fixed price model implies that Combitech takes an order of a technical project and run the project for an in advance specified price. According to an interviewee, the demand for fixed price project is growing. From the customer’s point of view it means that a whole project or part of a project is outsourced to the supplier. The customer lays the responsibility on the supplier. As the sup-

plier has promised to deliver a finished project for a fixed price, any delay is at the expense of the supplier. This model is risky and requires a full understanding of what the customer wants in order not to develop the wrong product or function.

[A failed fixed price project] depends on the fact that [the supplier] and the customer do not have a common understanding of what will be done from the start. One can promise something on an unclear basis. And in order not to jeopardise the relationship one keeps on doing what the customer says. In these cases one loses money. (An interviewee at Jönköping)

The fixed price model is a way for the supplier to get large projects and for the customer not to take a large financial risk. An interviewee explained that suppliers' willingness to take on a fixed price project is a proof of the customer's future product potential. The customer is happy to see that the supplier puts stakes on its project. However Combitech has had several negative, and thus expensive experiences with this model, which makes top management reluctant to allow future fixed price projects. The fixed price model is risky as it means that one takes an order without knowing in advance which difficulties the development project will meet. Furthermore it is difficult to have control on all expectations, principles and other things that can change in the course of time during the project. Each development project is unique and therefore it is a mistake to believe that one can predict and plan in detail the product development process two years ahead, said an interviewee. People in the project have to adapt to external changes and unexpected difficulties. Sometimes something totally unexpected can have an impact on the whole project.

The half fixed price model

In order to limit the risk and get a better understanding of a project's difficulties and pitfalls, Combitech has used the half fixed price model. It is a way to share the costs with the customer and thus protect oneself from extra costs. In this model Combitech and the customer define an expected level, a higher than expected level and finally a third level where all costs are shared with the customer. Customers are not always convinced that suppliers really will share costs if those reach the third level and are positively surprised when Combitech does so. From Combitech side the challenge is to cover wages and other costs, which an interviewee pinpointed is far lower than half the price the customer would pay on the third level. Yet, according to an employee, it is tricky to make customers think that Combitech really shares the costs.

The in-house option

Besides the economic conditions for development projects there is the possibility to have the development done at Combitech, which from a Combitech point of view is an in-house project. From the customer's point of view, it

means that part of the project, defined into a package, is handed over to Combitech, for development at Combitech's office. For consultants in-house development changes work conditions substantially.

I do not need to be involved with the [customer's] daily work in the same way. With in-house projects, focus is on delivery. [At the customer's company] one is more directed by their daily project activities. 'Now you should do these things' they would say. I do them but... When working in-house we can direct the working process. Partial deliveries are the goal and not the customer [daily work], which makes it easier in some cases. This makes a huge difference. (A consultant)

The role of the consultant is a bit different in-house compared with being at the customer's site. In-house consultants just have to hold the customer updated and make sure that what is developed is the right thing, that is, what the customer expects, and of course to deliver on-time. The consultant is free to decide how to carry on the job. But he or she is accountable for making the product or the system work.

At the customer's site, the consultant has to fit in the group and follow instructions given by the project leader. Communication is thus done with more persons. When there is a group leader other than the consultant, the consultant does not manage the whole project as it would happen in-house. Responsibility for making things work is not as obvious. The role of the consultant at the customer's site is more the one of a "programmer".

From the point of view of Combitech, in-house projects mean that consultants have the responsibility for documentation. If the customer would have a question on the product or the system, Combitech would have to check their documentation in order to answer. Documentation helps developers recalling details, choices, and methods chosen. It can be useful in case a system needs to be improved, repaired or copied. The advantage for Combitech of having consultants developing in-house is the possibility to involve them on additional projects thanks to physical closeness and time gain by not being involved in the customer's daily operations.

Young engineers

One of the business models invented together with the Swedish telecom company Ericsson is "Young Engineers". Newly graduated engineers are offered a consultancy job and competence development. After a specified period of time, the person can decide whether he/she will stay at Combitech or be employed by the customer. The advantage for Combitech is economic: newly graduate engineers are not as expensive as experienced ones. Competence development is rationalised as it is done repetitively for a large number of engineers.

This business model is so successful that it is being copied by competitors, pinpointed the vice-president. Amused he told the following story. A former

Combitech colleague working in the consultancy business phoned the vice president to tell him about another competitor that had marketed the “young Engineer” concept on its web pages and called it new and genial; three years after Combitech, though.

HomeShore®

HomeShore® is a two-years old Combitech business model concept. It resembles outsourcing but in the home country, hence the name.

We try to create a low cost concept in Sweden that we call for HomeShore® instead of offshore. (An interviewee)

The advantages are several for the customer. It enables the customer to keep close strategic knowledge and have regular contact with the supplier. From the supplier’s point of view the strategic aspect of the work opens the doors to top management where decisions are taken. The success of this business concept has been tremendous since its introduction. The concept is not yet copied as far as Combitech knows. And the details of the concept are kept secretly.

The ultimate question with all these business models is whether or not they will enable Combitech to sustain profitability in the long term. Several interviewees pinpointed the lack of marketing activities from the company as an obstacle for sales and profitability. Before discussing marketing issues, we will take a look at the sales practices at Combitech.

6.5 Sales practices at Combitech System Engineering

Combitech System Engineering, the division in focus in this study, differs from the other division, that is, Combitech Security Solutions. The executive vice president underlined that the two divisions come from different worlds and have different customers, which paves the way for a large gap between business cultures. While Combitech System Engineering works on the civilian market, the other division’s customers belong to the defence sector: defence industry and national defence. Although part of the national defence business is international and thus exposed to foreign competitors, defence authorities tend to choose national suppliers for security, political and/or economic reasons. Therefore suppliers can count on the State for their incomes.

On the civilian market, on the other hand, orders cannot be taken for granted. Indeed, the customer could decide to keep on developing technical projects in-house, without a supplier’s cooperation. The customer could also outsource abroad. It is up to the supplier to make the customer consider the possibility of hiring technical consultants and convince the customer that this particular sup-

plier happens to be the best alternative. Thus there is a tremendous job to be done upstream. In the Swedish defence sector there are not so many actors that can build military flights for example. This is not to say that there is no need to influence the customer in the defence sector but this is done differently. However interviewees in Linköping and the ones in Jönköping have not got the same view of sales activities. These different views are presented below.

Sales on the Division System Engineering level

At Combitech System Engineering, marketing and sales are the responsibility of the business unit, according to the vice-president. He added that proximity to the market and customers is the key. To support sales and marketing activities, there is a responsible person. Combitech's CEO works closely with Saab top management and can hence open doors in other Saab companies.

For the executive vice president, sales are an activity done at all hierarchical levels and in several places. He describes sales as a long-term activity from top management interacting with the customer's top management and middle managers having regular contacts with the customer. Sales are described as a swarm.

It is a swarm of activities that have to be directed in the same direction. If we decide to approach ABB then the whole Industry business area and top management, here and there, have to cooperate to make this swarm come true.
(The executive vice president)

To rise customer's interest is what the sales activity is all about, declared the vice-president. Therefore there is no meaning to have full-time employed staff dedicated to sell to ABB. The vice-president thinks that it would not be clear what these persons would do for the rest of the time. The core question is how to build up such a business on a long-term basis. Sales activities require to introduce the supplier's competences at all levels of the customer company. More, sales have to be reinforced with an interesting business model, an understanding for customer value and long-term vision right into the customer's top management sphere.

The point with marketing, explained the vice-president, is that it supports sales but does not *make* the sale. According to him, the transaction has to be created with personal contacts. This happens only when people meet physically. To sell a qualified competence is never done from a piece of paper because the paper cannot explain what kind of competence Combitech can provide the customer with. Further, papers do not build trust between the buyer and the seller. In order to do business, one has to solve a problem for the customer. The customer having a problem describes it for the supplier who tries to solve the problem by suggesting solutions and tell him about previous solutions implemented at other customer's companies. As the customer starts reflecting on these, a dialogue is created between the parts. The parts solve a problem together. At this

point the customer accepts to do business with the supplier. The vice-president concludes the following.

Complex service sales, as I see it, require a management and sales and marketing function that understand the complex content of the service because during the sales one solves the problem together [with the customer]. (The executive vice president)

Sales on the Jönköping business unit level

The Jönköping selling area is concentrated within a radius of few miles and is focused on consumer electronics and electronics industry. The few customers not within this distance get help in-house, that is, their project is developed at Combitech. Combitech consultants visit them for the final presentation when the project is finished. Contacts with customers are done through visits, telephones, social events, and e-mail. Since Jönköping is a relatively small town customers and suppliers might meet each other anywhere in town. It could be at schools or kindergarten, where discussions are more informal, said one interviewee. Sometimes customers are old colleagues who used to work at Combitech.

Because hiring out consultants on the business unit level is a daily activity the accountable staff has to up-date the information about the allocations of their consultants constantly. Most commonly, customers contact Combitech that send a CV, a letter of intention and price information for a suitable consultant. The customer chooses the person that seems to best fit the project. If the customer is interested the consultant is interviewed by the customer, who may have other interesting profiles to check before taking the final decision. The letter of intention is written by the Jönköping site manager who, there, presents the consultant in a more attractive way, while the CV focuses more on technical knowledge and skills. However attempts to refer to customer value are few and fumble, declared an interviewee. In those cases arguments on availability, prompt consultant delivery, or good references for the consultant are raised. But the expression “customer value” itself is never used.

Buyers are project managers and product development directors. It is not always easy to pinpoint a user since what is performed for the customer is part of a system developed with staff from the customer organisation. What the customer perceives is the consultant’s valuable contribution to their organisation.

The Jönköping site has categorised their customers into three groups. This categorisation does not follow the segmentation made on the business area level since customers in Jönköping are much smaller and thus do not fit this segmentation based on size. The Jönköping categorisation is meant to guide sales strategy and activities based on customer type assessed in term of company size and the amount of consultants bought per year. The three types of

customers are key customers, potential or new customers, and existing customers depending on their buying amount. For potential customers, selling is a matter of establishing the first contacts. The higher these contacts are, the better is the possibility to influence the customer.

All customers are the technical development departments and their director. These are our customers. [...] We are quite unused to contacting people higher in the hierarchy. Now David does. He is the only one who dares talking to presidents in any company. I do not know, there is a belief that the higher up people are in the hierarchy, the more dangerous they are, which I think has prevented us from get in contact with these higher levels. [...] In the past we have not talked to company presidents. Yet it might be at his level that we can make a profound change. This is the place where we can decide on more comprehensive cooperation schemes (The senior business developer)

The picture given by interviewees from the Jönköping site is that sales activities are a daily occupation carried out in a small area, with a specific market different from the rest of Combitech's sites. This last characteristic implies the need for Jönköping to tailor its own solutions. Further efforts have been made to organise sale work by categorising customers, but market and sales have not yet agreed upon a common view on customer value.

The hiring process

This picture represents the consultant hiring process from need generation to evaluation of the accomplished mission. It takes a customer's viewpoint and thus makes suppliers discuss the hiring process from the customer's point of view, as illustrated in Figure 6-3.

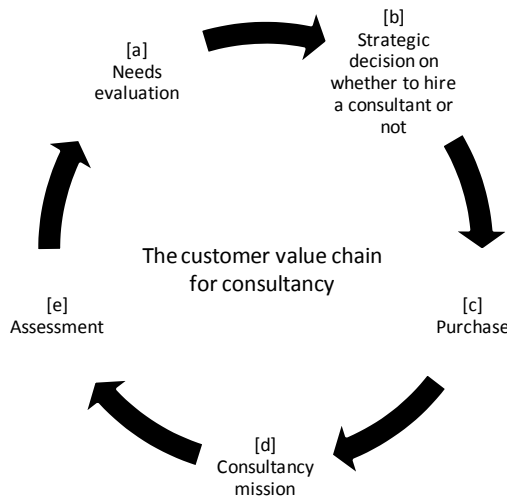


Figure 6-3 The customer value chain for consultancy, source: adaptation from Vandermerwe, 1993.

Either the customer contacts Combitech or Combitech contacts the customer. For potential customers, Combitech has to present itself in broad terms, since it is not yet clear what the customer wants. Hopefully the two parts start discussing the customer's needs. Small companies, particularly, appreciate to have discussions about their needs. They get to think of details or aspects they had not thought of before. Large companies are more used to assess and plan for their own needs. Regular customers usually call and ask about available consultants. In most cases, sellers at the Jönköping site have to ring and ask for upcoming needs.

We call and check needs constantly. If we hear that a customer starts a new project we have to call several times and ask whether they need someone. Otherwise it is not sure that the customer will call. (A business developer)

Hesitations from the customers can be due to many factors. Maybe the customer has found a more interesting profile at a competitor's company. Perhaps line managers are waiting for a decision to be taken by top management. It could depend on finances or on a strategic decision for a product line.

The competitor winning the deal is the one who provides a consultant that best matches customer's requirements. Knowledge and skills and work experience are the first criteria, after the price is secondary. Yet, preferred suppliers, or those who have a basic agreement, blur the ranking and are given priority.

Most customers contact Combitech after they have assessed their needs [a] and taken the decision to hire a consultant [b]. The contact is taken somewhere between the decision [b] and the purchase [c] itself, as the need for a consultant is often pointed out by the line manager, who asks the purchasing department to hire a consultant from Combitech and to take care of the practical issues [c]. It is not always the purchasing department that hires the consultant or even take care of the practical issues. In few cases some customers take an open discussion with Combitech already at the needs evaluation phase.

Several interviewees at the Jönköping site pinpointed that this interaction with the customer could include other information related to the customer's competence pool, for example, and Combitech's activities that enhance value for the customer. This is a marketing issue: something they feel lacks tremendously at Combitech.

6.6 Marketing starvation

Interviewees at the Jönköping site blame their anonymity among potential customers for their lack of marketing activities. According to an interviewee many customers do not know Combitech. Only some potential customers have heard about Combitech. The only ads where Combitech appears are job ads in the Swedish technical newspaper named NyTeknik²⁷. It is up to the customer to make the effort to figure out what kind of company Combitech is through the type of recruiting profiles that are advertised.

The exception that confirms the rule

On our way to Stockholm towards a market meeting that I was to observe the senior business manager of the Jönköping site, received a telephone call from a potential customer. After the conversation, he, obviously amazed, explained that the customer had phoned on his own initiative. Potential customers never call Combitech. It is Combitech that contact them. Only once before did a potential customer call. The senior business manager of the Jönköping site has worked at Combitech since 1997...

This anonymity makes first contacts tricky as customers have never heard of Combitech before. It is as if Combitech business developers always have to make the first step and contact the customer since potential customers never make the first call. The Jönköping site's senior manager compared this situation as if Combitech has to make the "push" while the market makes no "pull".

²⁷ New Technique

Customers that engage Combitech often have employees that have worked at Saab before or know someone who have engaged Combitech. An interviewee wished that potential customers would call triggered by ads in the newspaper on Combitech's technical knowledge and expertise. This situation is all the more irritating as competitors do market themselves in a much more intensive way, said the interviewee.

This opinion of the lack of marketing activities is shared among the interviewees at Jönköping who stressed, from the first meeting, how happy they were to participate in research on customer value. The management team brought up its concerns for market work that it felt was lagging behind. The Jönköping site manager said that Combitech was suffering from "marketing starvation"²⁸. Commenting this first meeting one month later he declared the following.

You must have felt the positive vibes when you met us, I hope. When you tell about what you want to study and do, one realises "Oh God! How much more we could have done on this!" [I mean] to ensure our customer value, to tune in with our customers, [and] the market... I mean find out in an easier way what our strengths are. I can't state that we have reached a strategic level for customer value work and how it can be developed. (The Jönköping site manager)

It is not just marketing activities that are lacking but also market knowledge. Interviewees at Jönköping recognised that they had little clue about what customers really want and what customers think of Combitech as a company. The vice-president, who has to manage sites that are very different in size compared to the Linköping head office, echoes this problem. He admitted that it is a major challenge to find something in common to Combitech. What is customer value for Combitech? What does the brand mean? And what is unique for Combitech? Those are questions he would like to find answers to.

No marketing department

Combitech has no marketing department. Several interviewees confirmed that there were probably three persons out of 800 employees who have some kind of marketing education. The company gets market information through business developers that have contact with customers. Business developers work with different markets and different customer segments. Consultants at customer companies are the ones who provide specific information on customers' needs together with business developers. The CEO thinks that a central marketing department for the whole Combitech would not work. Instead one should work very closely to the different customer segments. Market and mar-

²⁸ [Marknadsföring] är en "svält föda" hos oss.

keting activities are decentralised to the divisions and so are sale activities. Combitech has no marketing department.

The responsibility for doing business lies on the divisions. [...] We have no specific marketing department. Sales are done on the business unit level under the supervision of site managers. There are also those who work more specifically with business development, market, etc... These persons belong to the divisions. So we have no staff working with market issues. (The CEO)

In line with the CEO, the executive vice president considers that marketing alone is not sufficient for opening customers' eyes on Combitech. Customers on the civilian market need a more hands-on approach.

If we want ABB to discover Combitech, we have to be there with them and invite them to our exhibition case, make them take our courses. [...] It is a matter of grass-rot work. (The executive vice president)

There is an information function hold by one person²⁹ working at the Linköping site. The executive vice president described her role as not only responsible for communicating the brand but also for marketing the company in ads, fairs, and at schools. According to the vice-president, it is important that the information defines which target groups it is meant for. Is it for students, customers, or the staff?

The view of top management on the marketing function is that it is the whole staff that is implied in the marketing and sales activities of the company.

Everyone in the organisation has to understand that they are part of the marketing and sales activity (The executive vice president)

Getting new customers is a business unit concern. Apart from the business itself, business units are responsible for the staff, the marketing, and "everything" declared the executive vice president.

Customer value knowledge

In line with the lack of marketing, the employees do not discuss customer value, as a concept. The Jönköping site manager said that customer value consciousness was quite low. The lack of customer value knowledge is particularly prominent in price negotiations according to the site manager. Those situations require a clear position based on conscious customer value assumptions, especially when Combitech is in competition with other suppliers.

²⁹ Eva Quist.

If we are sure about what kind of value we deliver to the customer and how the customer perceives us, we can feel much more confident in business situations. (The Jönköping site manager)

Such bargaining situations occur when the profile of the consultant is common on the market. For unique competencies, there is no possible bargaining from the customer, as both the supplier and the customer know it is a unique competence. In those cases Combitech can almost set the price it wants.

We know that we have a specific customer value by having this competence in Jönköping. We are confident. We can be proud of the competence we have and we know that we have the technical edge. We can set the price accordingly. (The Jönköping site manager)

Still the Jönköping staff tries to increase value for its customers. It has recently developed SimCom, not to be confused with one of their competitors named Semcom. SimCom is a program platform. It provides a ready to develop structure. Thus customers save time and can start their development project almost immediately. Combitech sells it for next to nothing.

6.7 Marketing, sales tools and practices

Interviewees at Jönköping are dissatisfied with the marketing and sales tools at hand. It is both a matter of quantity and quality. Interviewees at the Jönköping site call for a stronger support from the parent company on these issues. When asked about Combitech's marketing in general and the intranet site in particular, an interviewee gave an answer that spoke for itself.

[Marketing at Combitech] is a close to being a black hole. We, at Combitech, almost do not market ourselves, only through some ads. Other kinds of marketing have never been done. [...] There is an Intranet but it is completely dead. There is no information to talk about. (An interviewee)

An interviewee explained how convenient it would be to have descriptions of typical profiles that Combitech provides. This description is not just about the profiles at hand but also of Combitech service offering. The interviewee asked rhetorically: What does it imply [for the customer] to hire a tester or a developer from Combitech?

We have no satisfying job or product description in any way. [...] There is a resistance towards anything that looks like a product specification. I do not know why. I think it would be so valuable to present in detail what such a person can do, in other words, to show what we sell when we sell a developer. (An interviewee)

The interviewee said that there are too few persons in the sales group who believe Combitech should have profile descriptions. The sales group itself is not supporting the idea. The ones against such a proposition argue that general descriptions cannot be made because the company is too straggling. Yet there are a certain number of services that are the same all over the company, as testers, developers, programmers and so on. If Combitech business developers had such descriptions it would be clear to customers what Combitech is, asserted the interviewee. The responsibility for doing the descriptions lies on local sites, which, according to the interviewee is not sustainable. There are too many profiles, which requires an insurmountable amount of work on the local level. Furthermore, doing this work on a local level would look neither unified nor professional. However, Combitech's trainers are exempt from this particular rule as they are presented on the leaflets.

What happens today when business developers do not have such descriptions is that they always have to be careful to formulate themselves correctly in front of the customer, whereas they would not have to be this meticulous in fear of leave out crucial information if there were product leaflets.

Today we sit with the customer and try to pick and choose our words and explain: Yes, we have those [qualified persons]! (The senior business developer)

The interviewee stressed that these product/service leaflets will be even more important when Combitech chooses to offer full solutions to customers. Indeed, it is essential to show that Combitech possesses and can manage the whole offering. Yet, the one against product/service leaflets do not see the value of it, stated the respondent. The interviewee fears too little marketing would prevent Combitech to give an up-to-date description of the competencies available in the company. Thus customers' picture of the company would be out of date.

The biggest risk is that our customers' picture of us lags behind our actual technical knowledge so the customer knows what we used to do two years ago but not what we can do now, since we do not spread this information. (The senior business developer)

Magazines and brochures

Several magazines can be found at Combitech. One, OnTime, is specific for Combitech. This magazine is edited three times a year. The editor is a Combitech-employed engineer³⁰. The magazine is intended for customers and employees with technical interest. On the second page of the magazine it is written "OnTime is a branch magazine giving different aspects and news related to

³⁰ Karin Rydman.

real-time systems development³¹”. The other magazines *Transfer* and *Spirit* come from Saab. An interviewee explained that the magazine *Spirit* focuses mostly on people, while *Transfer* is more technical. However, the same interviewee thinks that the real need is to market Combitech in newspapers, as in the technical newspaper *NyTeknik*³² or at least in the local newspapers. Combitech keeps the magazine *OnTime* free from ads. Hence information about courses is excluded, which instead are printed in a separate brochure updated and distributed to customers twice a year.

OnTime is a communication channel. We try to keep it free from ads and that kind of influential [messages]. [We try] to keep it objective in order to give the customer something thorough to read. (The senior business developer)

To the question why Combitech chose to layout the magazine this way, an interviewee answered.

It was a choice we made that this magazine should not be a marketing channel but a way to show that we are serious. Yes, we show what we can but not in the way of “Buy two and get the third one for free!” There are [instead] projects that we have carried out and techniques we master. We [also] buy external articles and translate them. (The senior business developer)

Interviewees at the Jönköping site deplored the small investment in marketing and sales tools. But a few months later, the executive vice president announced that Combitech had just invested in an advanced CRM tool named LIME. Before that Combitech had a criticised CRM tool named SharePoint³³ used during sales meetings on a regional level.

Regional sales meetings

One of the activities the Jönköping senior business developer is in charge of is the sales meetings on a regional level. He defines his function as a sales leader with the aim to ensure that the other business developers show commitment and focus on a common goal. Similar meetings are held in the business unit, business department and the division levels on an either weekly or monthly basis. Goals are set up and then controlled. Possible gaps between the results and the goals are discussed. He thinks that the use of the CRM tool plays a central role in following up the fulfilment of sales goals. However not all participants

³¹ Source: page two in the newspaper.

³² New Technique in English

³³ SharePoint is a Microsoft product in which customers can develop their own application.

send their customer information or fill the CRM tool in use, which Jönköping senior business developer pointed out during one observed meeting.

I hope that information on customer X has come. [...] I meant to tease those who have not sent me anything. (The Jönköping senior business developer at a sales meeting)

During two observed regional sales meetings, the Jönköping senior business developer lead the meeting and each participant went through their customers, one by one. They were informed about past and future meetings, customers' businesses and the atmosphere during the contacts. They also linked the customers' situation and needs to Combitech's offering, potential business, and if needed, Combitech's future training needs to meet customers' demand. Now and then the presentations were interspersed with comments from the senior business developer. He noticed that a higher frequency of sales meetings gave results, which the participants agreed on. He could also encourage the sales force, pinpoint possible pitfalls, put customer contact over time in a larger perspective and remind of the need to stay focused.

Two issues came back several times during the meetings. The first issue was the one of coordination of sales persons. A large part of the problem is how to coordinate the sales forces in multiple sites all over the country, towards a specific customer. Should there be one person in charge in order to have control over the exchanges? If yes, how would this be coordinated with another division that has a different sales culture? At one time, participants tried to guess who were in contact with a specific customer and what role these persons had and what they had sold to the customer. The other issue was the use of the CRM tool that according to the Jönköping senior business developer is crucial for supporting sales force in their work.

The CRM tool

Despite improvements in marketing work initiated at the Jönköping site, the site manager together with other interviewees complained about SharePoint, which Combitech had further develop by programming it in-house. The site manager requires information about customer visits, for example who visited whom, and what did they discuss or agree on. Besides this, it has not been possible to plan customer campaigns in details in the CRM tool yet, nor to be reminded by the CRM-tool of important sales calls or even such a trivial thing as a Christmas presents. The problem is that managing customers implies a myriad of details impossible to remember without help. This is where the support of an advanced CRM tool is crucial for managing customer relationships in a professional way, claimed an interviewee.

The lack of an advanced CRM tool creates tensions during internal sales meetings as presented in Illustration 6-1. Indeed, some business developers do not

make the effort it costs to use the CRM tool at hand and refuse to write all or part of their information in the current system named SharePoint. SharePoint is insufficient according to several interviewees, as it is not easy to display all information about a customer. Thus it impedes information management. More, SharePoint looks like an excel ark and is displayed by a projector. The CRM system issue was brought up several times during two of the observed meetings. Eight persons working with sales were present at the meeting. Three were absent. These three happened to be the ones most against the use of this tool according to the Jönköping senior business developer.

Struggle around SharePoint

The senior business developer: We need to coordinate. We cannot have eight persons contacting the same customer. (He is interrupted.)

The business department manager (in an hesitant voice): This is a very big... Well, we should not centralise too much so that all contacts go through only one person. How can we do to...

A business developer (interrupting): We are large enough to have eight persons with contacts but it has to be...

The business department developer: Has there been any problem with XX (a contact person to the customer in question)?

Another participant: There has not been any problem with him, but I could imagine it could be more problematic with other contact persons.

A junior business developer: The problem, as I see it, is that you do not have all information. You run the risk of making a fool of yourself because you do not know [what you should know about the customer].

The senior business developer: But it is not a real problem since everyone works in their geographical areas (he gets support from several participants).

The senior business developer: Does everybody write important information in SharePoint?

Several business developers (simultaneously): No.

A business developer (informing the others on the content of SharePoint): It is about sale discussions, contact meetings...

The senior business developer: It is about important information that may be needed to prepare a meeting, so that the junior business developer does not need to feel insecure when...

The junior business developer in question (insulted): For me?

The senior business developer (addressing all participants): This information is so important that it has to be written in the system. It must not only be orally communicated. If this information is so important so that it influences how one is judged [by the customer] then it has to be managed in a different way than just orally.

The business department developer: But how can we do it in an easy way? We could have telephone meeting once a week but it feels a bit strenuous.

The senior business developer (insists): Well, I have said that we have to write information about our own contacts and meetings in SharePoint. I have said this before.

The business department developer: But can we, in an easy way, sort out information on customer X?

The senior business developer: Just [click on the function] "sort out". OK, it is not easy to get this done for [the function] "meetings", but it works for [the function] "sale contacts".

The business department manager: If we forget SharePoint and let us refocus on what we want. Let us say that there are eight or ten persons....

The senior business developer (irritated by the business department manager and says ironically): In a real CRM system, (another participant starts laughing) there would have been a customer called XX. Each person who contacts them would have written information on contacts and meetings. This is what you want to do, isn't it?

The business department manager: Yes. But let's make it extremely easy, for instance through mail. We would send a mail to everyone and say that "Now I have just talked with this customer." So everybody would be informed and get this information. This is a question of basic function. Is there this type of function so that we can easily change the design?

The senior business developer: You can sign up to get informed about what new information comes in SharePoint. You get informed when people add information in SharePoint.

The business department manager: Yes, this is the type of information that I would like to have so that I will not actively have search for a new, updated information.

The senior business developer: From a practical point of view, I would like people to use our CRM system: SharePoint, even if it is an insufficient one. But I do not think that we can get the content of the information by mail, [in this case] only a mail telling that something has been changed.

Illustration 6-1: Struggle around Combitech's CRM system, observation.

The discussion ends with the previously reluctant business area manager agreeing to use SharePoint during a trial period.

6.8 Saab dependency

Although Combitech calls itself “an independent consultancy company” it is wholly owned by Saab AB (Annual report 2009)³⁴. As the president declared, a 100 % ownership means influence by the parent company. Interviewees are on one hand aware of the value of belonging to the Saab group and on the other hand burdened with this affiliation. As an interviewee put it “there is a band that keeps us together”.

Internal and external reorganisations

Besides all internal reorganisations initialised by Saab since the restructuring of the company in 1997 (see chapter 6.2), Combitech is also subject to reorganisations on the Saab group level, that is on an external plan. The last reorganisation dates from the beginning of 2010. As a matter of fact, Saab has changed its organisation from January 1, 2010, which implies for Saab businesses that they are no longer “business units” but “business departments”³⁵. Subsidiaries are put together, for example Avitronics is merged with Saab Microwaves in Gothenburg. Combitech, in order to underline its independent status, is the only subsidiary not included among the business departments in the new organisation. By doing this Combitech feels it is easier to argue the right to its own name and logotype despite the pressure for unifying all businesses under the sole brand of Saab.

The burden of costs

[Saab] is our parent company and it decides which costs to put on us. As it owns us to 100 % we have not much to say. [...] We just have to accept it. This is the price we have to pay for belong to the Saab group. (An interviewee)

Interviewees showed concern for the cost it implies to belong to Saab. They have to pay for law services and the intranet. Furthermore, each year Saab invoices a type of “management fee” on its subsidiaries. What is more upsetting for Combitech is that it has to pay for services it has little or no use for such as Saab sales costs abroad. Interviewees consider that sometimes the service level dictated by Saab even hampers Combitech in its daily work. Such an example is the high level of security required by Saab. In line with this, Saab insists so that subsidiaries are to make the most of structural assets, that is, the computer sys-

³⁴ Combitech’s annual report is non public information.

³⁵ Affärsområde instead of business units.

tem, tools, offices, processes, and so on. However it is not clear how to do so according to an interviewee. Structural assets do not fit daily operations and business and thus become in the eyes of the interviewees just an additional cost increasing for each year.

We have only one resource and that is our workforce. Structural assets are a well-recognised subject nowadays. But to me these are the same as overhead costs. They are not so interesting. Our top management stresses the importance of getting value from our structural assets. [...] [These are] things that increase our costs and if no one uses these structural assets, these costs are for nothing. It is difficult to make resource business, that is, to sell consultants per hour basis on a structural ground adapted for in-house projects (A Jönköping interviewee)

Saab gives instructions to its subsidiaries, which affects how they should act in specific situations that could be of strategic concern for the businesses, for instance in outsourcing matters or payment level among other Saab subsidiaries. Being part of the Saab group also implies to invest time in activities, which Combitech considers do not always create value for its own customers.

The financial influence from Saab is particularly pronounced in their annual report. Apart from the imposed costs on businesses described by the interviewees, Saab requires a minimum profit level from its companies. Companies showing weak profitability get divested (Saab Ab, 1997). In their annual report, Saab declared how companies contribute to the financial results. In 1999, Saab announced that Combitech made a strong contribution to the positive income trend (Saab Ab, 1999a, p. 26)³⁶. Saab also made it clear that its aim is to get value from its businesses.

The objective for Combitech's companies is to generate the highest possible value for Saab. (Saab Ab, 1999a, p. 26)

The influence of Saab stretches to the strategy plans Combitech participates in. The Combitech president mentioned that the strategy plans at a group level stretch to five years, which is maybe not well suited for the type of business Combitech is in. Technical consultancy business is characterised by much shorter cycles. It is difficult to plan things three years ahead according to the president. Three years may also be a too long period.

³⁶ Since 2000 Saab annual reports have no specific chapter on Combitech as they used to. Some years (2008, 2007) Combitech is just cited. Combitech prints its own internal annual report since the foundation of the company in 1983.

Value and vision

Several interviewees expressed the need for a vision and a strategy that go beyond financial aspects. They feel that the vision is unclear and the strategy too close to financial goals. The vice-president, citing the vision, said:

Combitech's vision is to be the leader in several areas. We shall focus on three... We shall combine technique, environment and security. So this is a part of it. But maybe it is not that much of a vision. Actually it is to be leading in information security, embedded systems, mechanics and logistics. So we shall be leading in these areas, which are our key areas. Then there is a vision more linked to financial figures, to how much we should grow, how much profits [we should make], our size, internationalization, and then comes the more concrete [details] in the business plans. These are our long-term goals. But we have had many discussions about our vision. [...] We are lacking a good vision [...]. (Combitech executive vice president)

Several interviewees were asked about the strategy of Combitech and mentioned technique, environment and security. It was not clear whether these terms were the strategy or the vision itself. One interviewee stated that Combitech's strategy is very unclear. Employees do not have a strong bond to the three key words said the same interviewee who added it is not clear how to link the three words to Combitech's strategy. The interviewee summarised in three points what he thinks Combitech's strategy is.

"As far as I know is that Combitech's strategy is to:

Grow

Be profitable

Be a Saab partner" (An interviewee at Jönköping)

Some interviewees mentioned the fact that Combitech still is a gathering union, but not a merger, between different companies. The other companies, former AerotechTelub and Caran System Engineering (described in subchapter 6.2), have a different background, diverging businesses and opinions on where to lead the company. All the organisational changes have not been initiated from within Combitech. An interviewee underlined the difficulty implied by the mergers and acquisitions.

If the company could have decided itself, things would not have been this way. (An interviewee)

This situation makes it difficult to find a common denominator and a vision for the whole Combitech. The need for a vision is apparent in the day-to-day activities as different businesses work for themselves but not together, stated an interviewee. Several attempts have lead to unclear formulations that do not

really include all wishes. Employees are aware of the need, said an interviewee who said that meetings were held to define a vision during spring 2009. These meetings did not lead to the formulation of a vision but at least participants agreed on the need to have one. The difficulty lies in finding something common at a company level. Up to now the words Technique, Environment, and Security serve as common key notions. But these three words are far from a vision.

A Jönköping interviewee said Jönköping employees have tried to formulate their own vision but feel that the vision was too narrow, as it only covers the Småland region and not the whole Combitech. Despite the absence of a vision, Combitech has been active in several projects, one of which is the 30/70 program. This program aims at increasing the number of female engineers up to 30 % at Combitech. One of the arguments stated in brochures and ads is that more women would better reflect the society we live in and thus strengthen Combitech's competitiveness and increase the business profit.

Being part of the Saab group, Combitech is influenced by the reorganisations orchestrated by Saab and the financial goals Saab decides on. Combitech tries to find a common vision but feels hampered by the shifting backgrounds of several companies that it has been merged with. Saab's influence can also be noticed on the technical field as described in the next chapter.

6.9 Technical primacy

Combitech's interviewees mentioned their technical front edge competence as well as their competence training structure. They know customers appreciate their technical competence and hope that is the reason why customers choose them.

*Feedback [from customers] tells that we are extremely competent consultants.
(A business developer)*

The Jönköping manager said that newly employed consultants, coming from other companies notice how much Combitech focuses on keeping their skills and knowledge up to date. It is more pronounced than in competing companies. He believes that the company's leading position in competence development is of great value for their customers. In order to keep the leading position learning is done continuously. He thinks that the technical development is both a weapon on the market but also a mean to keep the employees in the company.

Historical roots of the learning culture

Combitech's learning culture was developed during the 90's in the former Combitech's group, with some key persons as Christer Hoberg in the position of Combitech Software's CEO and Bo Göranzon, Professor at KTH. The latter developed methods for identifying, enhancing and sharing knowledge at an expert level.

The CEO Christer Hoberg got interested in the method and the approach since he lived all the time with two dilemmas: On one side there were the young and newly graduated employees who had up to date programming knowledge but lacked the tacit knowledge from the elderly related to project management, risk and fixed price calculation in new projects. On the other side, there were these older employees who possessed these invaluable knowledge, but lacked the latest technical knowledge and were not interested in acquiring them with the old teaching methods.

Combitech Software invited a research team from Bo Göranzon's department to work a couple of years with Combitech Software to develop methods that would suit the needs of the company and the staff. Besides the outstanding results, for example shorter learning time for the younger and extended effective working life for the older staff, several doctoral theses were produced on the Combitech Software case. Later on, several Combitech Software employees wrote a licentiate or a doctoral thesis on competence development in highly technical environments, of whom Christer Hoberg is one of them. (Risberg, et al., 2009, p. 54)

The aim was to find new ways for competence development. Consequently, the theses discussed unusual issues, such as approximation in engineering work. They were also philosophical in their nature. Still several of the theses writers work at Combitech. They are Niclas Fock³⁷, the vice-president, Jan Sjunnesson³⁸, senior business developer, and Göran Backlund³⁹, senior business developer.

³⁷ His thesis is entitled "Adventurousness and Risks - An explorative study of the creation of the Dialogue Seminar method", in Swedish with a Norwegian touch "Eventyrlyst och risker – en explorative studie om framväxten av dialogseminariemetoden", 2004.

³⁸ He wrote a thesis entitled "Experience and processes – A method for reflexive leadership", in Swedish "Erfarenhet och processer – en metod för reflekterande ledarskap", 2007.

³⁹ Own translation from the Swedish title "Om ungefärligheten i ingenjörsarbete", Göran Backlund, 2006.

Combitech Learning Lab

In order to sustain up to date technical knowledge, Combitech has, for a number of years developed a large learning structure named Combitech Learning Lab, CLL. Although mostly devoted to technical knowledge this structure offers other courses, such as project management, and leadership. Parts of all the courses are offered together with Saab that also has technical leadership ambitions and requirements as it builds military and civilian airplanes. Combitech participates in different research studies⁴⁰. The company both employs researchers and encourages their staff to involve themselves in research.

On request to describe the content of Combitech Learning Lab, the vice-president jokingly gave a warning about opening “Pandora’s box”. Combitech Learning Lab is probably the largest technical learning structure among competitors.

On request to describe the content of Combitech Learning Lab, the executive vice president laughed and warned against opening “the Pandora’s box”. Indeed, Combitech Learning Lab is probably the largest technical learning structure among competitors.

This is something that Combitech is totally unique for. [...] We have never met a new employee that has experienced anything similar. It also about the philosophy behind it: these structures, experience development, our thoughts on that. This is something that we are very proud about. (The executive vice president)

Combitech Learning Lab (CLL) is based on three pillars, which are courses, networks and tools. Courses are offered both internally to Combitech’s staff and externally to customers. Many courses originates from Combitech, some are bought from Saab and other from external institutions.

Networks have been created to share knowledge and progress. One is Communities of Practice (COP), which originates from the old Combitech time, under which it was called Technology Transfer Groups (TTG). Saab later adopted TTG under the same name, while Combitech launched their Communities of Practice. COP is a nationwide network of specialists in a specific competence and/or technique area that is strategic for Combitech. In order to be part of this network, it is not only necessary to take a number of courses, but one has to be evaluated and nominated. There is also the Local Competence Network (LCN) for Combitech employees who want to start a learning group with other colleagues on a special competence. Whereas COP is nationwide and particularly ambitious in the learning steps, LCN is intended for local initiatives taken

⁴⁰ A research group from Linköping University studied Combitech consultants’ diaries.

by one or a few staff members and thus has lower requirements. New knowledge is presented for the other employees at specific meetings.

The third pillar is On Job Training, OJT, tools intended for daily work. The K-net, where “K” stands for competence in Swedish, offers the possibility for anyone to ask a question through the regular e-mail system. By entitling the mail “K-net” and specify the type of competence needed, only those who have that competence open the mail and answer. This way it is possible for anyone at Combitech to ask anything in a network of 800 employees. Red Teams is another tool used when Combitech’s consultants face a problem that requires an emergency help from specific edge-cutting knowledge. A team is formed with very short notice and solves the problem.

Combitech Learning Lab has a myriad of mentorships for introducing, supporting and giving feedback to employees either in real-time or later on. There is Coaching, Dual Coaching, and Dual Programming. Dual Coaching is when two employees take turns coaching each other. When consultants do Dual Programming, one programs while the other one checks for errors, and vice versa. There are even more of these tools on the Combitech intranet, asserted the vice-president. Since the learning structure is very broad, he thinks that the challenge is to make it known.

It is so advanced that at the end people cannot follow the [development], do not understand or do not know all the things I have been talking about and the reasons behind the networks, OJT and other things. Only few persons have full knowledge of all the parts. Thus we have to hold a course on this for managers [...] in order to inform people, but also to involve them, make them do things: attend the courses, really get a mentor, participate in some LCN: This is the most difficult part of it. (The executive vice president)

Managers contribute to sustain competence development on a daily basis.

Daily support

Technical knowledge is a prerequisite to work at Combitech. From day one employees enter a system that encourages and enhances new knowledge in general and technical knowledge in particular.

We shall not believe that we are much better than anyone else, but if there is something that we care about it is people’s competence development. We are very keen on choosing the right persons. (An interviewee)

During the introduction program, new employees get a technical overview covering the CLL infrastructure and other important technical specialities for Combitech. The top management thinks that competence and technical developments are one of the reasons why employees stay loyal to Combitech, which is confirmed by several interviewees.

[Combitech] is very open for and interested in my wishes. There has never been any problem to suggest thoughts or things I want to try. There is the possibility to develop oneself, which is something I value extremely high. This is why I have been in the company for so long; [it is] a contributing factor. It offers the opportunity to develop myself at work and in private as well as in my working role. (An interviewee at Jönköping)

Combitech's cutting edge technical knowledge and internal learning structure have become trademarks for the company in the eyes of their employees and their customers.

[Customers react] positively. By being a course leader one gets a reputation of competence. This way [customers] know that they have a skilled person. (A consultant)

Consultants are encouraged to spend two weeks a year on courses. This is discussed and planned with managers during the performance development planning meeting. Provided employees meet their competence development goals, they get a financial reward but also a potential career promotion. According to the interviewees, the combination of highly skilled engineers and outstanding learning possibilities, in technical as well as in other fields, makes Combitech unique on the consultancy market.

6.10 Consequences for daily operations

Cutting edge technical knowledge is unquestioned at Combitech. Interviewees find it harder though to define a clear line of conduct in their daily operations. The strategy on the business unit level is about setting business goals and guidelines on a yearly basis. The more concrete aspect of this is to decide which staff and competence issues are going to be in focus for the year. Issues discussed are recruitments, capacity building and the organisation of internal networks. In short the Jönköping site wants to keep its leading position with integrated systems. But the issue is to do it on a daily basis.

We have no satisfying goals that guide our business development. There are very few goals on the top level, [only those] that "grow with X percent per year with this margin (An interviewee at Jönköping)

This lack of clarity is a concern during sales meetings.

In our management or sales groups, we talk quite often about what we want to embody and which words and values we want to stress. We use the words

knowledge, customer message and continuity⁴¹ as three words I can stand for since it represents what we are. We aim at being extremely competent. We really strive to contribute with value. We shall not just do hours but call attention to better ways when we see [the opportunity]. And it should be a long term commitment. We do not want to disappear after a project. We want to support in the long term. We make a try because it is the way we can do business: What do we provide that others do not? Competence and the unique group of consultants that we have. It feels like it is our value against others. (The senior business developer)

In response to the growing competition, interviewees in Jönköping are convinced they have to invest in marketing activities and better sales management.

If we start acting in a more professional way towards customers they will think that we are a better supplier and this, in the long term, will make us outperform our competitors. (The senior business developer)

As an example, the Jönköping business developer said that they have started to direct their selling efforts towards the top management in their customer companies. Indeed, consultants seldom meet the customer's customer. Often the only voice of the customer's customer takes the form of technical specifications in projects. A classic mistake in technical departments is to miss to communicate with the marketing department in order to thoroughly understand the end customer's requirements. The result might be an incorrect development by the technical department. Such errors could be avoided by communication on a hierarchic higher level at the customer company. Therefore the Jönköping senior business developer has begun to target their customers' top management. Yet there are many more marketing and sales activities that could be changed and improved.

6.11 Concluding discussion

The management at the Jönköping site is concerned. It sees the combination of increasing fixed costs associated with lower margins and fierce competition as a threat, or at least, a strong incentive for questioning a number of things. For a number of years, Combitech has constantly been subject to changes. Originally, Combitech was a large group with hardware and software product development. Today Combitech is a consulting company with cutting edge technical competence as a deep-rooted fundamental value. Confusion on where to head strategically is obvious. This is reinforced by a series of mergers and acquisi-

⁴¹ These three words start with the letter "k" in Swedish: kunskap, kundbudskap, kontinuitet. The alliteration stresses the impression of care.

tions of companies with different backgrounds. Interviewees' picture of Com-bitech is blurred. Whereas the Jönköping management is satisfied with the mix of consultants belonging to Jönköping, they feel that the lack, or the poor quality, of marketing activities, sales and marketing tools, market knowledge and awareness in the company hampers their work towards customers. The Jönköping management sees it as a necessity to develop business with their customers and, eventually, increase their margins. This requires, among other things, a deeper knowledge of what the customers want and what they value, which is the subject of next chapter.

7 Customer companies

In this chapter, four Combitech's customer companies are presented. Each section takes up a company, its market, products, and challenges together as the hiring process and general requirements on engineering consultancy firms as well as on their consultants. The section ends with an assessment of Combitech and its consultants.

7.1 Saab Avitronics

One of Combitech's first customers is Saab Avitronics, which belongs to the Saab military group. Saab Avitronics is an avionic supplier for the national and international defence industry and the civilian flight industry.⁴² This means that they offer products, services and technology related to aviation electronics, that is, electronic systems, software and mechanics for use in aircrafts. Their speciality is safety-critical real-time systems in rough environments. Saab Avitronics is one of the business units that became a business department since the Saab reorganisation that took effect on January 1, 2010. Before the reorganisation, and at the time of the interviews, the company had approximately 1300 employees.

The company

The company is composed of several sites located both in Sweden and South Africa. Järfälla, Kista (both near Stockholm), and Jönköping form the Swedish part. Meanwhile, the two South African sites are located in Centurion and Cape Town. Saab Avitronics is the result of the numerous mergers and acquisitions that have carried on over a decade. The Jönköping site, which was established in 1954, has its roots in the original Saab company. From the beginning, the company was named Saab Instruments and then Saab Dynamics. Later on, in 1997, Saab AB and Ericsson Microwave Systems merged and became Ericsson Saab Avionics. The Kista site comes from Ericsson and the Järfälla site has its roots in the company Celsius. In South Africa, the company Avitronics⁴³ and Saab form together the South African sites. An interviewee mentioned that in addition to this a South African association of aerospace, maritime and defence industries, AMD, joined the South African companies.

⁴² Source: PowerPoint material presented and handed over by Lars Hansson, Saab Avitronics, during the interview on April 27, 2009.

⁴³ Saab Press release "SaabTech of Sweden and Avitronics of South Africa form a joint business unit – Saab Avitronics". June 14, 2005.

The Jönköping site employs approximately 250 persons. The largest department is the one for product development with 130 persons. Other departments are the purchasing department with eight persons, the production department employing 35 persons, which is as much as the product departments. The marketing department employs six persons. Management, accounting and support gather 20 persons. Finally, external support represents 25 persons. The company applies a matrix organisation for projects and resources.

Products and services

Saab Avitronics develop products and services for the defence industry both the national and the international markets and the civilian flight industry. The bulk of the market is international and military. The products are parts of systems that are integrated in helicopters and flights, as Airbus 380, Boeing 787 and a military flight named A400M⁴⁴. The products are divided into four product units, which are Control & Monitoring, Gripen & UAV⁴⁵, Sight & Electro Mechanical Actuators, and Customer Support. Examples of products and services delivered are:

- digital map systems (a real time moving map for pilots) named DMS
- an airborne communication and management system, ACMS, for selecting setting up and adjusting radio and radio navigation equipment by just touching a button.
- Mission recording systems. The system developed by Saab Avitronics is named DiRECT. It enables to gather experience and learn from flight sortie.
- RIGS, an head-up display that shows information linked to flight and navigation. (Source: Mission Avionics Saab brochure)

Most products are black boxes with different functions and integrated in flights or helicopters, said an interviewee.

The market

The international part of the market represents 50 to 70 % of Saab Avitronics business. Even if Saab Avitronics could be considered as an internal supplier to Saab, the company has to submit competitive biddings. Saab Avitronics at Jönköping are a third tier supplier to Saab. This means that it develops and produces parts of systems that are to be delivered to second tier suppliers responsible for larger systems. In their turn, second tier suppliers deliver further to first tier suppliers which integrate systems in flights. At the level above there

⁴⁴ For more information see: <http://www.airbusmilitary.com/>

⁴⁵ UAV stands for military Unmanned Aerial Vehicle.

7 Customer companies

is the flight producer. Competitors are numerous especially on the second tier level.

We have never got [an order] for free, in the sense that [Saab would say] 'This is for Saab in Jönköping'. It is more a rule than an exception to have to participate in competitive bidding (An interviewee)

Criteria for competition are performance but also a close relationship, which is easier to achieve on the home market. In other words the foremost criterion abroad is the one of performance. Another interviewee mentioned the importance of offsets in international contexts. Price is also a criterion on this competitive market but the complexity of the products makes performance the first criterion for competition. From the customer's point of view it is essential to have a supplier that delivers high quality on time. As it is expensive to hold a relation with suppliers, customers prefer to have so called "preferred suppliers", which enables to work closely. The customer works in parallel with one, two or three suppliers. Smooth processes are crucial.

"High quality and on-time deliveries are A and O" (An interviewee)

In these relationships the role of the supplier is to help the customer with knowledge and by influencing specifications. An interviewee explained that the supplier should have an overall understanding of the system, which is a prerequisite for pinpointing eventual improvements. In particular, customers appreciate proactive suppliers that give advices about changes, additional requirements and for reducing expensive requirements.

"The customer expects us as professional suppliers to say: if we decrease this requirement with 5 % we can reduce the cost with 20 %". (An interviewee)

The ability for suppliers as Saab Avitronics to keep development costs down is crucial. Indeed, business models are almost all based on fixed price. Traditionally suppliers have had difficulty to hold costs down during the product development phase. An interviewee told that Saab Avitronics is very good at holding costs down in the second phase of the project, that is, the production phase.

We are very good at holding production costs down. There somewhere [under the production phase] we reach the breaking point after potential financial losses. Then, on the after market there are good possibilities to make profit. (An interviewee)

From the beginning, i.e. the bidding phase, cooperation is done in "integrated teams". This means that teams formed together with the customer and develop some parts of a specification. Integrated teams are set up already under the bidding time and until the Critical Design Review phase of the product development. At least there are continuous meetings with customers. These latter are spread all over the world.

The micro-level as activities

Two of the three interviewees, i.e. the product development manager and the test engineering manager, told that their daily operations are mostly activity coordination. These activity coordination takes form in meetings for discussing resource management and following up product development progress. The purchasing manager is also involved in resource management as he contacts consultancy companies for price negotiations, contract writing and agreement negotiations.

The product development manager devotes most of his time to resource allocation in one way or another. It means to manage developers in and out projects in a smooth way. This implies many process issues. The key question is always “how are we supposed to do?”. Other activities the head of product development is involved in are bids and management team meetings. As a result a good description of his work in terms of activities is meetings he said. Every week, he holds a 30 minutes stand-up meeting with everyone involved in product development in order to get a status update on each project. This meeting is named PULSE meeting.

The test engineering manager told his role is to support co-workers, organisationally and economically - he has budget responsibility for his group. He underlined the need to be involved as soon as possible in the product development process. Their early involvement enables the team to set up requirements that are measurable and testable at the end of the product development process.

Actually it is important to come in the project as early as possible. It should not be at the end. So was it before: we designed a construction and then we would just test it afterwards. One should be involved when requirements are defined so that they are testable and verifiable. [...] So it is done in cooperation the whole way long. (An interviewee)

The test engineering manager explained that his role is to bring in the right resources with the right competences in product development and to take care of the process. Typical issues are “So how do we do? How are we going to work? So who and how?”.

As for the purchasing manager, he declared that job related to consultants takes surely 30 to 40 % of his time. The number of problems to solve is noticeably higher in the role of a purchaser said the purchasing manager who compared with his former job in project development. The purchaser’s job is not as structured as the one in a project. To work with purchasing is to solve problems on a short time basis.

The purchasing function has clearly less ongoing projects but definitely more small tasks to do. (The purchasing manager)

Table 7-I Saab Avitronics interviewees' activities.

Functions	Activity	Description
Product development manager and test engineering manager	Resource allocation	Meeting with technical group managers to take developers in and out projects in a smooth way.
Product development manager	Daily process update	Daily contact with process managers or subprocess managers.
Product development manager	Bid checking	Together with the Business Development and Marketing and Sales department, as well as with the product manager the product development manager check bids.
Product development manager	Top management group meeting	
Product development manager	PULSEmeetings	Stand-up meetings with line and product managers on development status.
Purchasing manager	Price information	Gather price information from suppliers
Purchasing manager	Delivery supervision	Supervision of delivery time and quality
Purchasing manager	Contract writing	
Purchasing manager	Agreement negotiations	
Purchasing manager	Purchasing project leader	As a purchasing project leader, one is responsible for all purchases related to a development project. One distributes the purchase activities to the other purchasers in the group.
Purchasing manager	Price negotiations	

Test engineering manager	Consultant hiring and /or developer employment	Contact with project leader and team leader for defining criteria for engaging a consultant or an employee. This implies the following sub-activities: define the needs, contact the purchasing department, assess CVs, and interview potential candidates.
Test engineering manager	Information meeting	Information about the project itself, its economy, information on employees and the company as a whole.
Test engineering manager	Personal development planning	Among other to fix courses related to testing.

The hiring process

The need for engaging external consultants in product development processes is planned quarterly. Actually the needs are known long before. But because of the current economic turmoil and consequently Saab military saving plans, the company is not allowed to make prognostics too long ahead. Saab top management orchestrates resource planning in all its business units for the moment in order to control resources at a concern level. For Saab Avitronics it would be best to plan for 6 months ahead, while the shortest planning period should be three months, said the purchaser who plans together with the test engineering managers. Quarterly planning is rough, yet it gives an idea of how many consultants will come to the end of their contract, which ones will have their contract extended, whether more consultants are needed in an area, or consultants will be replaced by other ones.

Activities from planning to project almost coincide in time, see Figure 7-1. At the very beginning of a project the decision is taken on whether to develop, in-house (with the help of external consultants) or to outsource declared an interviewee. For the moment, Saab Avitronics turn to the parent company for finding a suitable consultant. If no one matches the requirements, Saab Avitronics turns to Combitech and then to other basic agreement consultant suppliers.

When we have identified a need, I start looking for resources. Meanwhile, we send this need assessment [to Saab AB] for approval. We do not have time to do a sequential process. It is a parallel one, which means that we [also] send a request [to potential suppliers at the same time]. As it is now we have to check first with Saab if they have any resources. The next step is to turn to Combitech since they belong to Saab too. [...] If we do not find [the profile we look for] at Combitech we turn further to our other suppliers we have a basic agreement with. At last, we contact suppliers we do not have agreement with. This is the process we have to follow for the time being. (An interviewee)

7 Customer companies

In better economic times, Combitech is contacted at the same time as other basic agreement suppliers. Thus they do not have priority over other competitors. Sometimes Saab can find a suitable profile after the contact has been taken with other suppliers. In those cases, the Saab profile gets first. Other suppliers are thanked and the process is terminated with them.

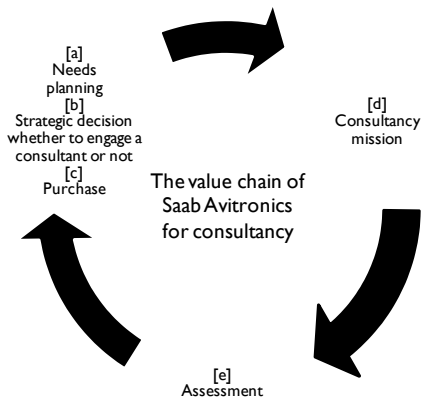


Figure 7-1: The value chain of Saab Avitronics for consultancy, source: re-worked from interviews.

For specific products or components, Saab Avitronics knows which supplier to turn to and asks them to make a bid. In those cases the contact is taken later in the process. The purchasing department may be told which supplier to contact. Combitech or other close consultancy suppliers can be contacted if Saab Avitronics sees the need for more software or testing competence while the project is running.

Saab Avitronics hires in almost exclusively resource engineers as opposed to competence engineers. In figure the percentage of resource consultants reaches 90 to 95 %. Consultants who do the same job as Saab Avitronics' employed engineers fall into the category of resource consultants said an interviewee although this entails high technical knowledge. Indeed, the interviewee defined competence consultants as those who have technical knowledge not available in the firm.

This does not mean that these resources consultants are not competent. Rather they are very qualified resources with high competence but to a similar level as our own [engineers]. Thus we put these [consultants] in the same [resource] category. (An interviewee)

Competence consultants, explained an interviewee, are those who possess knowledge that no one else have in the company. For example in case a data

tool does not work as it should, the company turns to whom they consider to be a competence consultant.

In this case, we take in just the expert competence in this area that can help us solve the problem. [...] Expert consultants can also be hired to make analysis on things that we do not have the competence to do in-house. (An interviewee)

The point with competence consults is that they perform their task then leave the company declared an interviewee. These consultants can come from wherever is needed. Sometimes they come from Combitech. But the interviewee underlined that most Combitech consultants are considered as resource consultants.

Requirements on consultants and consultancy firms

Requirements on a consultancy firm are that they deliver what is required, that is a consultant with the right profile for both competence type and level as it influences the price. The proposed consultants should be available for the required period of time. A consultancy firm should be quick to get back and inform about their matching. Long relationships enable the supplier to quickly understand the needs of the customer and for the customer to quickly judge the suitability of a consultant.

As for consultants, a general requirement is that they contribute to hold time planning, deliver high quality and keep product development costs low internally said the product development manager. Consultants are required to have social competence and fit in the group. Besides this there are more practical requirements, such as the consultant lives near Saab Avitronics and does not have to commute a long way. Further, Saab Avitronics searches for consultants with the required knowledge, but not too experienced for the job though.

One does not need to be so experienced for some tasks. It is stupid to take in persons that are too experienced. This person could be easily unmotivated and still we would have to pay a high price. (An interviewee)

Besides relatively low experience requirements, consultants should not take on leading positions.

Normally we try to avoid consultants at key positions: that is, specialists, project leaders, this type [of position]. This entails that we can make it with consultants at lower levels and competence levels, with those between 3 to 7 years experience. The meaning with engaging a consultant is to have them a short period. (An interviewee)

However in contradiction to the Saab Avitronics view on consultants, another interviewee mentioned that two of their project leaders are Combitech consult-

ants. Actually, they have succeeded at restructuring and reorganising the team and the project they lead, which the interviewee admits is a great contribution.

Saab Avitronics' assessment of Combitech

When being asked what Combitech's strengths and weaknesses are, two out of three interviewees answered immediately. They both judge that real-time software, software development, and programming are what Combitech is skilled at. One of the first two interviewees marked a pause after answering and asked himself the following.

They are good at verification, system work in general. But one could wonder: what are they good at compared to other consultants? (An interviewee)

They consider that Combitech is on their "home market" with Saab Avitronics. Both parties know each other. One interviewee declared that Combitech's strategy is probably to serve other Saab companies and stressed that:

Their first market should be Saab companies (An interviewee)

Another interviewee stated so.

It is nice that they know our market very well. It is our market that is their home market actually! (An interviewee)

However the third interviewee reasoned as follows.

Well, actually I do not know if they are better than many other consultancy companies...But there is the closeness as a matter of fact, the physical [one]. But if there are two equally good [suppliers], we probably choose Combitech. But actually it is pure competition [that prevails]. The one with the best person at the specific time. According to our guidelines, we should choose Combitech. But I talk a lot with [the Jönköping site manager], for instance, so it is much more personal. One learns to know one another. I mean as we often talk together... Closeness is both physical and maybe it is... one shows some human...the social part. (An interviewee)

As the two companies are physically close, Saab Avitronics knows many of Combitech consultants. Another advantage is the good mix of consultants in term of experience. Combitech are good at delivering consultants with less experience as this is what Saab Avitronics requires.

On the negative side, Combitech's has high prices, at least their price per hour. However an interviewee recognises that Combitech consultants do a good job in general and some really perform well while others might not perform as well. Yet in average, consultants from the company perform well. Another weakness, or at least expressed as such, is the lack of specific competencies in mechanics.

They are skilled at programming. But if I need a mechanical engineer I do not even bother asking them since they do not have anyone. As for electronic, they have some. We actually have one of theirs. But their expertise is programming. (An interviewee)

In conclusion, apart from Combitech's technical skills in real-time software programming, it is not clear for the interviewees which other advantages Combitech have compared to competitors. Saab Avitronics have had a long relationship with Combitech. This enables Combitech to quickly understand Saab Avitronics' needs and for Saab Avitronics to judge Combitech's consultants at a glance. Combitech consultants are considered as resources and hired for capacity reasons most of the time. Although Saab Avitronics advocates short hiring periods and resource consultants at non key positions, they do not always follow these guidelines.

7.2 Sensys

Sensys is a Swedish radar company that develops, produces and markets sensors and systems for traffic informatics and safety worldwide. On the website, visitors can read the company's vision, which is "to be the leading provider of advanced traffic system solutions that save lives, save the environment and other society resources."⁴⁶

The company

SENSYS® was founded in 1982 as a development company. Some years later the Swedish police wanted to purchase mobile radars but they were not satisfied with the products available on the market, said an interviewee. The police announced a competition bid that, eventually, Sensys won. Thus the company could expand their activities and deliver to the Swedish National Police Board. SENSYS has been supplying systems to the Swedish Government ever since (Source: <http://www.sensys.se/web/History.aspx>).

Sensys is located at Jönköping, Sweden. The company employs thirty-seven persons and is composed of a product development department, a sales department and administration department. Its international sales structure is based on a network of distributors or agents who have contacts with end customers. These distributors are named distributors, partners or customers.

⁴⁶ www.sensys.se; Feb 17, 2010.

Products and services

Sensys provides systems for tracking vehicles that violate traffic rules. In terms of products, it develops fixed and mobile speed enforcement systems, and other enforcement systems for red-lights and speed limit violations. These systems can be adapted to specific conditions as work zones and tunnels. Along with these systems Sensys offers solutions for identifying vehicles based on their number plate. The technique developed by Sensys for its enforcement systems is based on a radar that can track vehicles 20 times per second. In the fixed version, the radar is placed along the road to control traffic. As Sensys' products are above the ground, it is named a non-intrusive technique.

Sensys is also developing a monitoring system for detecting ruptures in power lines for electrically powered trains. Indeed, the company said that a third of all train stops in Sweden depend on "the pantograph used to collect the electrical current becomes worn or damaged."⁴⁷ However until now, the bulk of its products is for road traffic.

Sensys' technique is relatively new on the market, compared to the traditional technique that is three decades old. The older technique is based on strains embedded in the asphalt. When vehicles slow down, they move the asphalt in which the strains are placed. The strains get torn and thus need to be changed. This implies higher maintenance expenses as when the equipment is non-intrusive, that is, above the road. This is one of the reasons why the interviewees consider their technique is superior to the older one.

The market

There are two types of customers on the market. Either they are public authorities, for example in Sweden the Swedish National Police Board or the Swedish National Rail Administration⁴⁸; or they are consortium, that is, a group of investment companies with a common interest in installing and running traffic enforcement systems. These two types of customers stand for two different philosophies, said the product development director. One is to save life and the other one is to make profit through the fines drivers get when violating traffic rules.

Speed and red light enforcement systems, which are our main products entail two philosophies. One is to save live and avoid traffic accidents, as it is the purpose here in Sweden. Focus in thus on lower speed and life saving. Then there is another side of this which prevails in other countries. The aim is to maximise the number of fines. In this case [our products] become a money machine.

⁴⁷ http://www.sensys.se/web/Pantograph_monitoring.aspx

⁴⁸ Banverket

An interviewee mentioned that Sensys has sold mostly red light enforcement systems to the USA. This is due to the fact that many car accidents occur because of the non respect of red lights. American authorities probably wish to save life by changing attitudes, suggested the interviewee. On the other side, in consortium, companies buy the equipment, possess it, and manage it under a number of years. Being a distributor requires to be solid economically and sometimes to be able to give bank guarantees up to 10 % upfront said the product development director. In return consortia get their incomes from fines. One has to find a solution that suits the customs in the region and the buying constellation, whether this latter is a large bid or a collection of small ones. There is no universal business model declared the product development director as those constellations are unique in each country.

There is a pattern of interests, though. An interviewee put it this way.

[Consortia] want to give as many fines as possible per system, but they want to have so few systems as possible since these cost money. Meanwhile our distributors and partners want to sale as many systems as they can. (An interviewee)

Sensys does business with its distributors that sell further to the customer that is either a state authority or a consortium. The choice of supplier or distributor hinges upon the criteria prevailing on the market. For instance, in the Middle East, is it very important to have the right contacts. Competence is less crucial. From the distributor side, the aim is to sell as many systems as possible for economic reasons. So Sensys has customers on two leads, their distributors and the end customer.

Which criteria are decisive for winning the bid depends on the customer. But the first criterion is the technical one: systems have to comply with the technical requirements. Sometimes customer prefers a technique before another. The second criterion is the one of price. There are many competitive bids where price is crucial.

If one manages to respect the specifications and the requirements, it is the price that makes the difference. Officially [at least]. (An interviewee)

After the price and the technical specifications, the relationship plays an important role for winning the bid.

Then the relationship with the customer is very important. Having been there before and worked to develop trust contributes to make them believe what we say. One has to have a relation that makes the customer trust us and the distributor. That is very important (An interviewee)

One should not underestimate the importance of history and habits, told an interviewee who said that it is much easier to sell a product that has already been sold than to introduce a new one. The market, users and buyers could get sus-

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picious about it. Thus habit can be used as a competitive advantage. Lobbying as the power to make buyers change their requirements so that it disqualifies competitors is also part of the game said an interviewee.

Quality is also an issue, of course. However it can be difficult for customers to assess the quality of the systems as the systems' life-cycle is quite long, around eight years. In order to circumvent this annoyance it has become more usual for buyers to divide their bids in several parts, which are sold to competitors. By doing so it becomes much easier for the buyer to judge the competitors and assess the quality of the different products and techniques. This is a way to choose supplier for the next purchase. Although this way of doing have always existed it is spreading among buyers said an interviewee.

[Buyers] decide from the beginning that it is not just one that will [win the bid] but three of them. They want to have competition in the negotiation process. And they want to keep on having competition, which I think is really smart to do. Because if you are [a supplier] on this market and know that there are two other companies that also sell, then you try to deliver as good quality as possible to a price and performance that are as good as possible. (An interviewee)

Other criteria as life-cycle and service do not weight as much as earlier criteria. As for user-friendliness, the issue does not matter as much since the seller demonstrates the system for the buyer and helps the buyer to manage it during installation.

In order to seize unspoken customer requirements Sensys endeavour to have direct contact with end-customers. However, the presence of a distributor can make it difficult. If distributors see Sensys as a threat, they are reluctant to let Sensys talk directly with the customer. If Sensys is seen as a resource, the door is open and Sensys can catch requirements that were not expressed in the specifications. The product development director depicted the situation.

Oftentimes we have a specification but still it ends up to be different [from what was specified]. It is due to the communication in between. If we do not participate in it, it is very difficult to adjust the product. (The product development manager)

An example of one of those requirements is system performance and how this is defined in the eyes of the customer said the product development director. If there are ten traffic violations per day, how many should be registered? There can be external factors as a truck in front of the camera that hides the picture or specific conditions around high temperatures such as in the Middle East for instance.

Actually, said the product development manager, the market requires constant product development. Product development is a bottle-neck resource. Whatever the project, there is always a need for development. In some cases it is not

even possible to bid at all without making the adjustments first. Customers would not let a potential supplier participate in a bid without fulfilling the technical prerequisites. Product development can also be needed for demonstrating the system to customers. New projects imply more product development, and thus increased need for engineers. But the tricky situation is that product development has to be done before the company wins the bid. The risk is that the company has built up fast costs by employing new engineers but fails to get the order. This is where the need for consultants appears. They can offer the flexibility the company looks for.

The micro-level as activities

Sensys product development manager has contacts with the whole company and all functions. He discusses and meets with functions from prospects to after sales via production. He follows daily operations in product development through his project managers and also takes care of strategic issues.

Table 7-2: Interviewees' activities at Sensys

All three interviewees work closed together.

Function	Activity	Description
The product development manager, project leaders	Project leading	Continuous communication with the two project managers on product development status. From the project leaders side it means informing on status.
The product development manager	Managing	Responsible for personal development planning, wage negotiations,
The product development manager, Project managers	Checking prospects	Calculates and evaluates prospects and potential contracts in close cooperation with the market department. Identifying possible gaps between customer requirements and actual product, evaluate economic resources and time needed to meet customer requirements.
The product development manager, project leaders	Customer contacts	For discussing technical issues, helping the marketing department in contact with distributors and customers, go through documentation related to bids, understand technical text in bids and interpret customer expectations.
The product development manager	Discussing and meetings	Contacts with aftersales, the economy department, the CEO, and production department.

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The product development manager	Strategy planning	Plan future projects, products, and product lines.
Project leaders	Project leading	Planning, supervision of product development project. It implies discussing, controlling, helping to solve issues in the project.
Project leaders	Resource management	Project leaders have to find the necessary resources and competences to run the project.

The hiring process

At Sensys, the purchasing department is not involved in engaging consultants. This department is in charge of products and production. It is the product development manager and the two project managers who agree on the needs, take a decision together, and finally engage a consultant. Planning stretches half a year ahead in order to manage resources. When planning, the company can inform consultancy companies on the coming needs in term of time and competence. There are two types of product development projects. Those initialised in house to develop technical performance of the product life-cycle for example. But overwhelmingly, development projects are initiated by customers who want an adjustment of the product to their specific conditions: it could be language, temperature, etc...

Each country has its own requirements. It could be legal and environmental requirements, cultural differences, etc..., that makes that we cannot deliver a standard system to different countries without doing adjustments. It could be anything from language adaptation to changing the interface in order to take a front or a back picture of a car, or even three pictures. (An interviewee)

Customer adjustment projects start either with a customer request, a request from the marketing department or a bid.

We develop what the market asks for. This is a requirement. To go through [a requirement] is the first step, so to say. Actually it means to help the marketing department. The thought is that they [the marketing department] should cope with this by themselves. They identify what we technically do not fulfil and then they go to me, my colleague or to [the product development manager] (An interviewee)

The aim with checking all the requirements is to assess the costs and time associated to a specific project. At the end, it is the top management team and the board who approve the project. Hence, the project is sent to the product development department that begins developing. At this moment, product devel-

opment project leaders take the lead, start up a project and gather resources and competence. The size and the type of project tell which resources are to be engaged.

We thus ask the consultant companies we work with, among others Combitech, 'Do you have any available?' We write a specification: 'here is what we are going to do'. Then Calle contacts us back and says 'I have a guy that I think could help with this. He is very skilled.' [The guy] comes here for an interview. We discuss the project in broad terms and hear what he has done before and what he likes to do. It must work on both sides. He should not get a task that he thinks is boring because otherwise it may not be so good for our... [Consultants] really have to believe, like and feel for it. (An interviewee)

In most cases, consultants are engaged by the product development team at the purchasing phase after the decision is taken for developing the project. The consultant enters the company when the project starts. However, the product development team thinks about engineering resources already during need planning. The team has to wait for approval in order to go to the next step and search for a consultant to hire. Often the team members have a clear idea from the beginning of whom they want to hire.

Already during planning and the purchasing phases we have an idea of which consultants [we want to engage] – we have a long experience in engaging consultants- so we know which qualifications we look for. If you take for example Combitech – I am now looking for a mechanical engineer – I know they have no mechanical engineer. We know which person and the name [of the person that we are interested in]. Indeed, Jönköping is a small town. But the ones we know are skilled are known by everyone else. So it is a scramble for getting just these consultants. (An interviewee)

The sooner the needs are planned, the better, declared the product development director. In cases there is more work than was planned and a consultant has to be engaged, the purchase comes late. It happens during product development projects. In best case, the time between planning and purchase is very short though.

We work constantly to plan [consultancy needs] earlier. Because as we decide to start a project we realise 'We can't fix this alone!' In those cases we take the decision over there [under needs planning]. In other cases it can happen that there is more work than we planned for some reason. Thus we need reinforcement [and the purchase order] is sent late. But most of the time the purchase is done quite...well, [the purchase] is done in a hurry. It is not so that we decide we need a consultant and we wait three months before we recruit him/her. Rather, we say 'In order to develop this project we need three consultants'. Thus we engage them at once so that it is possible to decide whether to start the project. (A product development manager)

In some cases, the hiring process can be capsized. Sensys waits for an order from a customer. As time goes by, Sensys decides to develop the project with its own engineers instead of hiring consultants as it would have done if the customer had put an order. In those cases pre-hired consultants are de-booked.

Requirements on consultants and consultancy firms

When asking which qualities Sensys require from consultants, they immediately answer: independency. Consultants need to be independent in order not to waste other team members' time. They have to be capable of managing their task. This implies that one has to have the capacity to identify what should be fixed and in which way. Consultants who lack independency do not go ahead in their work and need someone else to show them what to do.

They cannot fix the task [...]. They do not understand how to separate the work into packages. Then somebody else has to come and tell them 'Now you will do this module and then you write this, and finally do that'. This takes too much energy from others who actually have to do half the job. [...] One does not need to know everything but one has to manage it by oneself and inform [when necessary] 'I am stuck now. (A product development manager)

Independency requires both experience and a state of mind that the product development manager thinks not everybody has. Independency is particularly important in small projects where only two persons are working. In larger project, it is easier to take engineers with less experience and who need supervising as there is a team leader who can give instructions.

Of course consultants need to have the technical competency required. It is a prerequisite. Besides this, social competence is needed. No matter how technically skilled a consultant is, the person should have enough social competence to communicate his/her knowledge to others in a project. Indeed, Sensys is very keen on learning from consultants. Consequently, Sensys look for consultants who are completely committed not only to do their job well but also to document their projects. Hence, documentation is an important issue.

If a consultant does a work for us we want this competence to be spread and not just to stay in this person's head so that it disappears when the person ends the contract. Otherwise we will be dependent on this person. We would have to engage this person again if a problem arises. It is important to do a job and communicate 'Here is the way I did. This is how I thought. Those things are important, and these too. Here is what to do in order to adjust it'. By documenting very thoroughly knowledge can be transferred. Requirement on this is higher for consultants as they disappear. You have to leave something that stays (The product development director)

In the same spirit, consultants should be active and tell when they think a better way can be proved. They should not just follow instructions but take part in them and question if necessary. To show commitment and concern is mostly welcome.

Categorising consultants into a capacity or a competence resource does not really matter for Sensys. Indeed, their philosophy is that whatever it is, a capacity or a competence, if the resource is missing, it needs to be hired. For example, Sensys limits the number of engineers in specific fields out of strategic choice. It is the case for mechanics said the product development director.

Then we take a strategic choice: as for mechanics... We think that we do not need to employ more than one mechanical engineer. So all mechanical work he cannot do is outsourced. (The product development director)

It is a good quality for consultants to have experience of specific software tools used at Sensys. Indeed, this decreases the time needed to start the project. Otherwise the consultant has to learn to use the tool first, which takes time. Experience of problem questions gives the same advantage, shorter time to start.

In practice, hiring a consultant is not just a matter of criteria and taking the one who looks best on the paper said an interviewee. Fit with other members in the team is crucial indeed. So who the consultant is going to work with will also influence which criteria are going to be most important. The reasoning is as follows.

Right competence first. But then I find it difficult to choose between two other criteria: development tools and references. If you are to choose between two persons: one has worked with this type of things before but does not know the tool, while the other one has worked with the tool but does not know these specific printed circuits solutions, it is very difficult to assess whether they have the same competence. Thus it is very difficult to decide which one to hire. [...] In this case I would prefer to take into consideration whom this person is going to work with in our organisation. Because we have to support the consultant [we take in]. We cannot just take in a consultant and say 'Sit down here and do something!' If the person the consultant is to work with can show how the tool works, then we take in the [consultant] with printed circuit knowledge. It is a team. In such a case I consider how the team is going to work together. (A product development manager)

An interviewee stressed the role of consultancy firms in the process. In discussions with the consultancy firm, it is important to get as much information as possible on the proposed engineer in order to make a good judgement on whether this profile would suit or not. This entails that suppliers have very good knowledge of their consultants in order to avoid misunderstandings.

Sensys looks for a supplier that could help solving consultancy capacity needs in a flexible way. As discussed earlier, since each potential business necessitates

new product development, Sensys has to acquire more engineers before knowing whether the company gets the contract or not. The danger is to enrol engineers and thus increase fast costs while the future is uncertain. As Sensys see it, a consultancy company as Combitech could cooperate closely to serve as a pool of engineers to draw on when needed. In order to fit Sensys requirements, these engineers would have Sensys specific application and program knowledge. These engineers would be earmarked for Sensys. From the supplier's point of view, the difficulty lies in the profitability of such cooperation since these engineers would have to be available for Sensys at any time. In order to solve the problem, the product development manager suggested that Sensys could continuously outsource projects to these engineers.

It is important that consultants act professionally, that they show that they work so that we feel we get the best. This attitude varies a bit from company to company revealed an interviewee.

Sensys' assessment of Combitech

Sensys has a long relationship and open communication with Combitech. In fact, the product development manager and one of the project leaders interviewed used to work at Combitech. As the product development manager put it.

I have worked there [at Combitech]. So the relationship is a strength in itself: we know what they are worth and which concept [they have]. Then it depends on which person [consultant] we get. But I think that the strength lies in the relationship in itself. There is no problem to be clear. For example if something is not right we have a discussion about it and solve the problem! (The product development manager)

Most of the time Sensys' contact person at Combitech can come up with suggestions of suitable profiles. This is important for keeping potential competitors outside, which Sensys thinks Combitech is most aware of. Otherwise Sensys would have to turn to another supplier for getting the required profile. Combitech is requested in many cases but not for all profiles. It depends on the profile Sensys is looking for. Sometimes Combitech cannot provide a specific profile because it has already been lent out. There is no obvious solution to this state of fact. Sensys says it is happy with the relationship with Combitech so far. Combitech has had several suggestions for developing cooperation that Sensys find interesting but this has to be the right timing.

I think they do the right things, and try the right things so to say, but it has to be the right timing for us. So there is nothing they can improve, just take the chance when the timing is right, to communicate the right needs and try to solve it. (A product development manager)

Combitech can offer a wide range of software engineers. The company is quite large and has many consultants. More, Combitech's physical closeness makes it natural for the consultants to come and work at Sensys, which is necessary for quickly integrating the team, underlined a team leader. However Combitech does not offer other competencies such as mechanics. Apart from that it has too few electronic engineers said an interviewee.

They have a large network of engineers. Then it is software [engineers], first of all. As for mechanics and to some extend electronic, we do not consider Combitech to be the strongest. There are others [who are stronger]. (A product development manager)

Interviewees at Sensys consider Combitech is a competent and skilled company. They always have the right competence in the company although this could be somewhere else in Sweden. Although it would be difficult to take a person to Jönköping, there is always the possibility to ask this person for advice.

The fact that there is somebody to bandy ideas with is a strength. I know that they can take in [questions]... Should they have a problem or a question, they can ask their organisation. Oftentimes they get a judicious answer. I have never experienced that they cannot deliver any answer. I have a feeling they have skilled engineers, and dedicated consultants. (A product development manager)

What has surpassed Sensys expectations is Combitech's SimCom, a standard built development platform. Combitech offers for free a platform based on a standard named Q7 from which customers can develop their products. It implies that Combitech does the construction. The customer does not need to do it and can develop their products at once. It also implies that customers save time and money and do not need to have the competence it requires to make this platform. Combitech has arranged for customers to have the legal rights to use this platform, which is a protection for them.

I think it is unique. Other consultancy companies do not offer such a thing. The advantage with Q7 is that Combitech make the construction, which implies that customers do not need to construct [it] by themselves and thus save both time and money. [Furthermore] Sensys do not need to have the competence it means to build the Q7 platform but still [we] have the rights to produce wherever we want. In this way one does not become dependent on any specific supplier and can push down the price. (A product development manager)

A weakness thought, is that Combitech should inform more about its new competencies. It could be engineers who have taken a course or newly employed engineers. It could also be interesting to hear when Combitech invest in a new competence it did not have before. The interviewee thought that infor-

mation is irregular. Thus it is not clear for the interviewee whether or not the lack of information means no new competence. As a result when Combitech finally phoned to tell about a new competence, it gives a feeling that it is just to check if the customer can engage the person. The customer feels he/she is pressed to engage this person.

I just have the feeling that sometimes I take part of the information and the rest of the time it is very quiet. Maybe they do not get new competence! Some time ago [Combitech] called and said 'We have just employed a new guy that is skilled at this, this and this.' [...] [We could get informed when] an old consultant participates in a new project and thus gets one more competence because Combitech develops its competences all the time, not just by employing new people. [Otherwise] when Combitech calls and tells that it has a new person I get a feeling it calls to see whether I can engage this person. Combitech wants to hire out this person. It should be easy [to call and inform] 'Now we have more persons who manage A9 processors, for instance! (The product development director)

7.3 Getinge

The health care company, Getinge, is originally a Swedish company founded in 1904. It is situated in the town of Getinge, south west of Sweden. The group has its roots in Getinge but it has acquired two foreign brands, ArjoHuntleigh and Maquet. The company employs approximately 12000 people worldwide. Combitech develops automation products and solutions for the business area Getinge Infection Control, which is the business area in focus in this case.

The company

The company Getinge has a long history first in agriculture, then in manufacturing products for agriculture and later on for kitchens as vessels. This is how the company came into the sterilisation market according to the interviewees.

It began about 100 years ago. It started in Getinge with agriculture industry and tools and then entered the industrial kitchen [segment] with stainless vessels. I think it was in 1932 that the first washing-dryers were manufactured for sterilisation. So this is what founded the Getinge Group. It started this way. Just washing-dryers and Infection Control were at the origin. Then [Getinge] was acquired by the Electrolux group and afterwards bought out from it. Then acquisitions and mergers started. Extended Care and Medical Systems are added business areas. So now [Getinge] is the smallest one in the group. (An interviewee)

The organisation expanded steadily since the acquisition from Electrolux by Carl Bennet, a well-known investor in Sweden, and Rune Andersson in 1989.

And then at the end of the 80's, in 1989, Carl Bennet and Rune Andersson bought Getinge from Electrolux. Immediately at the end of the 80's – beginning of the 90's an expansion phase started. They acquired many companies as Getinge and therefore it developed so strongly. (An interviewee)

Getinge is composed of three business areas based on the three brands: Getinge, working with Infection Control, ArjoHuntleigh, delivering extended care solutions and Maquet specialised in medical systems.

Infection Control is just about infection control. So it means washer-dryers, washing machines, and so on. Extended Care [ArjoHuntleigh] focuses on geriatric care. This means beds, hospital beds, tubes and lift trolleys for patient care. Thus Extended Care works only towards hospitals. Medical System [Maquet] deals with life support. This entails machines for heart and lungs, as well as surgery. (An interviewee)

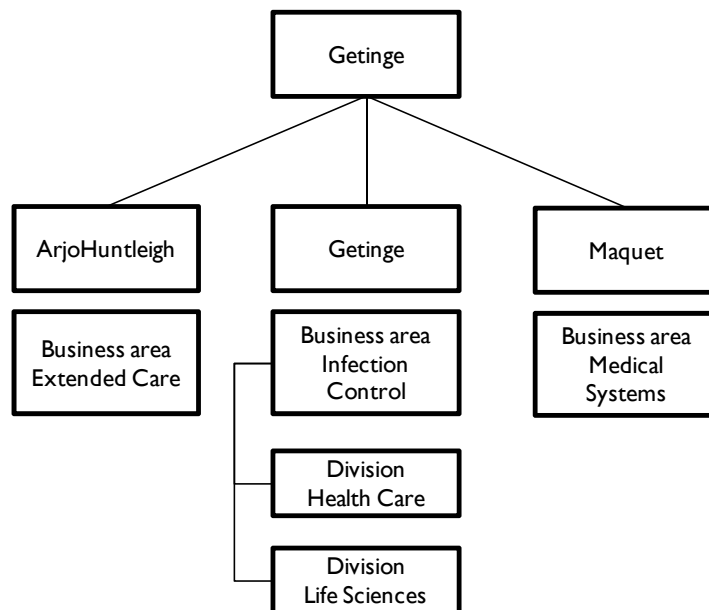


Figure 7-2: Getinge organisation chart, source: (Getinge, 2010)

Today the company operates worldwide. Just for Getinge Infection Control business area, there are 31 sales companies and distributors, a dealer network made of 65 distributors, and plants in different countries. The company offers a worldwide service structure, based, among others on their distributors

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(Getinge, 2010). Infection Control focuses on two customer targets that are on one side hospitals, i.e. Health Care, and on the other side Life Science, which implies pharmaceutical manufactures and laboratories.

Getinge's vision posted on the internet relates as follows.

We are driven to improve the quality of patient care and enrich human life. By supporting our customers as a trusted partner and advisor, we earn our position as the world-renowned healthcare and life science company. We satisfy customers' needs through the creative use and integration of technology to provide valuable, comprehensive solutions. As a preferred employer, we foster leadership, mutual respect, and the continuous learning of our people, our greatest asset. Our uncompromising passion for consistency, quality and operational excellence results in profitable, sustained growth and investor confidence. (Getinge, 2010)

Products and services

Getinge designs, develops, manufactures, markets and supports their own products and solutions. Their end-users are to be found in hospitals, clinics but also in research laboratories and in manufactures for pharmaceuticals.

Within the broad area of "Infection Control", Getinge's products are separated into two categories: "Healthcare" and "Life Sciences". Our Healthcare products are generally used in hospitals and clinics to provide point of use decontamination and sterilisation of equipment and materials used in the care of patients. Within the Life Sciences, Getinge's products are used in the research and development, and subsequently production and quality control of pharmaceuticals and medical devices. In both of these areas, the equipment for decontamination and sterilisation require a supply of consumables, for example, chemicals used in cleaning or indicators to monitor the various processes. (Getinge, 2010)

An interviewee explained from a more practical point of view.

Here [Healthcare] we produce washer-dryers in order to sterilise things. These [washer-dryers] can be used in hospitals to sterilise scissors, forceps, or other knives surgery before a chirurgical operation. But on the Life Science side, people sterilise fluids for injection. So one could say that we do both equipment at hospitals for sterilising instruments for reuse. The other ones [Life Science] are those who manufacture drugs before they package it and send it to pharmacies. (An interviewee)

The two categories of Healthcare and Life Sciences require products and solutions that vary from standard to tailor-made. An interviewee explained how the requirements shift.

We [also] adapt our standard products for our customers. We tailor- make our standard products or products from the price list both for hospitals [Healthcare] and for Life Science. The customerisation is much towards Life Science because most [products and solutions] are what we call “made-to-order”. [...] On the healthcare side it is the same: we have a standard assortment. But sometimes customers want to have something special. It is not possible to adapt healthcare machines too much since there are regulations that limit what one may do. But still there are variants [of our products]. (An interviewee)

An interviewee summarised Getinge Infection Control activities by stating that on one side it is about the manufacturing of drugs. On the other side it is about sterilisation and washing at hospitals.

The market

In this business Getinge is one of the six health care companies, according to an interviewee, that can pretend to be worldwide. There are also competitors on local markets in Asia. But these are much smaller and their products are much simpler.

Then there are hundred other small companies, first of all in Asia and in India. We actually do not compete with them. They make something very simple and very cheap. [...] They can have prices that are 30 % of our own. (An interviewee)

Besides price, competitors can compete with their flexibility, that is, their ability to meet special requirements from customers.

[Competitors compete on] price, delivery time, service, I think, [and] flexibility in some cases. [...] In Life Science, where drugs are manufactured, it is possible to have a machine tailor-made according to one's own needs. Thus one can guess that smaller companies that compete with us can be more flexible and say 'Yes' more often to customers who have special requirements. (An interviewee)

But Getinge positions itself in the high quality market segment. With it goes the worldwide after market service.

Getinge is a very well established brand. It is safe to purchase from Getinge because one knows that quality is high. It may not be the highest quality but still it is good. After market service is offered worldwide. I think it is simply a form of safety. (An interviewee)

There are two major types of customers for the Infection Control business area. They have their own priorities.

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Our customers buy sterilisation equipment. In the industry, it is pharmaceutical companies that buy for sterilising their manufactured products: [it could be] sterilised products with fluids or dog food or whatever that has to be sterilised. At hospitals, [the aim is] to wash and sterilise operation tools. There are many laws to ensure that operation tools should be sterile. (An interviewee)

The two types of customers have different businesses and value different criteria.

Actually, prices on the hospital market for standard products are more forced down. You sell almost ready-for-use standard products. In practice it is as if you look in a catalogue and say "We need one like this!". Then we produce a standard [version of it]. As for the industrial market, customers come with a specification of what they want and we adjust it according to their will. Prices are not as forced down in these cases. (An interviewee)

Life Science customers, those working with research, pharmaceutical manufacturing and laboratories, focus on quality first.

For Life Science, I think that the price has less importance. This is not what people look at first. It is rather production capacity: how fast and efficient the machine is, [that is] quality. It could be a question of choice of material, how it is built, documented and constructed. Of course the price should not vary too much, but should it vary with 20 % I do not think that it matters so much so long as quality and performance are higher. (An interviewee)

Still hospitals purchase from Getinge although they are standard product buyers.

One reason is for quality: what we deliver works well, so they pay for quality. Then we are also a strong [actor] on the market, and have long been present on the market. If you work at a hospital where there are many Getinge products, people buy the same [products] because they know how it works. But in order to take new market shares and grow, the price is crucial. We need to force down [our prices]. (An interviewee)

Getinge's value is based on a well-known brand associated with quality and a price consciousness.

We live on our brand and our quality that are very important, but the relationship [is important] too. We are big, we are strong. So it is no wonder people buy our products. But at the end of the day we have to be price conscious. So the price is the number one criterion to keep on selling to our customers, find new markets and new customers. (An interviewee)

Getinge offers an integrated product range, where products work well together.

We have good products. Our offering is competitive. I think that we can offer many different things that the customer finds valuable: both products that work well together, and systems to classify [and group] products [together], as well as service and after sales service. We can be found on many places in the world also: [we are] available. (An interviewee)

More, Getinge's range of products and service is complete.

One of the reasons is the size: the fact that we can offer total offerings. For our customers it is important. On one side it is about to be able to offer different kinds of machines: this is product range [...]. But then there is service commitment, for example maintenance. We have service technicians or agents in almost all countries. So it is not just a product that you buy, rather you also buy services with maintenance, consumables, and all this part. If one compares with cars, if you buy a much unknown car brand, it could be difficult to get it repaired and find spare parts. Getinge is so large that you can find spare parts. There are educational programs, courses... This is what I mean with total offering: it is not just product range but also service offering. (An interviewee)

In order to develop products and services that meet customer requirements, Getinge organises user groups.

We invite end-users and we conduct user-based studies, User case. This is where customers come in. As the customer has to push a button, it requires much design and user-friendliness. This is very person-related but we try to find a balance. One tries to listen so that the most important things [are taken into account]. [It is] customer input of course. Some of the [requirements] come back recurrently. We listen to them as they come from different sources. [For example] our end-users are often women in their 50's, which implies that they may not be used to computers. They prefer simple machines. There should be large symbols and buttons. It should look clear and easy. (An interviewee)

Reliability is another crucial criterion on the sterilising market, said an interviewee.

If we take a hospital, people who work there want to buy the cheapest machine that exists. Let us see it from another perspective! What they want is sterilised instruments. Thus they want to know that the machine is very reliable so that there are no disturbances or interruptions. I think it is the number one requirement together with the demand to fulfil all regulations and norms so that one can really be sure that what is put inside the machine comes out sterilised. [...] They should not have to take notice of the equipment. It should work well! [This is called] Reliability. I think this is quite important. This is equipment that holds very long, often up to 15- 20 years.

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So when one does such an investment it is important that it works because it is a heavy equipment to transport and install inside the building. (An interviewee)

Difficulties to catch all requirements stem from the fact that numerous people are implied in the buying process.

It is one thing who bought the equipment: it may have been the purchasing department. It is another who is going to use it. It is not sure that requirements are communicated the whole way through. It is a process for the customer who has not always reached the level at which all requirements are taken into account in specifications. (An interviewee)

One solution is according to another interviewee to work closer to customers and make sure to validate the customers' requirements.

Oh yes! I am totally convinced [that it would give a higher customer value]! [...] If we have a washer-dryer, it should sterilise, and how it works does not matter for the customer. But [the customer may think] 'I want to know with 100 % safety that if I put something in the machine it is sterilised. If it is not sterilised, I want to know it.' Those are the basic requirements! But then one can do it in many different ways. If one adopts a user interaction approach, one could make [the washer-dryer] in a way that feels familiar and easy to understand for the user. But you could also make it very complicated technically and this could make a huge difference from the customer's point of view. (An interviewee)

The customer value issue, explained an interviewee, entails a series of challenges for Getinge. It is about the way of thinking in the product development.

Customer requirements need not to be as complicated as we want them to seem... For some people, a new product implies 100 exclusive features and many gadgets, while actually there may be only two things that are important for the customer. Consequently, we should focus on these and not all other things. This would lead to a much more efficient product development that goes much faster. (An interviewee)

According to the same interviewee, the challenge for Getinge's staff is to realise that technique may not be what the customer prioritises. It is only then the staff will be able to focus on customer value.

If we asked the customer, I think that technique, although I myself work with it, would end up far down on the prioritising list. I don't think that many of those who work with technique have this humility and insight. (An interviewee)

An interviewee described how Getinge will compete on the market.

Technical development, I think, this will always be an important factor. There is always something in the products to develop. Competitors also work constantly on their products. Competitors work constantly with improvement. [...] So one can say: to develop products and customer value: this is what is important for our future. (An interviewee)

For the time being, Getinge enjoys a market position due to the well-known brand based on quality. But working methods may have to improve in order to keep the position said an interviewee.

There are many different customer segments, many diverse customers and many varying products. Generally, we enjoy a comfortable position in comparison to our competitors. But I think that in the future we have to start working more customer-focused. (An interviewee)

The micro-level as activities

Each new product development project starts with an idea for the next product generation that is developed into a concept. The new concept is studied from a financial, marketing, and technical point of view in order to decide whether or not to start a project based on this concept.

I make studies, searches and pilot studies. Someone else may have an idea of what the market asks for in the future. It is my work to analyze the ideas, whatever they come from me or someone else, and to judge them and assess if the market is ready to pay for them and to assess the volume it is about, the kind of technique, and then [finally] present a concept. (An interviewee)

The long lead time to deliver a product entails that engineers are constantly working with product development. They work on the next generation on a continuous basis.

My job is to provide the business area Infection Control with control systems that are cost efficient and up to date. It is a continuous project. When a system is developed, one can start looking for the next generation at once because it takes around 8 years from the concept to market launch. (An interviewee)

The R&D manager ensures the quality of product development by managing resources.

My role is to manage the resources involved with product development in the company. One can say that it is both product development and support and everything else closely related. Often it is the same person that manages the two. So it is about to ensure that there is the right resource and the right competence, the right conditions for working in an efficient way. (The R&D Infection control manager)

The role of the project leader for control systems and panels is to coordinate activities around product development. These activities are both internal and external.

I am very much in contact with suppliers. We have no electronic engineers for example. We buy services in form of electronic development, product development, and even mechanic engineering services in order to build a display panel housing⁴⁹ for example. In this project, most is done externally. And I am a bit the spider in the web: I coordinate both external activities, both [internal activities] actually my real customers are the factories. It is not the end-users but the factories [that are my customers]. (The project leader for control systems for the Infection Control area)

All the interviewees, except the project leader for product construction, are part of the steering group for the project. It includes the project leader, the purchaser, the product development director, the product line manager, and the quality leader or a representative. It is in the steering group that most decisions are taken. As for the project leader for product construction he works with the adjustment of standard products to customer orders and with product maintenance.

Some of the interviewees have information from the market either through user group meetings, as the product line manager, or from sellers who are in contact with customers.

Especially at the beginning of the development project, we try to take in customer value as much as possible: [we do everything] from end-user studies to interviews. These are our customers in this case, our end-customers. We do this in Sweden above all. We do this at hospitals and at other places where we can easily get much input from. Besides this we have a lot of sellers who have worked in hospitals in Sweden for example, and service technicians. So we get [information about] different functions and initial [inputs] in the product development. However there is a lack of feedback. If I only consider the projects where I have been involved, we have been very good at taking in the customer at the beginning. But I think it is very important with feedback afterwards. And so it is especially when someone has taken part: one has to [pay back with] feedback. Then one should ask 'Is it how you meant?' This is a kind of validation. One has to check. Then one may add 'Is there something that we could have done differently?' so that one does not end after asking some questions and then think that 'Now we are done with it. Now we

⁴⁹ A display panel housing is a user interface or also named HMI, Human Machine Interface. It is the buttons and other devices users activate to choose program and make the machine start and stop.

have a customer-focused product development.' It is not that easy. (An interviewee)

Others do not have, or have rarely contact with the end customer.

We are organised in a way that put us far from customers. We are a manufacturing company, that is a factory, and we sell further to our sales companies that go further to our customers. If we take a Life Science customer, there are usually many steps. There is the customer, the consulting firm, the sale company. [...] Just development and order management are organisationally far from the customer. [...] Many pharmaceutical companies had much [project management] themselves. As they streamlined their organisations, they lost the knowledge of managing large projects. Now they buy in project management. It is a problem from our side because we have to interpret [order] specifications made on several echelons. (An interviewee)

Some interviewees also consider that other departments inside the company are their customers.

My customer is often [the] Production [department]. (An interviewee)

Table 7-3: Interviewees' activities at Getinge.

Function	Activity	Description
Purchaser (named Global Lead buyer)	Delivery control	Contacts with suppliers to solve delivery problems, as delays and quality problems related to products and solutions.
Purchaser (named Global Lead buyer)	Information update with suppliers	Meetings with suppliers to follow up new products and price evolution.
Purchaser (named Global Lead buyer)	New suppliers search	New project development requires new suppliers that have to be selected and contracted.
Purchaser (named Global Lead buyer)	Search for alternative suppliers	Price pressure pushes the search for suppliers that can offer components to lower prices.
R&D manager	Management team meetings	
R&D manager	Resource management	Distributes and prioritise resources between projects.
R&D manager	Information exchange	Updating top management and co-workers on project status. Project analysis (time devoted, type of activities)

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R&D manager	Planning	Planning and supervision [related to product development].
Product line manager	Concept idea analysis and development of new concepts	Analysis of new ideas and concepts from a technical, financial, marketing point of view. Together with the factories and the marketing department the product line manager decides on the new design and functions. When it is time to choose technique, consultants enter the project to help with the choice of technique. Finally the product line manager supervises the development work mostly done by consultants in-house.
Product line manager	User-based studies/user case	Meetings with customers to discuss the design, user-friendliness, and other customer input.
Head of department	Construction planning and supervision	Planning and supervision of staff for the construction of control systems.
Project leader	Product development	Develops a new generation of control systems for the Infection Control business area.
Project leader	Purchasing	Contact with suppliers for hiring consultants with different competencies.
Project leader	Control group meeting	For taking decisions regarding product development, choice of suppliers.

The hiring process

There are two situations for which Getinge hires consultants. In case of new product development Getinge chooses a supplier. For repair, maintenance and updating Getinge hires the supplier that developed the product.

As Combitech has developed control systems since a long time, they are continuously present when we have a problem. So they follow the product under its life cycle. They [support us] for problem solving and updates. This is one thing. As for new development we are contacted in the middle of the concept phase when it is time to think about which technique to use. (An interviewee)

So what is named needs evaluation [a] corresponds to “Pre-study” from Getinge’s point of view. The second phase [b] is more a question of concept development rather than a decision to outsource the technical engineering in the project. Indeed, Getinge does not have the technical expertise to develop the whole product in-house, which was expressed by several interviewees.

We partly hire consultants for development projects. We do not really have the competence neither in this department, internally nor in the organisation. Therefore we use many consultants for this purpose. So was it before and therefore we have turned to Combitech to build the control systems we have now. Thus when changes have to be made it is Combitech that knows the construction. (An interviewee)

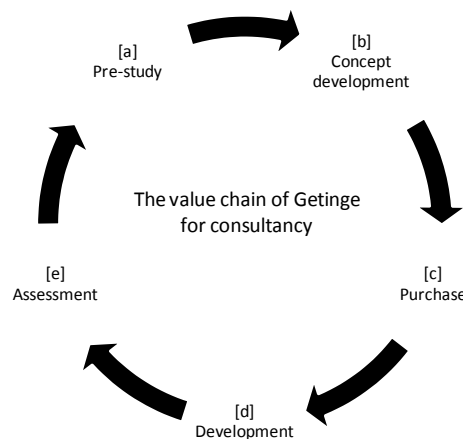


Figure 7-3: The value chain of Getinge for consultancy.

According to Getinge’s organisation, the phase [d] matches the beginning of product development with consultants. However another interviewee declared that projects developed by suppliers are outsourced early in the process while resource consultants can enter the process at any time there is a need for extra resources.

Requirements on consultants and consultancy firms

Getinge hires both resource and competence consultants. The latter are for product development projects where Getinge ask suppliers to take partial or full responsibility for a project. Resource consultants are considered as an extra resource.

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On one hand, consultants are hired as reinforcement, as an extra resource. On the other hand, they get full or partial responsibility for the project. In the first case focus is on their technical competence and their ability to work independently. It is in this case that I plan for resources and guide the consultant. [In the second case] the way we work in my projects is to give larger projects or parts of projects to consultants and which [criteria are] important is completely different. Competence and independence are still essential. But suddenly an additional criterion of project management and coordination pops up. It is [a criterion] that we do not have in the first case. (An interviewee)

In practice resource consultants are more supervised while competence consultants are regarded as experts delivering systems.

In the first case we say 'Do this, this, and this! Then tomorrow you will do that!' In the second case we say that we need a new display panel so we need help to figure out how the display will work. The second case is a matter of full project. This entails a consultant that can plan [projects]. We have used a consultant for interaction design that has helped us to conduct user-studies. [One question has been] 'How are we going to present information so that it is so easy as possible for the customer to understand?' (An interviewee)

Technical consultants enter the product development process when it is time to choose a technique adapted to the future concept. They provide the necessary technical knowledge needed to develop and assure maintenance along the whole product life cycle.

When [we have decided to adopt the project and] enter the concept phase, we take a look at different techniques that could help reach the goal. At this time, consultants enter and suggest something, different techniques. Then we can assess different consultants and see what their suggestions are. When starting a project, the choice is made. (An interviewee)

Getinge chooses consultancy firms for product development based on a series of criteria that go from price to references and solution.

We assessed everything with start from prices. It was this that...it is an important criterion. We judged earlier experiences, both with us and with other customers. [Potential suppliers] can show what they have done for other customers. We examined how full a responsibility they could take, that is, electronic and hardware development, interaction design, traditional design, project management, and all criteria. This is this type of full responsibility. [...] We looked at the general impression they gave. (An interviewee)

The supplier should be able to deliver the required competence when needed, it is a matter of flexibility. Other criteria are the size of the supplier's organisation, which is a sign of viability and gives information on whether it is possible

to build a long term relationship with the supplier. Not only technical competence and understanding of medical regulations and requirements are crucial but also a quality management system. On the individual plan, interviewees search for consultants that promote a long term relationship through their commitment and proactivity.

“I hope that consultants take responsibility. If we talk about consultancy firms, and not the single consultant, one wants to work in the long-term, with [a supplier] who understands one. If you take the example of Combitech, [it is important] to understand the products that we work with, to be able to suggest own ideas as it often has happened with Saab asking ‘Is this something that you would use? We have seen this on other markets.’ One has a cooperation with consultants and not just give a task [to accomplish].” (An interviewee)

One interviewee has higher requirements on consultants. He looks for accuracy, communication skills, ability to overall understanding, and responsibility. But also whether the consultant has long term plans to stay in the supplier company. The goal is to work with Getinge on a long term basis.

Another interviewee stressed, though, the difficulty for suppliers to take full responsibility for a project.

I think, for different reasons, that it is very difficult for a consulting firm to take full responsibility. One reason is the [need] to understand the customer. In the case of Combitech, they have worked closed to us many years and know us very well. (An interviewee)

Getinge’s assessment of Combitech

Combitech is appreciated for its high technical knowledge. After many years of cooperation Combitech has a very good understanding of Getinge, its customers and its requirements. And Combitech possesses a quality management system, necessary for manufacturing equipment for pharmaceutical purposes.

However, Getinge does not hire Combitech consultants for product development any longer. Some of Combitech’s consultants have a very high status at Getinge. However, these changed job, which affected the relationship with Combitech.

We used to work with two main persons, Carl Andersson and Ulf Palmkvist. Carl Andersson is a software engineer and Ulf Palmkvist is hardware engineer. Ulf went over to another company. Much of Combitech’s advantage disappeared in one night because he could, he knew and he was fast at constructing. And then Carl Andersson is a fantastic consultant, one of the bests as I see it. But he got a new job as a business developer. After that when it

was time for a new product development project, completely new persons who do not have the [required] experience, and even persons that we have a negative experience from, were [presented] to lead the project. (An interviewee)

So Combitech was not selected to develop the next product generation. A competitor with a wider range of technical competencies was. The decision hinged on several factors. One of them depended on the new solution the competitors presented.

[We wish] new ways of thinking. The risk, when one has worked this long, is to get stuck in the same old tracks. If we take Combitech... the [challenge] was to deliver new thinking and improve [their solution] instead of taking the same ingrained tracks without trying harder. It could be about putting higher requirements on our [specifications]. It is about this professionalism. It is common to decrease the level of professionalism when one is working close with the same people. (An interviewee)

Yet Getinge and Combitech have contacts constantly since Combitech takes care of the maintenance of former developed products.

We put a lot of work on Combitech. Since we have worked a long time with Combitech they have helped us developing many products. It is not because we develop new products with Epsilon⁵⁰ [that we cannot work together]. It is still so that the old technique needs to be maintained and developed. (An interviewee)

The relationship is still suffering from a lack of service quality, though. The interviewees complained about the slowness of maintenance services.

It can take three, four, five days maybe up to a week before it returns filled in with comments telling that 'We need to have this information [too]'. Then I have to turn to [the end-customer] to get information. This makes time go. Sometimes [Combitech] has got the information but I have to remind them. Then I get the answer and two and a half weeks have gone. It is too long. [...] Yes, it is extreme cases. But extreme cases have been quite frequent lately. (An interviewee)

7.4 Saab Training Systems

Saab Training Systems is a wholly-owned Saab subsidiary. It belongs to the Saab group such as Saab Avionics and Combitech AB. The company provides

⁵⁰ It is the new technical consultancy company replacing Combitech for new development projects.

equipment and systems for military training as well as air force support such as laser simulators, graphic simulators and target equipment (Saab Ab, 1999b). The head quarters are located in Huskvarna, few miles away from Combitech in Jönköping.

The company

The drive in Saab Jönköping to develop training systems better adapted to the needs of the army took form during the 70's with Ingvar Öhlund. And in 1983 the company Saab Training Systems was established for this purpose. At that time it belonged to the old Combitech group. The first CEO during 20 years was Hans Robertson, an engineer who patented a cutting-edge laser technique on which the products were based. The superiority of the material laid in its ability to accurately inform where the shot hit. The decisive argument was "We do not only know that we hit, we also know whom we hit". (Risberg, et al., 2009)

Nowadays, the organisation counts 390 employees. It is made of several departments including Strategy & Products Portfolio Management, Marketing & Customer Support, Programs, Engineering, Procurement & Manufacturing, Finance and Administration and finally Staff. The company used to have a turnover of thousand millions crowns per year and is still doing well. In 2009 and 2010 the company won several bids worth several hundred million crowns. The bulk of the sales goes abroad. Saab Training Systems has subsidiaries in USA, UK, Germany, Norway, Finland, the Netherlands and Canada.

Since the beginning of the 21st century, Saab Training Systems has gone through a number of reorganisations in order to streamline the organisation and makes it more efficient. Before that the organisation was made of several companies inside the company, as an interviewee put it.

This company has historically had many companies in the company. People have had total freedom in the different groups as for design choices– development method and tools – because they have worked on their own. There have been very clear interfaces so that one could say 'In our group we develop this small thing. We have an interface. As long as this small thing meets the requirements the system will work.' This was very efficient under a certain period of time. But it requires a quite large organisation. There was no group of mechanic engineers for example. Instead each group had their own mechanic engineer. (An interviewee)

The advantage of such an organisation was twofold. Engineers had an amazing all-around knowledge and a deep understanding of the products, said an interviewee. Inversely, they may have lost some of their cutting-edge knowledge of their own competence because they were isolated in their group. Nowadays one

of the advantages is that it is easier for them to develop their competence, which was one of the reasons behind the reorganisation.

Products and services

Saab Training Systems develops and markets products and services that enable military training simulating real conditions. For example the latest laser simulation system is named BT46. It is a laser simulator used to simulate the shot of any type of firing weapon. This product simulates the ballistic trajectory of a projectile, i.e. a bullet or missile. Thus it renders a realistic impression. Just the realistic impression is a cornerstone of Saab Training Systems equipment. An interviewee stated:

You train as if it were for real. (An interviewee)

Realism is reached through specific product functions that recreate real conditions.

The first breakthrough was the pop-up target. I think the second breakthrough was the [product] BT41 and BT46. It was afterwards that [customers] realised that training could be more worth if shooting in 3D. Before that one used to light with an electric torch from one vehicle to another [in order to simulate a target]. In these situations one could not train as wished. You want to train as if you shot a real bullet. A real bullet does not go straight but falls. This is what we could simulate. [...] So the training gave a higher worth, which English and American customers realised somewhere in 1993-1994. We got contracts from both of them. (An interviewee)

Another example is the simulation of loading time.

When you reload a char it takes a little time to get the cartridge in place. We simulate the time it takes. This is what I mean with functions: everything around. We work very much to create realism. (An interviewee)

Saab Training Systems endeavours to constantly better meet customer needs. The latest invention is deployability, that is, the possibility to easily transport training systems to different places in the world.

Now we have found a new thing that is unique. We call it Deployability: our system can be transported in a plane, flown down to Africa in order to train there or to Iran or Afghanistan. This combination of high precision and the possibility to transport the system, train in real combat context, yes this combination [is unique]. (An interviewee)

The alternative in some cases can be a less reality true solution without ballistic.

In many cases, especially with chars, if you use one-sided light beam as we call it, you only get a beam that lights straight without ballistic. In those cases

you do not need to connect to the char. You just need a signal informing 'Now it is time to fire!' but you get no ballistic. You cannot work with anything in the char. You have no aim-off if something moves and connections are very basic. Thus you have constantly to do a bit of rethinking [to understand how it would work in a real situation]. You work with training system but not as if it were for real. (An interviewee)

Saab Training Systems does not only provide all type of training equipment as combat vests, vehicles, weapons simulators, it also connects and supports them. The Common Training Network is a solution to connect all systems enabling information from different sources to be gathered. It enables for example subsequent analysis of training exercises, named After Action Review (AAR). An interviewee mentioned that customers' requirements go towards more full-service. The supplier should take total responsibility. Customers buy whole packages in form of turnkey.

Before people used to buy products and then [contacted] someone who could repair the things. Now people buy a whole package, sometimes called turnkey. Suppliers are required to take more responsibility for the whole [package]. Our customer says to us 'Whenever we come to you and ask you, we want to get the material we have bought. You should deliver them to us. They should be in perfect condition. And when we leave them back to you they should be fixed for the next time. (An interviewee)

An interviewee stated that the company is becoming more and more a service one. Support has developed over time.

As a company we have moved on from being a hardware supplier, which meant to deliver and then wait for the customer to come back and say 'This is broken. We want to buy more things.' to a state where we dare taking responsibility over a 10 year-period. (An interviewee)

Through their support contract Saab Training Systems can take care of product maintenance for their customers. The good service has contributed to tie customers in long term relationships, said an interviewee. Another interviewee declared that customers who signed for it are satisfied with it. Many competitors also sell such a maintenance contract but they leave the maintenance work to a subcontractor.

All [customers] that have had this after sales and maintenance contract are really satisfied because they can focus on their training instead of making the equipment work: it is someone else's problem. (An interviewee)

The market

The market is international and mature. Thus price is getting more and more important and many competitors focus on it, declared an interviewee. Another interviewee admitted that Saab Training Systems are not the cheaper as they concentrate on other criteria as relationship, quality, performance, functions and reliability.

Our competitors mostly focus on price and standard [quality]. We are usually quite expensive but we have the best material. (An interviewee)

From the customers' point of view, requirements vary very much. It depends on the maturity of the country, declared an interviewee. Criteria are price, speed and easiness of installation, realism of the simulated exercises, long term commitment of the supplier for after sales services, or conversely, possibility for the customers to manage and control all by themselves.

There are very different strategies among customers actually. Some want it to be as easy and quick as possible to install. If this means afterwards that one [the training soldier] has to do a bit of rethinking [to visualise how things would have operated in reality] does not matter. [...]. Others focus on the realism, the possibility to follow where everyone is. [Those want] to influence almost everything and follow what happens through our training central named EXCON⁵¹ that informs whether one is dead or living, has shot down someone or how much ammunition is left. We gather all this information. (An interviewee)

Requirements shift along a two ended scale where on one side customers prioritise easiness of installation and on the other side stress the need for reality. The two requirements entail different criteria.

Realism implies more complex systems. And more complex systems require long-term commitment since [customers] cannot manage [the maintenance] by themselves. So one thing leads to another. (An interviewee)

Customers who buy from Saab Training System require user-friendly equipment.

[Customers] thought that Saab's products were fantastic from a solidity and a precision point of view but not a user-friendliness one. It took too much time. All material laid on the ground or on the slopes. Yet soldiers and vehicles had to get equipped. The process from taking the material from the supplies and equipping [soldiers and vehicles] to starting the actual military exercise was too long. As [a customer] expressed it: 'Your material is meant for training

⁵¹ EXCON stands for Exercise Control or Exercise Console.

and not for fixing cables and figuring out how to make it work!. (An interviewee)

Saab Training System's engineers have the possibility to attend and support their customers during training. Two interviewees have followed their customers, one in Finland and another one in Holland during a two-years period as a site manager.

I helped to install [the equipment] and run their exercises. One gets understanding for both the product and the customer after some years [with the customer]. I was two and a half years in Holland. (An interviewee)

As a developer you do not get to experience [the system] before you really connect our system, or I did as a project leader for the whole training site, where a group comes and deliver its product, and then another group comes and delivers its product. I could then really see the similarities and the differences [between the equipment]. I do not want to stress the differences but... One should not need to have a special education in order to configure the system. [...] The different manipulations, software, and menus should feel convenient. (An interviewee)

Saab Training Systems aims at having an open communication with their customers and exchange learning experiences with them. The close relationship with Holland has turned into a partnership.

We have become partners. We help one another to go ahead. So it is not just selling a system [and leave the customer alone with a] 'Make-the-best-of-it-mentality'. Rather the two of us try to learn [from the product]. They give us feedback on: what does not fully work? What does work? How could we do instead? If we can interact with them in the early phases of weapon development, [then we can ask questions such as] 'Have you thought of how we are going to work with this when you are going to train?' There is a close and deep dialogue. (An interviewee)

Discussions on value have been more common since the introduction of Lean Product Development said an interviewee. Issues as what is value building and strategic competence building are discussed.

As far as I know we have not discussed the whole value chain from our suppliers in another way than to discuss where the border is between what Saab Training shall does itself and what we could let someone else do. We discuss the issue of what we have to be skilled at so that the customer will buy from us. What can we do to be preferred [suppliers]? (An interviewee)

The micro-level as activities

The interviewees in this company are either line and/or project managers, except for a purchaser. A line manager focuses more on “soft” parts compared to project managers, he said. His job was to support projects by providing staff and other resources and described the difference between line and project manager as follow.

My job is to ensure the achievement of our project [by providing] personal resources that are able to do what needs to be done. [It is to] ensure that everyone feels good and that they have what they need at hand to perform their assignment. [...] Project managers [conversely] have a customer and a project to conduct. [Project managers] have both budgetary and time control in the project. A project manager has a limited number of persons or at least the number of persons needed to achieve the project. As a line manager, one has much more responsibility for the cohesion of the group, [i.e.] that people have a reasonable workload and cooperate and so on. This is about all the softer aspects. [There is] much more personal management than a project leader traditionally has. [Personal management] implies everything that has to do with employee development meetings, salary discussions, and salary settings: everything resorting to personal issues. (An interviewee)

Another interviewee is part-time line manager and part-time project developer. As line manager, he unites the group members, distributes tasks and makes sure everyone has enough workload. Besides these activities, there is a responsibility to develop the group's work, which he plans to devote more time to in the future. Typical questions associated with the development of the group's processes are the following.

How does our group work compared to other groups? What is our role in the company? [Which] Strategies and processes are there relative to the test function? (A line manager)

Much of the time is spent in planning and information exchange to inform upwards and downwards, that is top management and group members.

The project leader belongs to the group named System & Project Design. His role is to coordinate products and their development. The increased competition makes it necessary to find more effective ways to develop products.

We are on a market where competition was not so fierce. But now the market is very mature, and thus very competitive. This entails that one has to be very efficient in product development. We cannot develop the same function in different places. We have to coordinate to be more efficient. (An interviewee)

Table 7-4: Interviewees' activities at Saab Training Systems

Function	Activity	Description
Line manager	CEO-meeting	"The CEO-meeting is an information meeting from the CEO, where we also account the status of different activities, problems and other things that we want to take up."
Line manager	Project-Line meeting	Meeting between line manager and project leaders to discuss issues around the organisation. "As I have the resources and the project hires these resources. It takes much time [to plan]."
Line manager	Group meeting	"We inform the group downward and relate what happens outside [the company]. We also check everybody's workload" with the help of a Visual Management Board inspired from Lean Product Development.
Project leader	Planning	For the resources needed in project. Needs are formulated.
Project leader	Hiring consultants	Meet consulting company and make sure they understand the need of the company. Take the final decision or delegate it to the product development director.
Project leader	Strategic development of competencies	Analyse and take strategic decision about engineers' competence development.
Purchaser	Purchasing of consultants	Receive an internal request for purchasing, understand the needs. Contact consultancy firms for find the right resource.

The hiring process

The process of hiring a consultant is the following: employees decide on a project, define what to do inside the project and check which internal resources are available. If there is a lack of internal resources, Combitech may be contacted and consultants hired. The purchaser usually steps in late in the process.

The end user of the service [the line manager in search of a consultant] takes contact [with consultancy firms] and then I get involved in the process and I close the contact. (The purchaser)

The little number of potential suppliers makes the search easier.

7 Customer companies

We do not wander in search of this resource since Saab makes it simpler for us [with the basic agreement]. There are maybe three suppliers in the vicinity of Jönköping that can deliver consultants who know integrated software or more windows-oriented software programming. There are only few suppliers that have this competence as their core offer. Thus it is different from searching for a competence one does not know where to look for. (An interviewee)

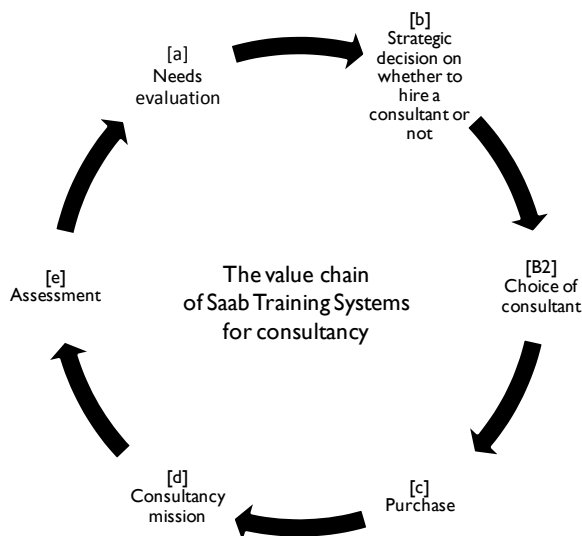


Figure 7-4: The value chain of Saab Training Systems for consultancy

However, depending on the type of resources that is hired, contact with consultancy firms is done more or less early. A mentor is more difficult to find on the market compared to a resource consultant. Thus it requires more time to find a mentor.

I make a difference between a consultant and a mentor. A consultant in my eyes is equal to an employee. No, not really. [Rather] There is a specific job that needs to be done and this job will take 200 hours. [...] It is more a need for a work [to be done]. In those cases the decision is taken quite quickly. [...] But if we are to take a bigger step, maybe technical, that could be development methodology, development environment. It is more about to enhance our competence. We often start this in a project. The goal of the project is not to increase our competence; the goal of the project is to bring new capability to the customer. Nevertheless it implies that we have to learn a new technique on the way. These are planned a bit earlier or at least I try to make sure that we think of: 'Where is this competence outside of Saab Training?' We need to find a partner that not only can sell a consultant by the hour but also one

who could be on place and teach our own [engineers] so that they can take the lead for the new technique. (An interviewee)

From the Purchasing side, the process of hiring a consultant starts with an intern request corresponding to a need. The person that could send this request describes the needs. Afterwards the final decision to make a request for bids is done if the required profile is available.

Requirements on consultants and consultancy firms

Requirements on consultants stem from those who need the resource, it could be a line manager and/or a project leader. Apart from technical competence, track record is a criterion used both on consultants and their firm. Consultants should show social competence, but also drive and responsibility added another interviewee.

[They should have] a capability to come in on the company, dare to ask their way through, [and] take responsibility for the task. (An interviewee)

Another pinpointed that consultants should behave as if they were employed by Saab.

We expect them to act as a Saab employee when they are hired by the company, to behave like a Saab employee towards customers and others. (An interviewee)

Price is part of the criteria but it comes after those related to competence, track record and social competence.

And then the price is also taken into account. (An interviewee)

Parts of the requirements are taken for granted and thus not expressed in the request for purchasing declared an interviewee. More, the requirements are not usually written down, he said.

From the technical side people usually do not write down their needs. [They] do not say 'It should be one who knows [the programming language] C++, preferably with a long experience, and other skills too.' [They do not mention either that] the consultant will sit and work here and thus be able to cooperate with others as well. [...] Many times consultants that have already worked here are prioritised since they know all other things here as well: they know the people, how things work, the environment so that when they come here they are quickly operative. (An interviewee)

Another interviewee underlined the importance for a consultant to have experience of similar things as operative system, small processors, development methodology. It is experience that is written down in the consultant's CV. But

the contact persons at the consultancy company know better which profiles would match Saab Training Systems.

Requirements on the consultancy firm

As for requirements on the consultancy firm, an interviewee declared that it is important to have a good contact person at the consultancy firm through which information flows. It enables to communicate easily without being too formal. The contact with the consultancy firm should be alert, responsive, and done in a win-win mentality.

When we say 'we need this' they suggest something. Even if they understand what we say, they can suggest [the following] 'Have you thought of doing it this other way? Would this suit better?' This starts a dialogue and maybe leads to the change of the requirements in a way that suit both. If it suits both then it is a win-win situation. (An interviewee)

Consultancy firms could take much higher responsibilities and play a greater role than just hiring consultants. An interviewee depicted a scenario of a consultancy firm giving total technical knowledge development support through offering courses and supporting the customer during the product development process.

When we, as a company, are about to enter a new [competence] field, we want to offer our employees a training course. We [also] want to offer our employees mentorship after the course while they start working in a real [development] project. Afterwards when we feel that we start managing this function or technique, we maybe also need resource [engineers] only. [Let's put that] our employees take a course somewhere with a specific pedagogy, a specific development tool and then we take a mentor from another company who has no clue about this course and suggests instead 'Oh I think that we should do this way!' Meanwhile the instructors in the course says 'We think that this way is a good way to do. And after that we hire a [resource consultant] later in the chain who has not taken this particular course nor been in contact with the mentor and this person says 'Well, I think I will develop this way!' One misses a possibility, the one of coherence. (An interviewee)

The same interviewee took the example of model-based development and added:

I do not know if there are others who think as I do, but the advantage is to offer a partnership on model-based development. [The supplier could say] 'We give the training course, we provide mentors if you will under the time. We guarantee that our resource consultants have taken this same course and develop in the same way [as in the course]. We can be your partner here. (An interviewee)

Saab Training Systems' assessment of Combitech

Saab Training Systems has a long relationship with Combitech. The quality of their consultants in term of education and their ambition level contribute to an overall very positive assessment of the company.

We have had a historical good cooperation with Combitech. We have personal relationships with many consultants, which strengthens our trust in them. [We appreciate] the physical closeness, which makes that we often get people who live in the vicinity. We can get the same consultant on and on again. [...] On top of that there are many knowledgeable consultants at Combitech. I have worked with many along the years and I can say that most of them, if not all, are very skilled and have a high education as well as a high ambition level. This could be summarised so: they have a good reputation in the field. (An interviewee)

Combitech's strength is its ability to deliver consultants in its domain: integrated systems and Windows as well as Test. There is a continuous communication between Combitech and the customer which makes it easy to find matching profiles when needed. According to an interviewee, this helps Combitech understanding how Saab Training Systems works. Further, Combitech has an open dialogue with Saab Training Systems. This is a prerequisite for a trustful relationship.

I think it is important to work in this way: to have contact, be prepared when one needs the help, to be open and say 'we do not have this profile. Unfortunately we cannot deliver.' This creates credibility. We believe they do their best since they are open. (An interviewee)

Combitech's consultants are more committed than other consultants, which makes them a cut above other consultants.

Their consultants are used to take a broad responsibility. They are not the typical resource consultant type. I do not know if they are trained to take responsibility. [...] Either they have succeeded in selecting the best consultants or they have a program that makes them a cut above. [...] They are not afraid to take contact with those they are to deliver to. (An interviewee)

Lately in the wake of the economic crisis, Combitech has shown much flexibility and has succeeded to manage the relationship well.

It has been a bit turbulent related to whether we would keep consultants or not. [Combitech] has been very flexible with hiring contracts. We have been able to extend and shorten [contract periods]. We have had a dialogue. Further they have been active in an appropriate way. They have not... Some consultancy companies have called too often. Then it creates a Oh-no-I-don't-have-time-for-you-more!-reaction. You get this type of bad feeling. But I have

never experienced it with Combitech if we are to compare with other companies. (An interviewee)

However the relatively high price is a weakness stated an interviewee who admitted that quality goes with higher price.

The price [is a drawback]. [But] one gets what one pays for. It is possible to find cheaper resource consultants. But skilled mentors are hard to find, therefore there is rum to charge more for them. It is not about big differences. If one chooses Combitech it is not for the price, it is for competence and sense of responsibility. (An interviewee)

Combitech's weakness, according to another interviewee, is that fact that they have consultants in just software programming, in particular in integrated software and not in mechanics.

On a longer time span, an interviewee at Saab Training Systems pinpointed Combitech's lack of plans for the future. The reason is that Saab Training Systems would like to get an idea of which areas could be subject to potential investment.

Combitech could profile itself ... Well, how could I express that? [They] could reveal a bit more their future plans. They have been a bit unclear onto where they aim at, at least towards which areas. [...] What do they plan for their own company in the future? This could make it easier [for us] in the future [to know] what to expect. I do not know how to formulate it: But in which direction do they want to profile themselves? [...] They have a centre for Linux [for example]. But have they planned to make other centres for something else? Or do they plan to concentrate their engineers into such an area? They may have thought of doing something for project leadership... It could imply to take more work in-house [at Combitech]. [I am asking for] Just more clarity on their intended roadmap in a way. They have not been secretive, but actually I am not sure that they know themselves [what the roadmap is]. This could be the reason. (An interviewee)

In this empirical chapter, customers have shown how they think about value and what it requires from consultants and the supplier. With the help of the theories, I will proceed to the analysis of value co-creation and the supplier's capabilities next.

8 Analysis of value co-creation

The aim of this chapter is address the first research question of what is value co-creation built on and how does it emerge in industrial services. The analysis will draw on the empirical part related to the value co-creation process and discuss the theoretical concepts inherent to value co-creation. I will argue that value-in-use, a cornerstone of value co-creation, takes different forms depending on the customer's goal. I will also point out the design and the influence of the offering on customers' perception of value. The result is that value co-creation comes into a variety of forms, which contradicts the traditional view on value co-creation as a concept. The findings extend the conceptions of value-in-use and value co-creation. They will be discussed in the last section. Graphically, this chapter will focus on the customer's side in the value co-creation process, which corresponds to the framed part illustrated in Figure 8-1.

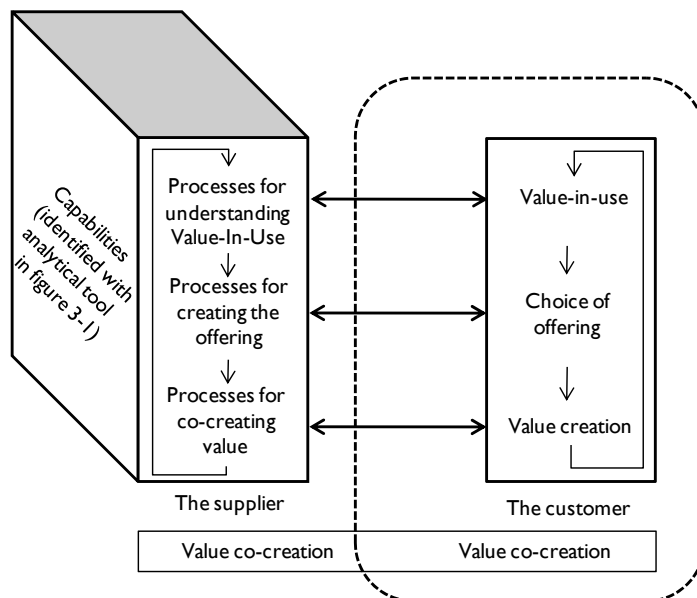


Figure 8-1: Analysis of value co-creation

8.1 Value-in-use revisited

The notion of value-in-use in literature refers to the value that emerges when resources are integrated, goods and services used and a goal reached (Grönroos, forthcoming). For all customer companies in this thesis, value-in-use is a central

notion that is expressed through customers' expectations on consultancy firms and consultants. Value-in-use is also the yardstick with which customers assess their supplier.

Some general observations can already be made. Each company raise a list of value-in-use aspects when discussing about the market and they gave examples of several value-in-use. For Sensys value-in-use is embodied by continuous, i.e. uninterrupted, product development, product development improvements, shorter start time to product development, smooth interactions in product development team work, and so on. The company endeavours at improving its product development process with every means. Yet value-in-use in literature is referred to in singular (Grönroos, forthcoming, 2008, Heinonen, 2010, Payne et al. 2008), which gives a simplified picture of the value-in-use notion. This is all the more striking as oftentimes, the same resource, good or service could offer several value-in-use. A consultant, for example, brings a set of qualities and competences, that lead to several value-in-use. Thus this talks for a plurality of value-in-use, maybe for 'values-in-use'.

During interviews, examples of value-in-use are not always explicit: independency is such an example. When Sensys states that consultants need to be independent in order not to waste other team members' time, Sensys names a quality, i.e. independency, and describes a situation the company wants to avoid. The value-in-use that is meant is continuous product development. Sometimes the interviewees express which value-in-exchange they look for. Technical competence, social competence, drive and responsibility mentioned by Saab Training Systems are such examples. Part of the requirements are taken for granted and thus not expressed explicitly either. Value-in-exchange takes the form of criteria as competence.

It is interesting to notice that it is the goal that tells what value-in-use requested. Indeed, when interviewees expressed value-in-exchange, and explained the goal, it became possible to translate the value-in-exchange and the goal into a value-in-use. For example Getinge's customers want to avoid disturbances and interruptions with the sterilising machines. Getinge expressed the goal 'what they [the customers] want [to be sure of] is [that they get] sterilised instruments'. This goal can be translated and linked to reliability of the equipment, which is the value the users should get when using Getinge's instruments.

What this last example shows is that it is not always easy to distinguish the different notions from one another and that value-in-use can be deduced from other information as value-in-exchange if goals are expressed. The discussion on value-in-exchange, value-in-use, and goals shows that these notions are interrelated. The value of value-in-use lies in its higher cognitive level, which makes it closer to customer goals. Expressed in other words, value-in-use informs more precisely the supplier of what goal the customer wants to reach. It answers to the "why" question while value-in-exchange corresponds the "what" question. Actually the function of value-in-use is similar to the one of conse-

quence based satisfaction presented by Woodruff (1997) in its customer value hierarchy model. The advantage of value-in-use in comparison to desired consequences in use situations or consequence based satisfaction lies in the term's clear formulation and thus its usefulness.

In literature it has been argued and thus taken for granted that companies want to integrate external resources/goods and or services with their own in order to create value (Grönross, 2010, Vargo and Lusch, forthcoming). However, integration requires to do efforts from the customer's point of view. In the Getinge case, the postponement of this integration is more valuable than integrating all resources by oneself. This postponement is done through outsourcing a part of the product development to Combitech. When the project is achieved it is integrated in Getinge's product. It is more valuable for the company to integrate an accomplished project instead of all resources by oneself. This example reveals the fact that the decision to integrate resources is subject to a trade-off of benefits and sacrifices (Zeithaml, 1988) by the customer. This also points out that in 'value-in-use', the 'use' aspect is not solely positive.

The customers' expectations of the value they will get from using the supplier's services and goods can be considered as an expected value-in-use. If the customer is unable to create the intended value-in-use, the responsibility may fall back on the supplier whose role is to support the customer in the value creation process. Yet it is not always easy for the supplier to catch customers' expectations as these can be implicit as shown by Ojasalo (2001) or change due to factors that are unknown for the supplier (Flint, et al., 1997). The empirical material illustrates the difficulty of catching expectations. Still the fact that I came as a researcher, read outsider, might have contributed to make expectations explicit since it is legitimate for a researcher to inquire about customer's expectations. In the four coming sections the notion of value-in-use will be discussed. Each company contributes with a specific aspect.

Implicit expectations of value-in-use

The difficulty with catching expectations is most clearly stated by respondents at Saab Training Systems who declared that taken for granted expectations are not included in the request they send to suppliers. People at the technical department who send their request to the purchasing department do not fill in what they consider to be taken for granted information. The request is part of the institutionalised practices, i.e. the procedures, systems, tools and techniques used to carry out the strategy activities. Insofar as it can be presumed, the request is a tool and a routine to hire consultants while what employees do are the praxis. Employees have reduced the hiring routine to the minimum information level so that they get their value-in-use. From the point of view of the customer, a brief request is more valuable as it is time-saving. For the supplier it is also time saving as long as the taken for granted information is clear. How-

ever the situation can get complicated if expectations change and are not made explicit.

It requires reflections and maybe a discussion between Combitech and Saab Training Systems to realise that Saab Training Systems has made the move from being a hardware supplier to being a training support partner. The international market for military training equipment has become very mature. Customers are keen on either low prices or high quality. Saab Training Systems' choice to profile itself on the quality segment puts requirements on technical knowledge and development. This means technical responsibility for maintenance and support, and subsequently, long term relationships with the customers. Because of the long product life-cycle, maintenance of sold equipment stretches over a decade. This implies in turn a technical supplier that can offer technical knowledge development and skills that help meeting expectations on value-in-use.

Saab Training Systems revealed during the interviews that they wanted to collaborate at a higher strategic level with Combitech. Thus their expectations are higher in this concern. This means that they expect Combitech to come up with suggestions on future strategy, which they believe is lacking from Combitech's side. This situation reveals that there does not seem to be any practices between the two companies to continually catch strategic discussions. As the practices are missing the praxis is not done, or in a poor manner, since praxis is dependent on the institutionalised structures. This analysis is strengthened by the fact that the interviewee who depicted how a close strategic collaboration on technical issues could look like declared that "I do not know if there are others who think as I do".

Taking up expectations may be difficult as the taken for granted expectations are part of the required knowledge that the supplier is supposed to have. Starting asking questions that should be obvious may jeopardise the credibility of the supplier. In case the relationship is very good there might be a reluctance from the supplier's side to chance one's image in the eyes of the customer. In contacts between customers and suppliers there is a subtle limit between what is "allowed" to be said and what is not. In terms of value-in-use, too many implicit expectations may prevent the customer, and the supplier, to increase value co-creation.

Practices in conflict with value-in-use

Saab Avitronics and Saab Training Systems are two Saab companies that have the same background and work in the military industry. Yet their expectations lie at very different levels. Indeed, the Saab Avitronics expectations are much lower than the ones from Saab Training Systems. In fact, Saab Avitronics is the most divergent company among the studied customers. Most noteworthy is the contradiction between what the company says and what it does. In this com-

pany, practices, i.e. institutional and organisational activities, are in conflict with praxis, i.e. what people do. Practices are epitomised by the discourse. Interviewees declared the company rather not hires consultants at key position as project leaders, or with too high competence for their task or for long periods of time. Yet one interviewee admitted that hired project leaders from Combitech successfully reorganised and restructured the team and the project they lead. The practices of the company are embodied into arm's length relationships with suppliers.

From a strategy-as-practice perspective this case questions the statement from Jarzabkowski (2003) who stated that practices play the role of an infrastructure in which strategizing occurs. This case reveals a dichotomy between the practices and the praxis that according to Jarzabkowski should go hand in hand. The praxis is taking place despite the lack of and the poor practices. From a contextual point of view it seems necessary that the company can deliver high quality. The interviewees explained that the market is an extremely demanding environment. Indeed the civilian flight industry is known for its high security requirements and the military industry for its high quality products. This sets the conditions for the two industries. As an interviewee pinpointed the difficulty in developing technical products forms the first challenging threshold relegating the issue of price to a position of second importance. Further on international markets, which constitute 50 to 70 % of Saab Avitronics business, the company does not have the advantage of customer closeness as on the home market. It makes it more difficult to compete with the close relationship criterion.

As an additional aspect of the very high requirements in the industry, one can mention the fixed price business model that Saab Avitronics' customers demand. Setting a fixed price on developed products protects the customer from costly mistakes or changes that usually occur during product development. Saab Avitronics' customers also demand that their suppliers take a proactive role in product development. They expect Saab Avitronics to contribute and influence the product development process with knowledge and information about specifications, and any change that would affect costs positively. On time deliveries and smooth processes in product developments are prerequisites. In turn, Saab Avitronics looks for consultants that can enable to hold time planning, deliver high quality, and keep product development costs low.

In this context it is surprising that Saab Avitronics turns to Combitech but looks for consultants with low competence and with low price. This view corresponds to value-in-exchange and not value-in-use. In this relation, Combitech is trapped in a "damn if you do and damn if you don't"⁵². This interpretation is

⁵² This is a master suppression technique from Berit Ås who developed the theory of the master suppression techniques.

reinforced by one interviewee at Saab Avitronics who denigrates Combitech's competence by stating "Well, actually, I do not know if they are better than many other consultancy companies"⁵³. On the one hand the company prevents Combitech to display its competence by asking for low competence. On the other hand it judges Combitech on its ability to provide higher competence and differentiate itself from the competitors. In terms of value, the company says it looks for low prices, which is a value-in-exchange approach, but it hires consultants from the technically cutting-edge Combitech that can contribute to increase value-in-use in form of time efficiency, high quality and product development cost reductions.

Postponed use

The expression postponed use refers to a later time at which resources could be integrated into the customer's processes. Both Grönroos (forthcoming) and Vargo and Lusch (forthcoming) in service marketing presents resource integration, and thus value creation, as a instant activity, while in the Getinge case it is more valuable for the company to integrate resources at a later time. Teece mean that the capability to sense the market, seize opportunities and transform the assets to be collective? It seems as there is a clash between the aim with dynamic capability perspective of identifying processes that can enable the firm to build and sustain its capabilities, and on the other side the approach made by many researchers on processes, which goal is to modify the resource base (Helfat, et al., 2007, Winter, 2003) in a later stage of product development.

The particularity of Getinge is that its expectations are particularly high. An interviewee stressed heavily on certain requirements in a way that no other interviewee did, namely accuracy, ability to overall understanding and partial or full responsibility. The international health care company, Getinge, is known for its high quality products in sterilisation for hospitals and laboratories. Competition from other worldwide companies as well as from numerous low cost and small local companies leaves no choice but to hold a high quality profile.

At the same time, the physical distance between Getinge and Combitech makes it difficult for Combitech to catch Getinge's expectations. An interviewee at Getinge went as far as to require that consultants had "long term plans to stay in the supplier company". These unrealistic requirements put strains on the relationship as they are hardly achievable. Getinge's former experience of two very skilled Combitech consultants put Combitech in a delicate situation. Indeed, any change of consultant from this setting would affect Getinge's experi-

⁵³ This corresponds to another of the Berit Ås' master suppression techniques, this one named ridiculing.

ence of Combitech negatively. Indeed, the interviewee still mourned the departure of the two Combitech consultants.

Further Getinge has high expectations that increase with time. In one of the last negotiations, the company expected Combitech to propose new solutions. They regretted that Combitech had the same old suggestions. It is not clear whether the change of expectations was communicated to Combitech, nor whether Combitech took information on Getinge's expectations ahead of the coming negotiations.

The high requirements put on consultants contrast with the company's low capability to stand for all its product development. Getinge's choice to outsource large parts of its product development to an external actor puts the company in a particularly delicate and dependant position vis-à-vis its own customers. During the interviews an employee explained that Getinge is dependent on Combitech for getting broken products repaired for customers. By outsourcing parts or the totality of product development projects, Getinge deprives itself from the knowledge to integrate resources by itself, its own and suppliers. In other words it leaves the control to suppliers. In terms of value-in-use, Getinge chooses to integrate products and not systems. This implies after sales service as the company cannot deal with the broken systems.

Because of Getinge's technical dependence, Combitech is expected to take the after sales service role. There is no information in the case whether this role was discussed between the two companies. Further this new role from Combitech's point of view requires that Combitech develops specific processes for providing this service, which according to Combitech's time variation in the service response does not seem to have happened yet. The value-in-use of Combitech's after sales services is very low because it is not predictable, according to Getinge.

The value of postponed use lies in the possibility to later integrate the suppliers' resources into the customer's processes. The postponement implies that resources have already been integrated into a larger whole by the supplier when they are integrated further into the customer's organisation. Thus the customer avoids part of the integration work.

Value-in-use and value-after-use

Academia discusses the notion of value-in-use as it only exists in the present time, the one of use. However value-in-use that stretches into the future is even more valuable according to Sensys. Sensys feels the need to capitalise on the knowledge it gets today from consultants. This will enable the company in the future to handle different customer requirements in a flexible, rapid and cost effective way. Because Sensys is a small but expanding company developing radars based on an innovative technique on an international market, building

trust with customers is crucial for winning the bid, not least in Middle East countries where relationships come above all. However Sensys' little size, relatively young age and innovative technique are factors to overcome in competitive situations. By being quick at responding to requests and adaptable to requirements, Sensys can be competitive on the market. Sometimes Sensys has to adapt its products before even being able to make a proposal. This is where suppliers are needed in order to participate in product adaptation or development. Suppliers can also contribute with a method that enables to spare time when developing products. This method is documentation.

By documenting projects, Combitech supports Sensys' learning and adds to its competence. The value-after-use lies in the learning potential that derives from knowledge codification (Zollo, et al., 2002) in form of a documentation of the actual project for future use. Zollo and Winter (2002) argue that knowledge codification is not only the most advanced method of learning, but also paves the way to dynamic capabilities. By coding knowledge product developers and the company can reflect on the decisions taken and their outcomes, and thus develop capabilities in the field. In this case the supplier contributes to the customer company in a far-reaching way, that is, to the customer's future processes, and potentially dynamic capabilities.

8.2 Combitech's resource or competence offering

This section corresponds to the second step in the customer's process: "choice of offering" in Figure 8-1. The type of value-in-use the customer seeks guides the choice of offering. Interviewees at the Jönköping site point at the resource consultant offering as one of the reasons for their low profitability and decreasing margins. In the national, and indirectly international, competition, price has become a criterion that is more and more determinant. Although the firm has developed other business models, it is the resource or competence model that prevails in more than 90% of the transactions.

Integrating consultants' competence

For some customers, the way to integrate a consultant's knowledge and skill depends on the level, i.e. resource or competence, of the consultant. To the contrary of a competence consultant, a resource consultant is not supposed to take as much responsibility in the customer's project. Getinge's view on the different types of consultants is epitomised by the way the company treats them. Resource consultants are seen as a help in the product development project, i.e. as a "reinforcement". Getinge said it gives orders to resource consultants on

which tasks to do each day. Resource consultants are more steered in the project, while competence consultants are supposed to be the experts. For resource consultants, focus is put on making them doing their task, whereas competence consultants are expected to take the lead of project and are being asked for advice.

From the beginning the customer's attitude towards resource consultants differs greatly from that towards competence consultants. The customer's goal, attitude way to integrate the different consultants' competence, knowledge and advice differ. As a result, resource and competence consultants' knowledge and skills are integrated at two different levels of the customer's goals. Resource consultants influence at a subproject level, while competence consultants can impact on a higher level on, at the project level, for example. This means that the competence consultant have larger probability to influence the customer's business. How strong this distinction between resource and competence consultant is made varies from one company to another. Sensys said that this distinction does not really matter for the company.

The qualified resource consultant

Through its advanced competence development structure, the incentives attached to it and the corporate culture, Combitech offers resource consultants that can be considered as "qualified resource consultants". Among the customer companies studied two extreme standpoints exist. These two cases raise the issue whether it is only up to the customer to decide how the resources are integrated in its processes. Could the supplier purvey its consultants at the condition that they are treated as qualified resource consultants? Through segmentation, Combitech could influence the way its consultants are considered and integrated in the customer's business. But the company does not segment its market.

Saab 'Training Systems' demand stretches from the resource consultant beyond competence consultants and further to full-service offerings. Its criteria for hiring resource consultants are the common ones, that is technical competence, good track record, social competence, drive and responsibility. It prefers consultants with prior work experience at Saab 'Training Systems' as it shortens set up time. Actually these requirements are taken for granted and therefore interviewees' information is short on this issue. During the interviewees, respondent focus instead on requirements from the consultancy firm. Saab 'Training Systems' talks in terms of goals for its business: support capability over the years. Saab 'Training Systems' considers that Combitech as a technical consultancy firm could take this role and show the way for technical development efficiency. But this implies a clear strategy from Combitech.

Saab 'Training Systems' suggests a combination of teaching/pedagogy, mentorship, and development tools, with resource and competence consultants. The

aim is to increase communication efficiency and thus decrease disturbances and inefficiency in product development projects. In such an offering, the resource consultant becomes a more valuable resource since it is related to a larger project in line with the company's strategy. Saab Training Systems creates value through aligning its goals to the ones of the supplier. In the Saab Avitronics example, it is not possible to figure out how the company integrates the competence that Combitech resource consultant possesses. On one side Saab Avitronics arms' length relation with Combitech and other suppliers speaks for a minimal integration and a limited value co-creation. On the other side the dichotomy between practices, i.e. in this case their discourse, and praxis, i.e. what they actually do, could mean that there is more integration done than what is admitted.

Two incompatible business models

As the name tells the resource or competence business model implies that the resource is a consultant with low, or at least lower, competence level than a competence consultant. In the contract that Combitech signs with its customers, working experience is the criterion for distinguishing resource from competence consultants. In other words this means that the contract forms an artefact that cements experience as the stick yard for appraising the value of a consultant. This assumption can be considered as part of the Combitech practices and is illustrated in Figure 8-2 inspired from the Levitt offering.

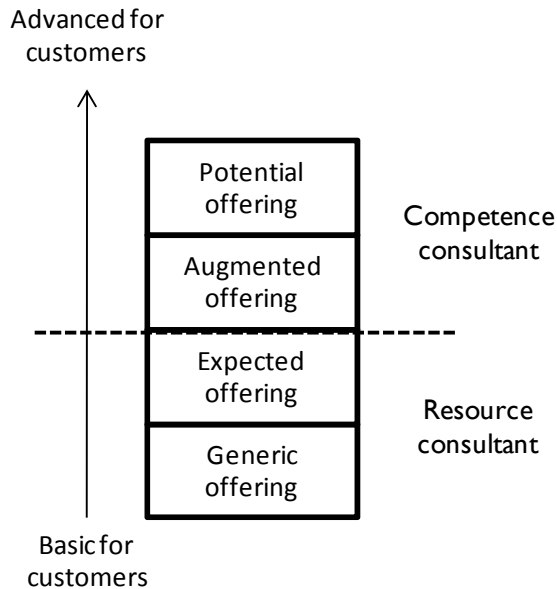


Figure 8-2: The resource and competence Combitech offering, source: own.

This figure attempts to mirror the underlying assumptions of the resource versus competence consultants. First resource consultants' lower experience place them in a position inferior to that of competence consultants. Conversely, consultants with more experience cost more although other qualities, or lack thereof, are not considered. For example social qualities, as the ability to fit in a team, communicate on the project with other team members are ignored in such a simplified contract. The company Getinge declared how disappointed it was to be offered, not only once but twice, a consultant that did not hold the level. In terms of value co-creation the contract may impair Combitech's ability to argue for all the advantages and the qualities a Combitech consultant possesses. During the interviews the difficulty to explain the value of Combitech's consultants was mentioned several times as a frustrating fact. To discuss customer value is not a habit at Combitech and it inhibits sales managers in negotiations. The whole situation raises negative feelings of uncertainty for Combitech. As a result the customer is not aware of all the qualities of Combitech consultants.

Figure 8-2 is made of two parts representing two different business logics illustrated by the dashed line. The aim is to show that the apparent continuity, which builds on additional services, actually forms two incompatible business models. Indeed, as long as the resource offering is designated as a resource it is doomed to compete with the low price alternatives on the market. Competitors in this business aim at squeezing costs below the competitive prices they hire their consultants at. For them competence development is a cost, not an in-

vestment. These competitors compete on price. On the opposite Combitech invests very much in competence development. The presumed financial cost of its organisational structure for competence development places Combitech on another market. So the term “resource consultant” is borrowed from the low cost market which jeopardises Combitech’s high quality profile. However Combitech’s lack of marketing competence prevents it from realising the inappropriateness of the term.

The term “resource” is problematic as it relates to lower competence, lower price and lower profitability. It is also problematic for Combitech sales managers as an interviewee recognised they do not always know how to market themselves. An interviewee explained that it would be valuable to know one’s strengths in negotiations. In situations when Combitech knows its consultant is the only one to master a specific knowledge or competence, there is almost no negotiation.

In a market where there are many actors that can also offer a resource consultant, it may be difficult for customers to make the difference between Combitech’s and competitors’ resource consultants. The difficulty to distinguish between the two kinds may be all the more increased as some interviewees at Combitech tend to consider that resource consultants “just fill a hole”. The resource consultant is hired to fit in a product development team, and by so doing solves the customer’s capacity problems. The same interviewee declared that, contrary to competence consultants, a resource consultant does not bring new knowledge to the customer company. This denotative, i.e. explicit, meaning is part of taken for granted practices that matches the connotative meaning implying that Combitech only stands for competence.

8.3 Shades of value co-creation

Literature in service management and marketing associates value co-creation to a positive process in which the customer integrates the supplier’s resources into its own processes and achieves business effectiveness (cf. Grönroos, forthcoming). The expression ‘value co-creation’ itself is composed of positive terms. The process of value co-creation is depicted as a smooth collaboration between the supplier and the customer but this idyllic picture has been questioned lately (Heinonen, et al., 2010). The outcome of these interactions has been broadened by Spohrer (forthcoming) who underlined that interactions do not necessarily create value and that interactions can have unintended consequences. The empirical material confirms these standpoints. Therefore this section is entitled shades of value co-creation.

Value co-creation

There are different ways for the supplier to contribute to value co-creation and for the customer to integrate the supplier's resources and competence. The two examples presented in the cases are the platform, also named Q7 or SimCom, in the Sensys case, and the relationship with Saab Training Systems.

SimCom is a ready-to-use platform, a tool from which the customer can start its development project and by doing so, spare a large amount of preparation time for developing a project. One interviewee declared that this tool really surpassed his expectations. Simply, this tool was unique, according to him and supports the customer in its processes through a series of values-in-use. It is an indirect Combitech hand and expertise in the product development process. From the customer's point of view, SimCom offers gain of time in product development and thus costs savings, earlier project start, competence and legal protection, independence from all suppliers. Finally, it is almost free of charge.

From a value co-creation perspective, this tool supports the customer's practices by transforming a necessary preparation process into a more efficient one. It has indeed a value-creating impact on the customer's business process, just as Grönroos describes it in the extended service offering definition (Grönroos, forthcoming). Therefore this tool can be considered as perfect example of value co-creation.

As for value-co-creation in a relationship, Saab Training Systems already experiences optimal value co-creation with some of its customers that have become partners. In such relationships the supplier, i.e. Saab Training Systems in this case, and the customer "help one another to go ahead". They have joint learning experiences on the product and exchange information in form of questions and feedback. Saab Training Systems qualifies this dialogue as deep and close.

This is the value co-creation level that Saab Training Systems would like to reach with a technical consultancy firm. Interviewees at Saab Training Systems think that Combitech could play such a role. The type of partnership one of the interviewees envisages with Combitech is one where the supplier is teaching and coaching the customer at all levels of product development. While the supplier is facilitating for the customer to learn new technique, the customer is facilitating for the supplier by showing willingness to learn from the supplier. Hence both the supplier and the customer are facilitating value integration.

Saab Training Systems wishes quick interactions, and a questioning attitude from the supplier. By answering to the supplier's questions, such as "Have you thought of doing this in another way?", the customer integrates the supplier's new perspective and creates additional value. The role of the supplier is to provide new knowledge and skill to enhance the customer's practices. By mentioning that the supplier and the customer would work in a win-win mentality, Saab Training systems indirectly defines the supplier as a value integrator. As the

supplier can also benefit from helping the customer, both the supplier and the customer become value integrators, as stated by Vargo and Lusch (forthcoming).

Value suboptimisation

The preference of Saab Avitronics for consultants with lower competence, the focus on price, the practices for short employment periods (even if the praxis is to keep consultants a longer time), are factors that prevent to fully integrate the suppliers' competence, resource, and knowledge. This type of arm's length interaction is optimal from a price efficiency perspective and a loss from a learning aspect, and as a result from a cost efficiency point of view. Ironically, learning and teaching are two of Combitech's strongest competencies. From a value co creation perspective, it means that Saab Avitronics optimises its financial savings by choosing low price consultants to the detriment of its business processes. I name this type of value creation from the customer's side "value suboptimisation".

Value destruction

Value can also be destroyed. Therefore I term this "value destruction". Value destruction results from the remove of resources that used to contribute to create value for the customer. Value destruction can also result from the supplier's failure to support the customer's processes. Value destruction is particularly obvious in the Getinge case as value co-creation used to be very high.

Combitech and Getinge have had a long collaboration but a critical incident that is still not solved has affected the communication and the relationship (Edvarsson & Strandvik, 2009). Getinge's rather negative assessment of Combitech, nowadays, originates in a change of consultants. Prior to this, Getinge had an extremely positive experience with two Combitech consultants who set high quality standards. Their departure from Getinge's development project resulted in a huge competence and skill loss as Combitech could not replace the loss. This created a critical incident, i.e. a period of increased sensitivity between supplier and customer (Edvarsson, et al., 2009). Imperceptibly for Combitech this loss started a critical time in the companies' relationship. It may have been difficult for Combitech to realise it as it is located far away from the customer. The loss of the two consultants implied a loss of efficiency in product development. Due to the negative value impact, the customer expected some kind of service recovery, which may have made its expectations rise.

However, Combitech did not take any particular measures and thus the companies' relationship is still in a sensitive period⁵⁴. The new consultants could not hold the same outstanding level as the former ones. Worse, the customer thought one of the new consultants performed under the adequate level. As a result Getinge felt it could not even get the contribution in product development it expected. So the loss is double. From enhancing the customer's practices, Combitech's consultants were now underperforming.

Combitech's inability to manage this critical time as well as the distance between the two parties deteriorated the former good communication and relationship. It is all the more so since Combitech failed to see the importance of maintenance management for regaining trust from Getinge. Indeed, Getinge is dependent on Combitech for after service. When something gets broken, end-customers turn to Getinge, which in turn turns to Combitech for solving the problem. Getinge is knowledge dependent on and at the same time it wants to get good support in front of its end-customers, which judge Getinge on the promptness of its service. This service dependence probably creates much frustration for Getinge that cannot repair broken things itself since it does not have the knowledge for it. Hence, Getinge is forced to continue to collaborate with Combitech although it is dissatisfied with the unreliable after sales process. Here again Combitech does not contribute to support the customer's practices nor its reputation in the customers' eyes.

Combitech has acted as if its role was limited to hire out a consultant. Combitech does not "see" all other aspects included in the offering and how these affect the relationship. Combitech has missed to realise that its competence and knowledge are integrated in the customer's products in order to facilitate value creation for the final customer. It does not seem to be clear either that maintenance processes get an increased importance for Getinge both as a sign of service recovery endeavour but also for opening doors for Combitech to future development projects. Getinge has put itself in a dependant situation where Combitech has unconsciously power over one vital aspect of Getinge's relationships with its own customers.

8.4 Findings from the empirical discussion

Findings from the empirical discussion stress the numerous ways customer companies conceive and manage value-in-use.

⁵⁴ It is interesting to notice that this situation probably affected my contact with two of the interviewees. One of them was directly rude to me, but became very friendly as soon as the interview was over!

The notion of “*value-after-use*” underlines the future-oriented perspective that Sensys has on documenting product development projects. This company conceives codification of knowledge as an investment for future value-in-use. The next notion, the one of “*postponed use*” refers to the postponed integration of resources. This postponement sheds light on the effort required by Getinge to integrate the supplier’s resources and competence. A resulting finding is that value-in-use, i.e. the value that results from the use of resources emerges through praxis. Conversely discourse on value-in-use stands for practices.

A major finding is that in all cases value-in-use is related to the higher concept of goals, either a function, a project, a business, or a company goal. Value-in-use serves as a measurement stick for assessing the fulfilment of a goal. It is also a means to reach a goal. In this sense, it is understandable that customers search all means to multiply the chances. Therefore for each goal there is an array of resources, or competences that are expected to fulfil several values-in-use. When delving into the requirements companies have on consultants, the more competences and experience they have, the higher the chance to attain the goal. Value-in-use is a notion covering multiple uses, and consequences of use, which makes it appropriate to name it “*values-in-use*”.

Directed by their goal, customer companies expect Combitech to provide them with services in line with their goal and leading to value-in-use. They suggest activities that Combitech could do. For example, Sensys insists on documenting product development processes. Saab Training Systems urges for a development of Combitech’s strategic plans. Getinge expects new solutions to be presented in value propositions. Even Saab Avionics goes against its discourse or rules to get the external support it needed. Thus, customer companies are very active in integrating resources and competence or making Combitech help them create the value they aim at.

The next major finding relates to the role of Combitech and how it contributes to the value co-creation process. Several situations of value co-creation were identified. There is a clear example of value co-creation with Sensys. It is about the Q7 platform named SimCom for speeding up the preparation of product development. In this case Combitech fulfils a role of “*proactive value co-creator*”.

But Combitech does not always play a clear role of value co-creator. In the following example Combitech plays the role of a basic resource consultancy firm. Indeed, Combitech’s offering, and in particular its resource consultant offering, does not mirror the solid structure on which its technical knowledge lay on. This is due to the combination of poor marketing and the adoption of the same expression “resource consultants” as low price competitors do. By not making customers aware of the learning culture and the structure that supports the offering, Combitech does not enable customers to integrate these advantages in its processes.

Combitech’s contribution to value co-creation implies that it understands customers’ expectations. Some expectations, both those of Saab Training Systems,

8 Analysis of value co-creation

Getinge and Sensys, can be sometimes implicit but can be revealed through dialogue. The development of a strategic plan asked by Saab Training Systems is an example of higher requirements that Combitech is not really aware of. Similarly, in the Getinge case, the customer expects Combitech to fulfil the role of an after sales service supplier. This implicit requirement is new for Combitech. There are no processes for this, which turns Combitech into a “*value destructor*”. In the “*value suboptimisation*” case, it is the supplier that is not really willing to acknowledge and integrate the supplier’s competence and resources into its processes. It is possible to question whether Combitech can fully fulfil its role of value co-creator in this last example. Each case demands reflexivity from Combitech, as well as time and competence to handle, not to say willingness and resources. The next chapter will discuss these issues.

9 Analysis of the supplier's capabilities

While the previous chapter discussed value co-creation from the customer's point of view, this chapter addresses the supplier's processes and capabilities. I will argue that dynamic capabilities are not just well-performed processes but processes differentiated from that of competitors that are constantly adapted in order to fulfil the customer's goal. It requires from the supplier to have processes for collecting and interpreting information on customers' needs and integrate them into offerings. The chapter is structured as follows. The first section will analyse Com-bitech's main activities with the help of the analytical tool presented in section 3.7. The second section will take its departure in Illustration 6-1, which is about the struggle around Com-bitech's CRM system. The last section will conclude on findings from this chapter. This chapter corresponds to the supplier's processes and capabilities illustrated in Figure 9-1 and how these are linked to value co-creation.

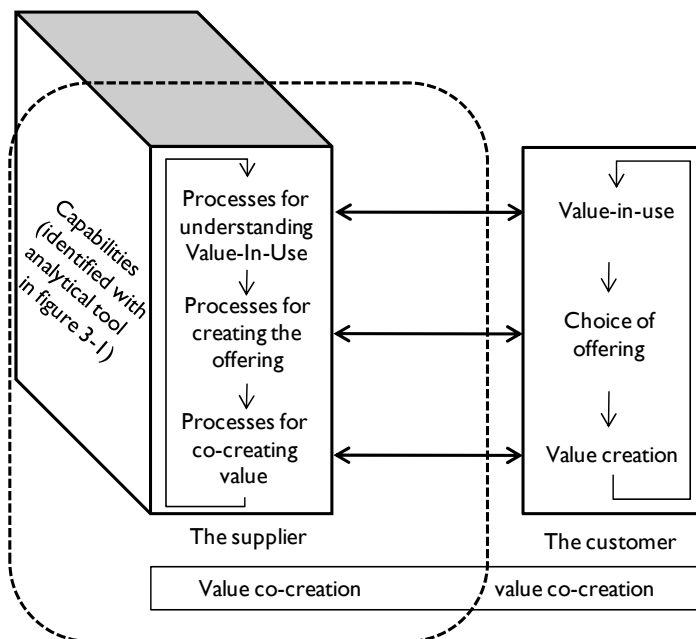


Figure 9-1: The supplier's capabilities.

9.1 Dynamic capabilities' identification

Identifying dynamic capabilities in an organisation is a challenge (Easterby-Smith, et al., 2009). Researchers have set conditions to categorise processes, but a systematic investigation requires gathering these conditions, which I have done in Figure 3-1: Analytical tool for identifying capabilities. The ambition is to define the capability level of each process. The starting point is that dynamic capabilities emerge from activities. Therefore it is necessary to start by identifying Combitech's main activities⁵⁵. For each major activity, an analysis is done of the value for the customer and whether the activity can qualify as a capability. Combitech's business consists of hiring out consultants in product development projects, upgrade technical knowledge through courses, and teach customers as well as its own staff. Besides this daily business, the company's top management designs new business models. Consequently, six major activities performed at Combitech can be identified, which are sales, marketing, product development, strategy, competence development and teaching⁵⁶.

Capability level in product development

Product development is at the core of Combitech's activity. It is its day-to-day activity, the one from which Combitech makes a living. Literature states that competence at operational level capability does not give competitive advantage (Winter, 2003). It is just a prerequisite but does not help to differentiate from competitors with a similar business.

In order to be a capability, product development has to contribute to value creation for the customer, which is the case. Analysing the characteristics of the core activity can tell whether the activity is well performed enough to be considered as an operational capability. Combitech has presented sub-processes related to product development in a clear manner. Distinction was made between consultants roles (resource or competence), goals priorities (outcome for in-

⁵⁵ Activities were identified after reading the whole Combitech case and classifying each piece of information into a table to be found in the appendices. The overarching activities identified above form processes, that themselves consist of micro-processes. Micro-processes can be differentiated by asking "what is being done and to which purpose?"

⁵⁶ The description and observation of activities have enabled to reach processes' micro-level, micro-processes or sub-processes, that otherwise would probably not have been as detailed. This close investigation has been valuable. It contributed to reveal a considerable difference between the content of processes. For example, processes associated with technical learning within the Combitech Learning Lab (CLL) are built on a multitude of activities that are very well elaborated, and systematised, which contrasts with marketing and sales processes.

9 Analysis of the supplier's capabilities

house or adaptation to group at customer companies), interactions priorities (for in-house versus at customer companies), and finally responsibility levels (based on consultant role and business model). This tells for well-performed operational activities.

More, since all customers consider Combitech to be technically skilled one can deduce that the company creates value for its customers. This clear account together with the praise from customers are evidence that Combitech has developed patterned, collective and effective product development activities, and thus can be qualified as processes. There are thus operational product development capabilities contributing to value creation for the customer. Combitech's offerings consist of product development as illustrated in Figure 9-2.

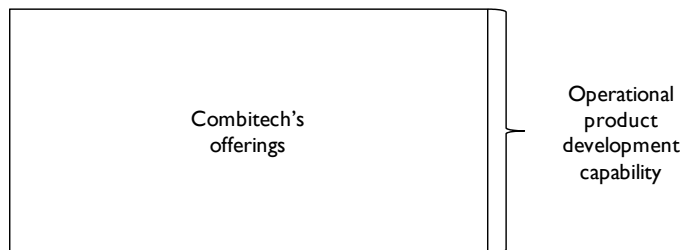


Figure 9-2: Combitech operational product development capabilities.

Combitech contributes with much value-in-use to its customers with its product development. However, as product development is Combitech's operational capability, it is difficult to compete with it since competitors offer a similar service. According to Tracy and Wiesema (Treacy, et al., 1993), product development could offer at best one means among others for competing. This implies that it is not always easy for customers to distinguish which specific value Combitech provides compared to competitors. In other words, a supplier's capability is not appreciated to its fully extend when the capability is operational.

Capability level in teaching

The essence of the dynamic capabilities perspective is that firms' competitiveness stem from their ability to improve their resource base (Helfat, et al., 2007). Thus, firm with teaching activities are expected to have the prerequisites to acquire new knowledge, which could be beneficial for their resource base. Combitech has two types of teaching. One is done in-house, but was barely mentioned during interviews. Another one is carried out towards customers or newly graduated engineers through the Young engineers business model.

Value-in-use for customers who buy courses at Combitech is multifaceted. Combitech can teach customers during development projects. Customers can

at once set theoretical knowledge into practice. The value-in-use lies in the direct implementation and use of theoretical knowledge, as well as the possibility to ask further questions and get further support if needed. This can imply increased product development pace and efficiency. Customers who engage in the young engineers business model can benefit from increased problem solving, and increased product development efficiency. At the same time customers avoid the start time needed by newly graduated engineers, who have not yet get trained in the practical aspect of product development.

Combitech's teaching activities contribute to customers' value creation. Teaching activities fulfil the requirements of the first square in the analytical tool Figure 3-1. These activities are embedded in patterned and effective processes as Combitech's teaching processes are marketed in the yearly course brochure and given regularly. It is consultants who are course leaders, and thus teaching processes can be considered as collective. Further, teaching processes carried for the Young engineers program implies repetition of the process on a large scale. Since they are so appreciated by customers they have been imitated by competitors, which talks for effectiveness of the process. Based on this information it is possible to state that Combitech possesses a teaching capability. Since Combitech teaches its own staff regularly, technical knowledge at the company, which forms part of its resource base, is continuously renewed. As a result it is possible to state that Combitech has a dynamic teaching capability.

Teaching is a dynamic capability illustrated in Figure 9-3 by arrows representing the patterned, collective, and effective processes. What this picture says is that Combitech's offerings are backed up by a dynamic teaching capability. This capability is part of Combitech's organisation.

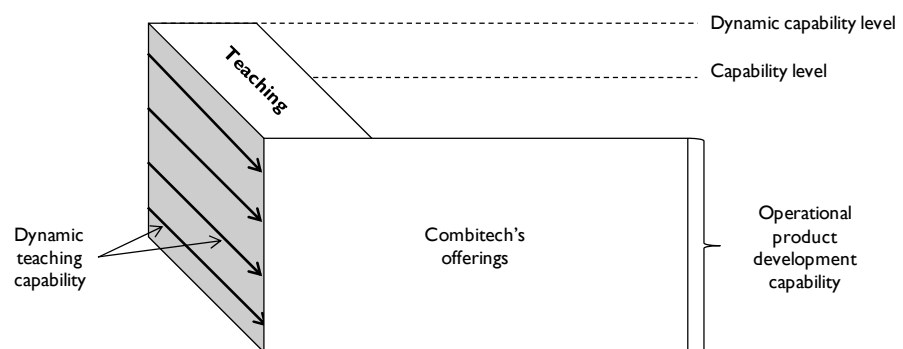


Figure 9-3: Combitech's dynamic teaching capabilities.

This dynamic capability, when provided to the staff, supports the company's operational capability. It is therefore appropriate to wonder what this dynamic capability can do for the firm competitiveness. The point is that researchers consider that operational capabilities (Winter, 2003) do not provide a competitive advantage to the firm. On the other side, when provided to customers,

teaching is not longer supporting an operational capability. This means that it could then provide a source of competitive advantage to the firm. The finding from this analysis is that the importance of a dynamic capability on a firm's competitiveness depends on its strategic direction. Turned towards operational capabilities, any dynamic capability that supplies a process is taken for granted by customers. Turned outwards, the same dynamic capability can help the firm differentiate itself among competitors.

Capability level in learning

In a technical context where new techniques supersede each other, teaching requires continuous learning. Teaching and learning processes share to a large extent the same organisational structures. Therefore learning activities at Combitech are expected to influence positively its capability to create, extend, or modify its resource base.

Combitech's learning culture is very valuable as it enables consultants to increase their skills and competence in product development for the benefit of the customers. The numerous tools, courses, mentorships and formal and informal structures at hand ensure that consultants find a suitable way to learn and thus contribute at the end to product development efficiency and effectiveness.

When considering Combitech's learning processes, these are supported by a series of factors and embedded in a conducive context. The organisational structure for learning named Combitech Learning Lab (CLL), staff financial reward, promotions, course planning for all employees, status and pride associated with presenting new technique at meeting with staff contribute to sustain and develop learning. Further, the learning legacy of the company, written theses, past and actual research projects, learning methods used at Combitech and developed with scientific methods, doctoral titles, and top management positions of most doctors settles a learning value. This learning culture is underlined by new employees who notice the distinction between Combitech and its competitors. Interviewees are proud about their learning capacities. This pride is embodied in their use of the term "uniqueness", which also shows a strong emotional bond to Combitech's learning culture.

Combitech's learning activities are patterned, collective, and effective processes. Courses at different levels requiring assessment from experts in the company show a high degree of structure and pattern. New knowledge is presented to colleagues at meetings and thus made collective in the company. Therefore they qualify as capabilities. Further by constantly learning new techniques, Combitech creates and extends its own technical knowledge, thus modifying its resource base. This new knowledge renews the company's capacity to extent and modify its technical resource base. Hence, these learning processes qualify as meta dynamic capabilities (Collis, 1994).

The meta learning capability, by definition (Collis, 1994), backs up dynamic capabilities as illustrated in Figure 9-4 and are represented by thicker arrows behind the dynamic teaching capability arrows. Meta capabilities are supposed to enhance the firm's capacity to purposefully create, extend or modify its resource base. In this regard, Combitech's meta learning capabilities support its dynamic teaching capabilities.

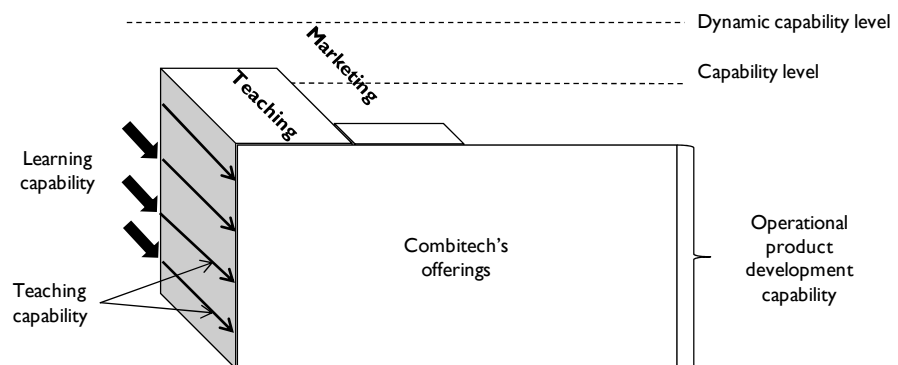


Figure 9-4: Combitech's meta learning capabilities.

Although extremely well developed, learning processes are jeopardised by their own size and the difficulty for employees to encompass the whole structure. This may reveal a lack of strategic management. The risk is that the dynamic capability may decay by losing strategic intent. Further, by supporting the dynamic teaching capabilities Combitech's meta learning capabilities are caught in the same pattern of operational capability support. Similarly to teaching capabilities, it is when these capabilities are promoted towards customers that they can be perceived as specific for Combitech, and consciously integrated by the customer in its processes. Put it differently, it is when customers can integrate the resource by themselves in their processes that they become aware of the value of the resource. This finding adds to the former finding on strategic direction. The possibility to differentiate oneself as a supplier lies in the ability to involve customers in ones' value creating processes as a way to make them aware of the value of these processes.

Capability level in marketing

Teece (2007) made a point that dynamic capabilities shall enable a firm to sense and shape opportunities and threats, to seize opportunities, and to maintain competitiveness through enhancing, and reconfiguring a firm's assets in a way that is competitive and sustainable. If dynamic capabilities are to enable this market knowledge combined with this strategic reconfiguration of assets, which process can do this?

9 Analysis of the supplier's capabilities

In traditional organisations firms have a marketing and a sales department that is supposed to have sales contacts with customers and to follow market trends. In service organisations it is the persons that provide the service who handles the marketing and sales function as part-time marketers (Gummesson, 1991). A technical knowledge-intensive business service firm, as Combitech, is a typical company where many employees are part-time marketers. But in such a case employees who have contacts with customers are engineers with no or little competence in marketing and sales. Part-time marketers focus on existing relationships and acquiring new customers is time-consuming. Although service companies deliver their services through the part-time marketers, there is a need for a structure that supports part-time marketers both with specific marketing knowledge and activities as customer segmentation, fairs, marketing communication, and sales, brochures, pitches and knowledge on how to market the company and sell its services. Last but not least, there is a need to offer co-ordination and enable benchmarking between the sites.

Further to seize opportunities requires the ability to form an offering made of services supported by processes, which too demands market understanding and resources. The reconfiguration of assets is a strategic task (Peteraf, 2005). Collecting information on customers in order to design an offering, and thus allocating resources to it require the involvement of several persons at different levels of the organisation. This means that several processes are implied. The content and the efficiency of the marketing process of science-based firms is particularly important for their capability reconfiguration and innovation capability (Bruni, et al., 2009). Combitech has no organisation devoted to marketing and sales on a full-time basis. Yet, there are some activities, that are carried out by one person.

Two brochures, namely OnTime and the course brochure named Combitech Training Institute are produced at Combitech⁵⁷. Most customers do not read the magazine OnTime, in contrast they are well informed on the content of the course brochure⁵⁸. The course brochure helps customers renew their knowledge base related to product development.

Since most interviewees admitted that they do not read the magazine OnTime, it cannot be part of the activities creating value for customers. The other magazine on courses comes out regularly and is read by the same interviewees who were asked on OnTime. The process of making the brochure is not collective although the activity it refers to, i.e. teaching, is. Activities related to marketing are not collective and cannot be considered as capabilities.

⁵⁷ There are some other brochures produced but it is not clear whether they are distributed to customers.

⁵⁸ Combitech Training Institute, CTI.

Until now processes have been identified and sorted out based on their characteristics with the help of the analytical tool introduced in section 3.7. However the analysis of the marketing process raises a question. Marketing activities are not a collective process in the company but still they could contribute to the firm's capability to sense opportunities, seize them and trigger a reconfiguration of assets inside the company. Thus two different types of criteria enter the analysis, on one side those that identify processes and on the other side those that address the firm's capability to catch opportunities and capitalise on them.

Thus, thinking back of Combitech meta-learning capability, it appears that meta-capabilities, if they are only identified according to criteria for influencing the resource base may not lead to competitiveness, as they just impact operational capabilities. In other words, how well patterned, collective and effective a process is, this does not necessarily ensure competitiveness. If they are not dynamic capabilities, not functional or operational capabilities, what are they and how useful are they? It seems as if there is a gap on one hand between the aim with the dynamic capability perspective of identifying processes that can enable the firm to build and sustain its competitiveness, and on the other hand the approach made by researchers on processes, which goals are to modify the resource base (Helfat, et al., 2007, Winter, 2003). Helfat et al. (2007) definition of resource base⁵⁹ does not link the content of the definition to the competitive outcome.

So a pivotal finding in this whole chapter is that dynamic and meta-capabilities have to be defined in order to capture the strategic competitive outcome they aim at leading to. This has consequences for the analytical tool designed in section 3.7. In order to select processes that really have an impact on strategic outcomes, the tool should be designed in order to take in Teece's (2007) characteristics as conditions and not just categorisations. Processes should help sensing opportunities and threats, seizing opportunities and transforming assets. To my knowledge, there are very few authors who explicitly linked dynamic capabilities to competitive advantage. Wang and Ahmed (2007) did. Teece did too, both as a sole writer (2007, 2009) and a co-writer in his earlier days (1994; 1997). This link consisted in explaining that the firm needs to sense the external market, seize opportunities and reconfigure its assets. It is worth to notice, though, that Teece was one of the authors of the Helfat et al.'s book (2007; 1997).

The next question is why have I not seen this before?⁶⁰ With hindsight I realise that I have taken for granted that the Helfat et al. (2007) definition of dynamic

⁵⁹ "Resource base of an organisation includes tangible, intangible, and human assets (or resources) as well as capabilities that the organisation owns, controls, or has access to on a preferential basis (Caltech, 2008)"

⁶⁰ I insist in writing this short paragraph because I consider that this is where the beauty and the thrill of research lies: coming to new insights, defying the brain, leaving the unconscious towards a new consciousness.

capabilities really identifies dynamic capabilities. Unconsciously my brain has “jumped over” the anomaly embodied by the arrow between the Helfat et al (2007) definition and the question “in which way?” leading to Teece’s (2007) characteristics in Figure 3-1. This impacts Figure 3-1 that will be reworked but also the coming figures, where dynamic teaching capability and meta learning capability are modified according to the new finding, which is illustrated in Figure 9-5. So the rest of the analysis will be based on the Teece’s (2007) proposition for identifying dynamic capabilities.

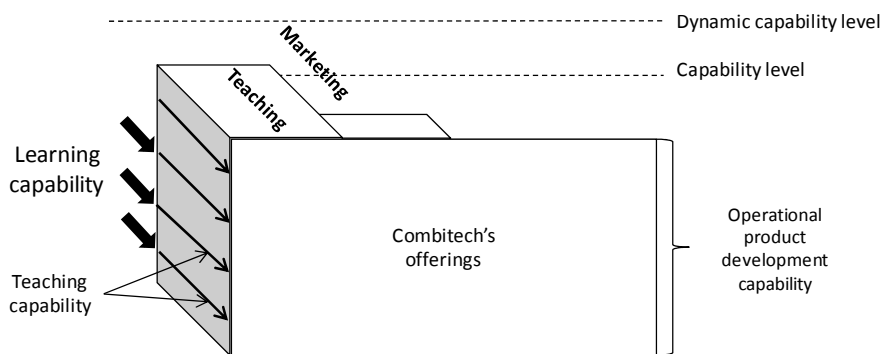


Figure 9-5: The new figure and Combitech's marketing activities.

Combitech has little marketing capability and poor capacity to sense opportunities or threats, or to formulate offerings exploiting internal or external opportunities. But since there are some activities through which the brochures are made, these are illustrated in Figure 2-1 by a marketing “cube”. Although it should be of strategic concern for Combitech’s capacity to compete on the market, the few marketing activities and processes that are carried out do not make the firm reach a capability level. It becomes irrelevant to assess the third capacity of transforming assets in order to maintain competitiveness. This finding on the lack of capability in marketing and market knowledge is consistent with earlier research on marketing knowledge in high technological companies (Bruni, et al., 2009).

Capability level in sales

Sales are another kind of process that could contribute to both sense opportunities and threats and seize opportunities by designing offerings and business models (Teece, 2007). There are at Combitech two major types of sales. One type builds on an existing business model, where small variations form different offerings. The traditional resource or competence consultant transaction fits into this type of sales. Another type of sales carried out by top management at Linköping is done in negotiation with the customer and results in business models such as Young Engineers or HomeShore®.

If considering sales processes from a customer's point of view in the traditional transaction offering, value is first of all a matter of profile match, availability and price. Matching accuracy ranks high since it spares customer's search time for a consultant and thus speeds up the process of product development. Except Saab Avitrionics, the three other customers were asking for more than just a transaction. For large companies negotiating with Combitech's top management level, value of sales processes consists of tailor-made solutions, competence, availability, and price. In both cases customer companies aim at developing business efficiency and effectiveness.

Here it is interesting to study sales processes as they could inform of the capability of the firm to sense opportunities and threats and seize opportunities. Sales is a collective activity since there are business developers at each site. But this activity is not patterned or efficient as the use of a CRM system is not perceived as inherent to effective and efficient sales processes for all business developers. Obviously there are difficulties to coordinate business developers.

Day-to-day interactions done by part-time marketers (Gummesson, 1991) could serve as a foundation for gathering information on the market, i.e. customers, needs, changing needs, trends, and competitors. But the poor Combitech CRM tool, combined to the resistance of some of the employees to codify their information, prevents market information to be collected. Theoretically it means that Combitech misses to identify opportunities and threats on the market. When this first step is not performed, it is difficult for firms that have so many contacts between business developers and their customers to get an accurate picture of the market.

As for offerings that are designed between top management at Combitech and at customer companies, Combitech shows endeavour to find a solution for their customers but the lack of marketing competence leads the company to design offerings that are pushing it into the zero-profit edge. Such is the case for the HomeShore® business model at least, which is explicitly intended to be a low cost solution for customers.

9 Analysis of the supplier's capabilities

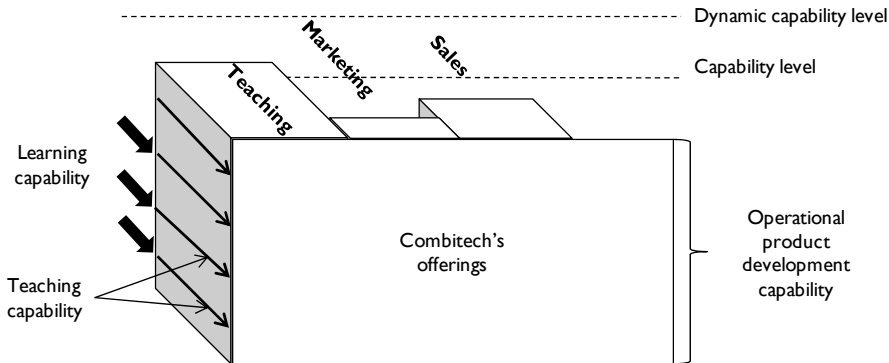


Figure 9-6: Combitech's sales activities.

The regular sales contacts between Combitech and its customers constitute a channel for information on opportunities and threats on the market. But the lack of pattern, and codification does not allow sales activities to classify as a capability. However, sales activities are more numerous than marketing activities and thus the cube representing sales activities reach a higher level than marketing as illustrated in Figure 9-6.

Capability level in strategy making

In a context of rapidly changing environment as it is in competitive markets, top management's strategy making concerning roles, values, goals, and expectations is certainly a means of superior performance (Teece, 2007). The Jönköping site has complained about the lack strategic direction, and a customer did too. The strategic direction of a margin expressed in percent is not enough to guide employees in their daily decisions. Top management recognised that several attempts to formulate a vision (Levin, 2000) for the company had failed, leaving the employees in the same vacuum as before.

When it comes to strategy making some customers deplored the lack of strategic plans at Combitech, which limits their possibility to plan for new technical projects together with Combitech. The poor strategy making process affects indirectly other customers. Combitech has not the capability to analyse whether its business models fits the needs of its customers. Getinge is such an example. There is actually little strategic activity on a company level.

Combitech's capability to design profitable and competitive business models is not well developed. Yet this capability is fundamental for the company in order to resist low-margins business models. This lack is acute for the Jönköping site, which is the one facing most competition and the strongest threat on margins.

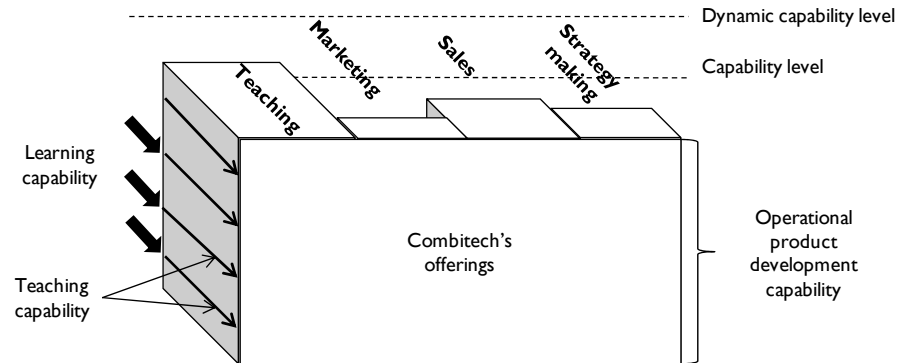


Figure 9-7: Combitech's strategy making, source: own

As a consequence, strategy making illustrated in Figure 9-7 is below the capability level. From the empirical material, it is not possible to measure the level of strategy making in comparison to the marketing level, which is depicted at about the same level. Thus this picture aims only at representing a gap between strategy making activities and a capability level.

The complete model represents Combitech's six main processes. Combitech's strengths are gathered around technical related activities, which are product development, teaching, and learning. These processes support Combitech's daily business embodied by its operational capabilities. This means that Combitech is skilled at what is the core of its business. But these activities are not involved in catching new opportunities on the market or sense threats. Thus they cannot form a dynamic capability for the company.

The model also reveals that marketing, sales and strategy making activities are not developed enough to be considered as capabilities. These processes act on the long term competitiveness of the company, in contrast to operational activities, which are short term oriented. The combination of these six processes informs that Combitech is able to make offerings built on advanced technical knowledge but these offerings do not necessarily fulfil all the needs of the customers. As a result, Combitech can be outperformed by competitors, which offerings are better adapted to customers' needs or Combitech can misunderstand customers' expectations.

9.2 Backstage interactions and capabilities

This section discusses the observation rendered in Illustration 6-1 Struggle around Combitech's CRM system, which represented a regular sales meeting with employees from different Combitech sites. This illustration reflects only one type of marketing activities at Combitech. This excerpt is chosen because it shows the disorganisation that arises when there is poor management of mar-

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keting and sales and a lack of strategy. The attendants have different praxis and opinions on how things should be done. It is interesting as it links Combitech's activities and processes to their impact on value co-creation, and shows how the different activities, processes and capabilities come together and influence one another in backstage interactions. The processes implied in this meeting are sales, strategy, and learning.

The meeting is highly dynamic. The dynamism stems on one hand from the resistance of some members of the sales team to change their habits and on the other hand from the frustration resulting due to the poor sales reporting processes. People debate on the number of contact persons that is appropriate to have towards the same customer. They dispute the way to fill customer information in the CRM tool. They argue on its functions. They wish a "real CRM system". They become emotional and show frustration, indignation and pride and use irony. Even the absent persons may influence the meeting as they are the ones against the use of the CRM tool. Thus their absence underlines the tension around the CRM system.

These interactions are also about learning to use the CRM tool. The senior business developer gives several instructions on how to fill in information on SharePoint. Explications on how the different functions work show that the attendants, or at least some of them, are at a basic learning level of the tool. They learn how to use the tool and why they should use it according to the senior business developer. The tool as a part of practices (Johnson, et al., 2007) is there, but the praxis is not established. The absence of unified praxis may hinge on the lack of strategy from top management.

In order to make the attendants use SharePoint different persons argue for the reason to use it. The junior business developer says that it is a matter of "not making a fool of oneself" in front of the customer. The connotative meaning of his comment is that a professional sales person should know what happens between his/her company and the customer's company. This also reveals poor sales reporting praxis.

Since the reporting practices are so poor, the effects of doing it may not be obvious. The attendants are stuck in practical aspects of managing SharePoint and the discussion does barely reach a strategic level. The senior business manager, who is driving the change, as well as the junior business developer are the only ones during the observation who raise the strategic side of writing down important information on customer relationships. However they do not go as far as to mention the advantage of codifying customer information for the quality of the discussion in sales reporting meetings. In this illustration routines on sales reporting are not established as a lot of information stays tacit. This impairs information from the market to emerge because no time is freed for more strategic discussions on customers.

Although Combitech has a meta learning capability (Collis, 1994), this is not used for sales activities. Yet Eisenhardt and Martin (Eisenhardt, et al., 2000)

state that dynamic capabilities, and indirectly meta capabilities, can be replicated through best practices and result in increased effectiveness for the firm. In the Combitech case there seems to be a strong resistance against more structured sales reporting activities. However it is not clear whether this resistance is due to lack of marketing competence or to the cultural supremacy of technique. Because some respondents expressed their strive towards technical superiority and at the same time made demeaning comments on consultants with lower knowledge level, it could be so that the strong values for technique supremacy hinders other competencies to develop in the company. This implies that company's culture influence the development of capabilities. This also means that it may be difficult for companies to benchmark its own capabilities.

On the opposite, a lack of pattern in one type of process, in this case sales, impedes Combitech employees from making strategy. In the discussion above, making strategy would be a natural and logical outcome of a smooth sales reporting process. It is both a question of releasing time for higher discussion level and for knowledge codification, which entails to structure and use the collected information in order to identify customer needs, new business opportunities, and develop offerings.

In terms of value co-creation, Combitech does not have the processes or the competence to reflect on customers' expectations of value-in-use since its sales and marketing activities are underdeveloped. This, in turn, impairs the company's capability to create, adapt and enhance its offering towards customers. This is aggravated by Combitech's lack of strategy. Thus processes of value co-creation are mainly limited to technical knowledge and competence of its consultants.

9.3 Capabilities in the value generation process

The value generation process (Grönroos, forthcoming) comprises all processes from the supplier's organisation to the customer's. By conceptualising it as a chain it becomes clear how the supplier's processes are interwoven and fit into the ones of the customer. If the supplier's processes are not aligned with the customer's, the collaboration may fail to create value. The value that the customer looks for is first of all value-in-use, but value-in-use can take different shapes depending on the goal of the customer. According to the findings in the thesis, it could be value-after-use or postponed value. Aligned processes from the supplier's organisation to the customer could contribute to several values-in-use. The customer's goals can stretch further than value-in-use and include the company's business goal. Whatever the organisational level the goal is ex-

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pressed at, it is the hallmark for both the supplier and the customer's organisation against which the results of value creation are assessed.

Therefore a prerequisite for the supplier to attain the customer's goal is to collect information on the customer's expectations and goals. By doing so, unintended and unwished outcomes are limited. The effectiveness of such a process stems from an open dialog between the parties. Collecting customer information needs to be followed by an analysis of the information and a reflection on the consequences it involves for the activities or processes, the roles of the parties, the responsibilities they have, and the opportunities that open for both parties. The work of the supplier resembles much the steps described by Teece (2007), who states that the following steps are to seize opportunities by taking a decision and reconfigure assets in order to provide the resources. This, in turn, entails that the supplier's organisation has both organisational capabilities and managerial ones to both capture information, rework it, take the decision and allocate the resources needed to set up the necessary processes.

At this stage the supplier's vision guides it towards the type of value it aims at providing. Therefore parts of its processes are already working, so that the adjustment to fulfil the customer's is minor. It could also be so that the supplier's is developing a new process, that is consider to align with the rest of the customer's processes. There is a need to enable the staff at different levels of the company to take initiative or suggest new developments. With a vision it is easier for the supplier to check whether the new suggestion is in line with the vision and the strategy of the company.

When the supplier and the customers are co-creating value, their processes occurs simultaneously. But all processes are directed towards the same customer goal. It is most apparent in a joint value creation process. The interaction itself may imply many different roles from the supplier and the customer in order to reach the common goal and take the best way for that. Thus alternately the supplier can contribute to the value creation process by suggesting better solutions, new methods, additional tools, while the customer may suggest to the supplier what should be thought of in the future, and bring up different dilemmas. Value-in-use for the customer does not only raise from the integration of the resources but also from the perception that the resources have been integrated. Thus experienced customers realise the efforts realised for him/her and the efforts put into it. Involving the customer in the supplier's process is another way to make the customer perceive the value created.

In order to reinforce the customer's value creating processes the supplier can provide other resources that the customer perceives as value creating. The distinction of the processes from the operational processes helps to differentiate the supplier from competitors. The value implied by differentiated processes means easier marketing and sales process for the supplier. Customers who want to ensure that the supplier is able to provide the required resources have the re-

sponsibility to check that the supplier's long term strategy, vision and processes are aligned to those of the customer.

Competitive advantage for the supplier stems from the supplier's value creating processes that are performed as a patterned, stable routine. By providing processes that are well-performed and value creating and enable to collect information on customers, the challenge of the supplier that may first have seen difficult to fulfil is met. The aim for the supplier is that the value generation process runs smoothly and reliably. The role of dynamic capabilities is to fulfil the challenge.

9.4 Summary of the findings

Analysing Combitech's capabilities after having studied its value-co-creation process enables to shed light on the supplier's underlying processes that influence value co-creation. The threefold challenge for dynamic capabilities is to contribute to customer value creation, manage internal organisation of assets and ensure the firm's competitiveness at the same time. This challenge is discussed through the several findings that rise from this analysis and are presented in the coming sections.

Redefining dynamic and meta capabilities

The first major finding from this chapter is that the definition of dynamic capabilities does not necessarily lead to the identification of "true" dynamic capabilities, if their aim is to pinpoint those processes that give the firm a competitive advantage. Helfat et al. (2007, p. 121) stated that a "Dynamic Capability is the capacity of an organisation to purposefully create, extend, or modify its resource base, and consists of patterned and somewhat practiced activity". Thus Helfat et al. (2007) link the identification of dynamic capabilities to a change in the resource base of the firm. In turn, they define resource base as "tangible, intangible human assets (or resources), as well as capabilities that the organisation owns, controls, or has access to on a preferential basis" (p. 122). With these definitions dynamic capabilities act on the "resource base", which relates to the firm's assets only. Researchers gather around the argument that dynamic capabilities' role is to change the resource base (Ambrosini & Bowman, 2009) but they leave outside the competitive advantage's goal. There is no condition that ties their dynamic capability definition further to competitive outcomes.

This leads, as it happened in this study, to characterise some processes as dynamic capabilities and meta capabilities, although they are supporting the core business of the company. And thus cannot not be a source of competitive advantage (Winter, 2003). As a result, these dynamic and meta-capabilities are patterned, collective, and effective processes and bring value to the customer, but

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they fail to contribute to the firm's differentiation on the market. They fulfil conditions one and two of the dynamic capability challenge, but miss to lead to competitive advantage. Teece (2007) and Wang and Ahmed (2007) make explicitly the link to competitive advantage and the characteristics it requires.

In the wake of this finding two other findings were done. The first one is that a patterned and effective process carried out internally can become a means of differentiating a company if it is value creating for customers and is offered to them. In other words, turned towards operational capabilities, a dynamic capability supplies a process that is either hidden for or taken for granted by customers. Turned outwards, the same dynamic capability can help the firm differentiate itself among competitors. The other finding is that the possibility to differentiate oneself as a supplier increases when involving customers in the supplier's value creating processes as a way to make them aware of the value of these processes. It is when customers can integrate the resource by themselves in their processes that they become aware of the resources' value.

As a result the analytical tool developed in section 3.7 for identifying dynamic and meta capabilities lacks one or several conditions to ensure that the process leads to competitiveness for the firm. To my knowledge this condition has been best captured by Teece (2007). Teece proposes to test a capability through its capacity to sense and shape opportunities and threats, to integrate opportunities in the firm's offering, and finally ensure the firm's competitiveness through assets management. A comment on the conditions is that the following one builds on the antecedent ones. This means that a firm with poor capacity to sense the market deteriorates its capacity to fulfil the following conditions.

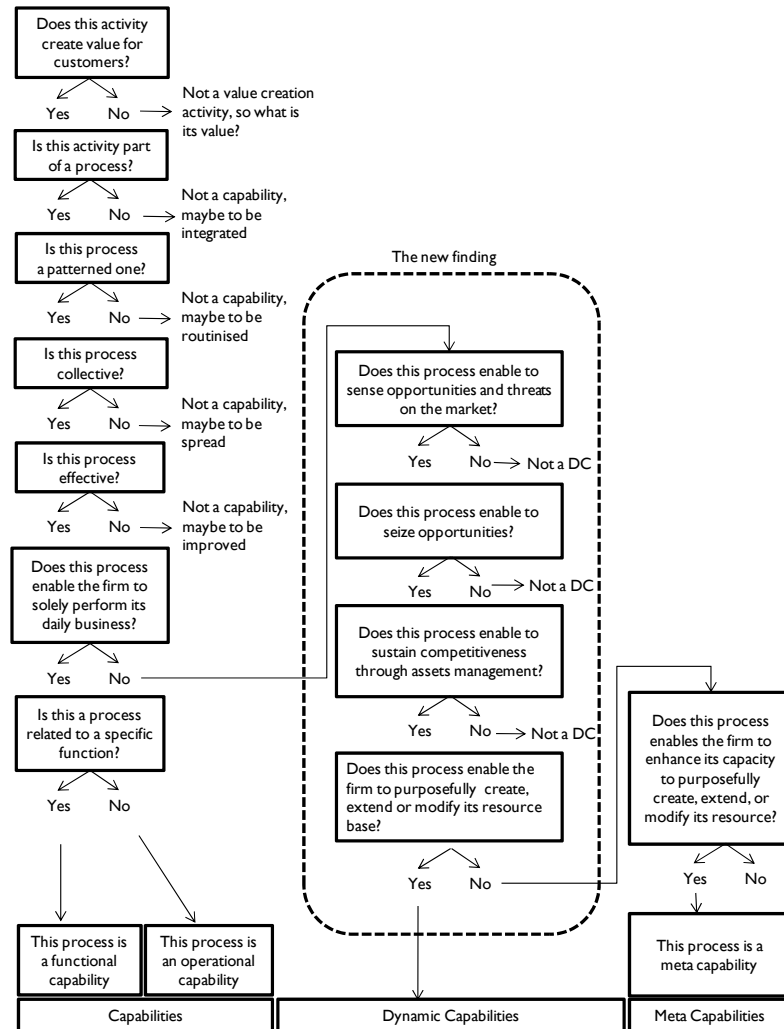


Figure 9-8: Reworked analytical tool for identifying dynamic capabilities, source: own.

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The consequence of this finding for the analytical tool is that these conditions have to be taken into account as in Figure 9-8 within the dotted area. The primary concern is that the process is value creating for the customer, and thus has to come first. The next step is to ensure that the activity is a process otherwise there is too little foundation to build a capability. The following steps check the quality of the process, whether it is patterned, collective and effective. The remaining steps classify the process into capabilities, dynamic capabilities or meta capabilities. The aim with this analytical tool is to comprise the three-fold challenge for dynamic capabilities, which is to contribute to customer value creation, lead to competitiveness and manage assets, both internally and externally.

Finally, this finding calls for a proposition of a new definition of dynamic capabilities that integrates conditions for competitive outcomes and patterned, collective and effective process as well as the prerequisite of value creation for customers. My suggestion relates as follows.

A dynamic capability is a value creating, patterned, collective and effective process that enables the firm to sense opportunities and threats, seize these opportunities and manage its internal as well as external assets in a way that is sustaining the firm's competitiveness.

Based on the major finding in this thesis, this definition gathers the three conditions for a dynamic capability to lead to competitive advantage. These conditions are firstly the value creating aspect, secondly, the patterned, effective and collective process, and finally the strategic ability to sustain competitiveness through market sensing, opportunity seizing and assets reconfiguration. The three conditions are comprised in Figure 9-8 where the first one is represented by the first square "Does this activity create value for customers?". The second condition links to the quality of the process and is represented by the squares aligned vertically. The last condition relates to the competitive outcome of the process is to be found in the dotted area.

Culturally steered processes

The second major finding from this analysis is that corporate value is an underlying mechanism that makes processes develop and strive, sometimes to the expense of other processes. This finding is in line with Regnér's (2007) suggestion that the social embeddedness of strategy has to be investigated, as it could have an impact on strategy making. In this study, it was found that the cultural predominance for technique impairs the growth of non technically related processes, as the one of market knowledge and its codification.

Another finding is that corporate value may hinder benchmarking. This goes against the argumentation in the dynamic capabilities field for the possibility of benchmarking processes inside the company. Combitech has well-developed

learning processes. At the same time Combitech has been able to show creativity and boldness through unusual learning methods, which could be interpreted as open-mindedness and propensity to go beyond what is known. Yet benchmarking of the patterned, collective, stable processes related to technical knowledge has not occurred towards sales, market, marketing and strategy domains.

The corporate culture prevents the company from realising its lack of competence in market, marketing, and strategy which is found at the design of low cost business models and the focus on volume as the key factor for competitiveness. This lack hinders reflexivity, which is eventually triggered when profits heads towards the zero level. The effects are to be felt on all levels of the company. At a higher level this information is missing for designing competitive offerings based on customer's needs and competitors' move. At the most strategic level, the company cannot ensure its competitive position in the long run. It is threatened by competitors, and lowering profitability, and the absence of a common goal for the staff, other than the financial one dictated by Saab.

Practices may hinder praxis: the CRM tool

Another finding is that since practices are the structure in which praxis takes place (Johnson, et al., 2007), the quality of a practice may set the limit for the quality of praxis. The poor display functions of the tool inhibit interactions and interpretations (Jarzabkowski, 2003) of potential opportunities or threats. On the market. Even though it is the aim of the meeting, the attendants do not have the tool to perform the routine in the ostensive way (Feldman, et al., 2003) some people conceive it should be performed. It also prevents those who have another ostensive view of how the routine should be performed to see how a well-developed performative side of the routine.

Another finding is the strong influence of middle managers' strategising on the firm's strategy. Top management's lack of marketing strategy leaves a large scope to middle managers and enables them to steer market strategy through their strategising. Illustration 6-1 of the sales meeting, which gathers middle managers show that middle managers are able to decide how much they will codify their customer information into the CRM tool. Those who do not come to the sales meeting or enter customer information in the CRM tool, have total control on information they collect from customers. In line with this, the thesis supports the fact that strategy making around customer management issues can be driven by the periphery and not the centre as Jönköping opposed to Linköping (Regnér, 2003).

10 Conclusions, contributions and implications

In order to highlight the contributions related to value co-creation, dynamic capabilities, and strategy-as-practice, this last chapter presents some contributions in each theoretical field. Practical implications from this research will be drawn as well. The last section will open up towards further research.

10.1 Conclusions from the thesis

The purpose of the dissertation was to understand how a supplier's capabilities contribute to value co-creation in a B2B context. The purpose was supported by three research questions. The first research question asked what value co-creation is and how it emerges in industrial services. The thesis showed that value co-creation is a goal, a process and a result depending on the stage of the collaboration between a customer and a supplier that is considered. Value co-creation is closely related to the notion of value-in-use, which can take different forms depending on the goal of the customer and how the customer intends to integrate the supplier's resources. Value co-creation emerges through actions and interactions between the supplier and the customer. The type of value co-creation that emerges hinges on the roles the parties have and their understanding of both their roles and the one of the other party. This understanding depends on the customer and supplier's expectations, goals and conscious and unconscious acts.

The second research question aimed at identifying which supplier processes are dynamic capabilities. It was found that in order to lead to competitive advantage, dynamic capabilities have to be linked to conditions that underpin firm performance and market position, while contributing to value creation. Therefore I have presented a definition of my own to integrate the required conditions. The processes that can achieve the conditions are related to market knowledge, marketing strategy and strategy and are industry and firm specific. The industry specificity is reflected in market knowledge including knowledge on customers and competitors. Firm specific processes demand management and strategic skills. It is among those processes that dynamic capabilities are to be found. The core business itself constitutes the basic activities, which are the operational capabilities, and these are a prerequisite for customers.

The third research question links back to the purpose of the thesis. It relates to how dynamic capabilities contribute to value co-creation. Dynamic capabilities belong to the value generation process and determine which processes the supplier is able to draw on for supporting the customer when collaboration is about to begin. Dynamic capabilities imply an array of micro-processes in which understanding customer's expectation of value-in-use, designing a relevant offering and contributing to the customer's business effectiveness are comprised.

10.2 Contributions to the service marketing research

Value co-creation has been conceptualised as a positive phenomenon (Grönroos, forthcoming) solely. Only recently the term has been questioned (Heinonen, et al., 2010). This thesis gives empirical evidence that value co-creation is not only positive, which extends the notion of value co-creation. Value co-creation ranges instead on a scale from positive to negative. This new insight emerges when value co-creation is no longer considered only as a goal or an intention between two parties but as a process and the outcome of an interaction. This view of value co-creation as an outcome finds support from Spohrer (forthcoming).

This thesis contributes with new theoretical concepts, namely "postpone use", "value-after-use", "values-in-use", "proactive value co-creator", "value destructor", and "value suboptimisator". The outcome of the interaction results from an array of factors that influence the development of value co-creation along the way. One of these factors is resource integration, which impacts value-in-use and finally value creation. Resource integration is depicted in literature as only beneficial for customer firms. This thesis shows that integration requires efforts too. The conceptualisation of resource integration shifts from a positive outcome for the customer to a sub-process in which the customer has to integrate the resources. Since this sub-process is made of both positive outcomes but also efforts, resource integration as a factor can be either more positive (the outcome weighs more than the efforts) or more negative (the efforts cost too much in comparison to the outcome).

The importance of resource integration for value-in-use was discovered through the study of value-in-use, in this thesis. Value-in-use, the value that emerges as resources are integrated in the customer's processes, is best understood through the purpose it serves. Therefore it can happen that value-in-use is better postponed, thereof the notion of "*postponed use*". The notion of "*value-after-use*", a long lasting effect of value-in-use, as well as the one of "*values-in-use*" were coined.

Another factor influencing the development of value co-creation is the role of the parties. The extension of the notion of value co-creation was enabled by the conceptualisation of the roles of the parties involved in the value co-creation process, and thus adds to an scarce research in the subject (Grönroos, forthcoming). The supplier can play the role of a “*proactive value co-creator*” in a relationship, while in another relationship act unconsciously as a “*value destructor*”. In the first case the supplier’s role of proactive value co-creator stems from its full understanding of the customer’s technical needs, routines, activities and practices in the product development context. In the second case there is a negative value formation that is a negative value that results from some passive process and some unintended outcomes.

When considering value co-creation it is not only the supplier that should be taken into account but also the customer who influences the value co-creation process. In literature, the role of the customer as a positive factor for integration of resources has been largely taken for granted, with some exceptions (Heinonen, et al., 2010). This thesis contributes with an empirical demonstration that the customer is not always a co-creator of value in the sense that it is willing to integrate all resources provided by the supplier. The term of “*value suboptimisator*” was thus coined.

These two major factors, resource integration and the roles of the parties for the value co-creation process are made of both positive and negative elements that co-exist side by side. The coexistence of positive and negative elements in each factor form a duality (Achtenhagen & Melin, 2003). The dominance of one element over the other in each factor determines the outcome of value-co-creation. Hence, by acknowledging the duality of positive and negative elements in the value co-creation process, research can advance its understanding of the concept of value co-creation.

10.3 Contributions to the dynamic capabilities research

The contribution of this work lies in the reconciliation of efficiency and market position in dynamic capabilities. Traditionally theories in strategy focus either on one approach or the other. However the dichotomy between focusing on internal or external factors in order to explain firm performance and competitive advantage does not catch the contradictory demands firms operate in.

At start, dynamic capabilities aimed at both improving firms’ efficiency, through well-performed processes and firms’ market position by analysing opportunities and threats on the market through well honed processes (Teece, et al., 1997). This double aim has been lost on the way. But this thesis shows that

there is a need for suppliers to face customers' demand of value-in-use and at the same time hold the competitive advantage and profitability.

A finding in this thesis is the general disconnection of dynamic capabilities definitions from the aim of competitive advantage (cf. Helfat, et al., 2007; Winter, 2003; Zollo, et al., 2002). With few exceptions (Teece, 2007, 2009; Wang, et al., 2007), definitions of dynamic capabilities focus on changing the resource base but omit to mention the goal for which it is done or refer vaguely to the market. Without an explicit link to competitive advantage, dynamic capabilities address only partially the firm's challenges. This thesis has argued for a comprehensive approach of internal and external factors faced by the supplier. The challenge was formulated into three imperatives for the firm. The first challenge was to sense and seize opportunities and threats, which is in line with Teece (2009). The second challenge is to contribute with value creating processes, an issue that is much discussed in service marketing and management (Grönroos, forthcoming; Payne, et al., 2008; Spohrer, forthcoming). The third challenge is to contribute to value creation in a differentiated way from competitors.

The reconciliation of internal efficiency and market position implies that dynamic capabilities have to be value-creating, well-performed and differentiating processes. In order to adapt the resource base to changing demands from customers, the firm's processes have to sense customers' changes and lead to a transformation of resources. Another finding in this thesis is that a too dominant corporate culture hampers other strategic processes in the firm, which relates to the social embeddedness of dynamic capabilities (Regnér, 2008). This results in negative value formation as it originates from a culture of despise for non-technical matters. Unconsciously the supplier is hindered to develop customer-oriented processes such as after sales and proper customer relationship management routines. It also explains the low level of marketing knowledge in the company, which is common to science-based companies (Bruni, et al., 2009) and the resulting lack of understanding how marketing knowledge could help the company win back a competitive position on the market. In this thesis it is clear that the corporate culture hinders the dynamism of crucial processes. This impacts negatively the company's strategy, benchmarking possibilities, reflexivity level, as well as practice and praxis.

10.4 The promise of the strategy-as-practice perspective

This thesis shows that when top management gives little strategic directions, middle-managers are left in a vacuum. It becomes thus difficult to follow just one strategy as everyone has the possibility to interpret it in his or her own way.

This situation shows that strategizing, in the sense of performing actions that have a strategic outcome, exists without actually a defined strategy. It entails that middle management have an impact on the firm's customer relationship management that is stronger than the one of the top management which is echoed by Regnér (2003).

It is assumed that practices and praxis are interrelated (Jarzabkowski, et al., 2009). This thesis has contributed to show the interplay between praxis and practices. It gives empirical evidence that practices, in form of a CRM tool, can impair praxis by limiting the actions and possibilities to display information and thus affect strategizing. Strategy and resource allocation are considered to be a matter for top management (Peteraf, 2005). This study demonstrates how the strategy planned on a macro level relies on information collected on the micro-level in day-to-day interactions with customers and interpreted at a meso-level by middle-managers. Thus the promise of strategy-as-practice is to enable to study a phenomenon at different levels of the firm at the same time and understand how actions, choices and interactions at one level impact the other levels. The promise lies in interconnectedness and comprehensiveness.

10.5 Practical implications

By recognising that suppliers' processes and their strategic management can contribute to customers' value creation and to both parties' competitive advantage, a number of practical implications can be drawn from this study.

Core business needs firm-specific competence

However excellent a company may be at its core business, a company has to be able to manage its overall business, if it is to survive in a competitive environment. This study shows that superior performance in the core business does not help the enterprise sustaining its position in a competitive market. The reason is the high level of competition, in this case on technology and price, which leads the supplier to design low-costs solutions that are decreasing the company's profitability. In this study the supplier's organisation is built around its technical competence. Very little is done with the rest of the overall business, which role should be to make the supplier's technical competence fulfil customers' goals of value creation. For this purpose, the firm needs to increase its marketing and strategic competence on a wide scale, through training, and in depth, by recruiting specialists. It is important to underline that core business, that is, the activity the firm makes a living on, and overall business are two different domains. Core business is only a part of the whole business, which requires firm-specific competence. Confusing core business with the firm-specific business prevents one to see possibilities of differentiation on the market.

Relevance requires strategic competence

The relevance of a supplier's processes lies in the processes' effectiveness for the customer's goal(s). In order to fulfil the customer's goal, there needs to be a strategy that paves all the way from the supplier's processes to the customer's goal. It is when the supplier finds out the customer's goals and understands what kind of value-in-use the customer searches for that the relevant processes can be activated. In this study, it is clear how the lack of strategy competence affects the possibilities to plan a strategy for the long term. Then there is the issue of reaching many customers' goal at the same time. This is where strategic competence, in form of strategy and marketing strategy, helps identifying the type of goals that a specific supplier is best aimed at reaching. This has to be followed by a customer segmentation based on this identification.

Vision leads action

This study shows how much employees, in their day-to-day activities, need a guideline for making decisions that have strategic outcomes. The supplier could benefit from formulating a vision that guides employees in their overall activities. The aim with a vision is to define the company's role for its customers, and what kind of value it wants to contribute with. Thus it becomes possible for employees to constantly check the appropriateness of their actions and activities, internally for their organisation, and externally towards their customers. Employees can be more self-assured in front of customers, and argue for which type of value their company aim at contributing with. A vision also enables employees to develop the business by taking initiatives that they know are in line with the vision. Once a vision is decided on it can be empowered by strategies, as in marketing and sales. Therefore one can say that vision leads action, via strategy.

10.6 Suggestions for further research

Observations as a methodological tool helped to delve into practitioners' day-to-day activities and reveal the details of interactions and strategizing. It was clear during observations of the supplier that interactions occurred on many levels. Feldman (Håkansson, et al., 2005, p. 110) suggests the denotative and connotative meanings as an explicit and implicit levels of interaction. However these levels of interactions are conscious. Unconsciously, people interact and influence one another into new directions, decisions and actions. During observations, I could distinguish the cognitive, linguistic, and physical levels. To take into account these unconscious levels could bring an answer to many "why" and "how" questions.

10 Conclusions, contributions and implications

One of the findings from this study is the importance of goals for understanding how customers aim at integrating resources from their supplier. Investigating customers' goals at different levels of their company and relating them to integration of suppliers' resources could contribute to better understanding of the value co-creation. This study did not include the point of view of managing directors. Yet, their input in form of long-term strategy for the company, strategic alliances with suppliers, company values and customer segmentation could be particularly interesting in order to understand the mechanisms of value co-creation. Furthermore, the strategy-as-practice perspective has enabled me to reveal some of the maze of interactions in the value generation context. It has much more to contribute with in research on value creation, value co-creation and value generation as a whole.

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Appendices

Questionnaire for Combitech

You in the company

1. Could you tell me about your tenure at Combitech?
2. Which issues do you take care of?
3. What/which issue/which achievement are you most interested in?
4. How long have you worked in the company?

Combitech

5. What is the history of the company?
6. How is it organised and under which structure?
7. How many employees are there?
8. What is the strategy of the company?
9. Which products and services do you offer?
10. What are the turnover and profits?
11. What do you consider will be the future of Combitech?
12. What can be said about Combitech's marketing?
13. Customer value: Is there interest and what is the awareness in the company?

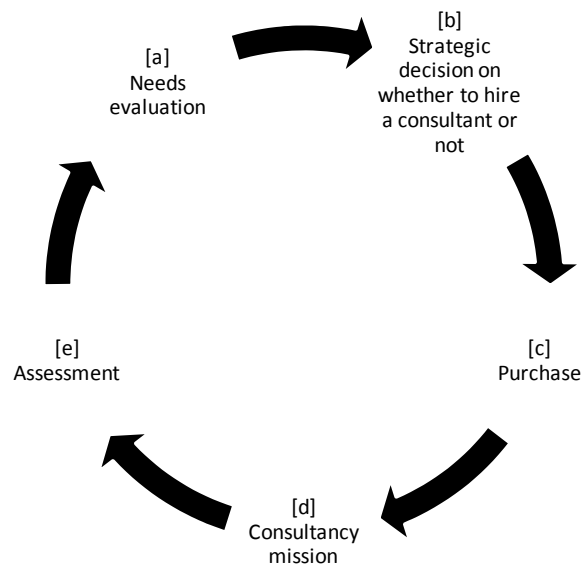
Customers

14. Which customer types are there and how does the segmentation look like?
15. Who are the buyers? Who are the users?
16. What is the size of customer companies?
17. From which industries do they come from?
18. In which geographic area are your customers?
19. How do you communicate with customers? How often?

Customer value

20. From Combitech's point of view, what are the benefits and sacrifices for customers?
21. What do customers consider are the benefits and sacrifices to turn to Combitech?
22. How does the service take shape? How is it created?
23. Which steps do customers go through in order to rebuy services? Which criteria do they consider?
24. What do you discuss and argue about with customers?

25. Could you describe a real successful cooperation with a customer?
26. How do you collaborate with your customer?
27. How do you talk with customers on your products and services?
28. What do you have to adapt to customers' wishes? Example?
29. What could you add or improve for the sake of customers?
30. What do you know about customers' customers?



Competitors

31. Which are Combitech's competitors (in Jönköping and countrywide)?
32. How does the market look like and how does it develop?
33. Which products and services compete with Combitech' own products and services?

Partners

34. Does you work with partners?
35. Have you had a long relationship with some of them?
36. What do you collaborate on?
37. What is the scope and the conditions for your collaboration?
38. Do you have something else to add?

Appendices

Timetable for first meetings with Combitech Jönköping

Introduction meeting with Combitech, November 11, 2009 at Combitech, Jönköping
Niklas Barkman (Site Manager)
David Skyborn (Business developer)
Carl Andersson (Senior Business Developer)
Prof. Ethel Brundin (Main supervisor)
Sarah Wikner (The author)

Meeting for the design of the study, December 15, 2009 at Combitech, Jönköping
Niklas Barkman (Site Manager)
David Skyborn (Business developer)
Carl Andersson (Senior Business Developer)
Prof. Ethel Brundin (Main supervisor)
Sarah Wikner (The author)

Timetable of the interviews with Combitech

Name	Function	Date
David Skyborn	Business developer	Dec. 15, 2008
Carl Andersson	Senior business developer	Dec. 15, 2008 Feb. 24, 2009
Niklas Barkman	Jönköping site manager	Dec. 19, 2008
Ted Wolfram	Combitech Consultant	Feb. 25, 2009
Marie Bredberg	President	Feb. 26, 2009
Niclas Fock	Vice president	Feb. 26, 2009 Oct. 7, 2009
Susanne Lieberg	Senior consultant	Mars 9, 2009

Timetable of observations

Observation 1: March 16, 2009. Desk work at Combitech, Jönköping
Carl Andersson (Senior Business Developer)

Observation 2: March 16, 2009. Meeting: project presentation at Combitech, Linköping
Carl Andersson (Senior Business Developer)
Anders Åström (Vice-president)

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Observation 3; March 17, 2009: Region meeting for sales at Combitech Stockholm
Carl Andersson (Senior Business Developer)
David Skyborn (Business Developer)
Mats A Lindström (Business Area Manager)
Marino Mirkovic (Unit manager)
Rasmus Olsson (Unit manager)
Ala Shakrah (Unit manager)
Fredrik Tengel (Business Area Manager)
Mats Wahlfeldt (Vice-president)
Anders Åström (Vice-president)

Observation 4; March 24, 2009: Region meeting for sales at Combitech, Linköping
Carl Andersson (Senior Business Developer)
David Skyborn (Business Developer)
Göran Backlund (Senior Business Developer)
Fredrik Tengel (Business Area Manager)
Anders Åström (Vice-president)
Johnny Larsson (Business Developer)

Table for presentation of the analysis

Presentation 1: November 18, 2009 at Combitech, Jönköping
Carl Andersson (Senior Business Developer)
David Skyborn (Business developer)
Jenny Bäckstrand (Consult)
Inger Bynert (Unit manager)
Henrik Sjövall (Unit manager)
Prof. Susanne Hertz (Second supervisor)
Sarah Wikner (the author)

Presentation 2: November 25, 2009 at Combitech, Linköping
Marie Bredberg (managing director)
Niclas Fock (vice managing director)
Anders Åström (Vice president)
Bo Hagerf (Business Developer)
Johnny Larsson (Business Area Manager)
Fredrik Tengel (Business Area Manager)
Jan Sjunnesson (Senior business developer)
Prof. Ethel Brundin (Main supervisor)
Sarah Wikner (The author)

Appendices

Interviews at customer companies

Interviews at Saab Avitronics, Jönköping
Per-Ola Öberg (Product development Director), April 23 2009
Jonas Dahlgvist (Responsible Purchaser), April 23 2009
Lars Hansson (Line Manager), April 27 2009

Interviews at Getinge, Getinge
Henrik Nilsson, (Purchaser), May 04 2009
Göte Johansson, (Responsible in charge of maintenance and further development), May 04 2009
Robert Engberg, (Project Leader) May 04 2009
Carl-Magnus Rydberg, (Product manager) May 04 2009
Jan Nilsson (Product Development Director), May 04 2009

Interviews at Sensys, Jönköping
Göran Löfqvist (Product Development Director), May 7 2009
Martin Callisen (Project Manager), May 7 2009
Erik Hemgren (Project Manager), May 7 2009

Interviews at Saab Training Systems, Jönköping
Peter Göthberg (Responsible for consultant recruitment), April 20 2009
Niclas Vilsek (Head of research and development), April 20 2009
Peter Söderström (Software Line Manager), April 29 2009
Mikael Lidbäck (Test Line Manager), April 29 2009

Other background interviews or contacts, Jönköping
Gunnar Vidén (Former financial director at the Combitech group), March 24 2009
Pär Arvidsson (LIME responsible at Saab Training Systems), November 05 2009
Hans Robertson (Former managing director of Saab Training Systems), May 09 2009
Karin Stenberg (Former executive secretary of Per Risberg at the Combitech group)
Niclas Fock (5 e-mail exchanges on strategic discussions), from April 16 2009 to June 04 2009

Questionnaire for customer companies

Your position in the company

1. What are you working with presently?
2. What other positions have you had within your company?
3. Can you provide a brief summary of your company's history?

The customer and the market

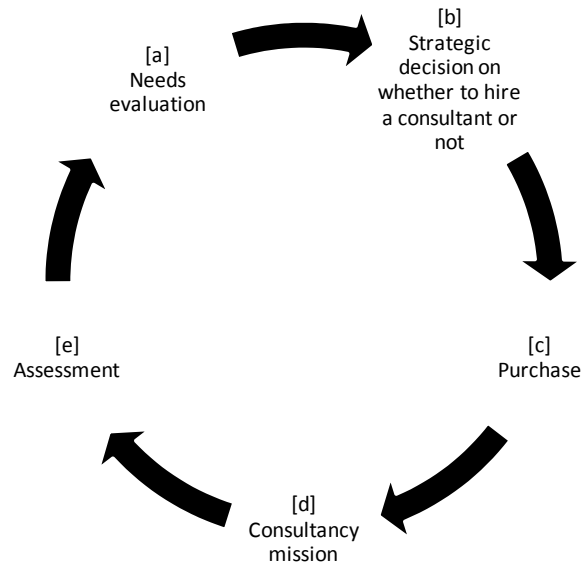
4. What are the strategies of your customers on their markets? What are the goals of your customers? What parameters are they taking into consideration?
5. What are the competitive criteria of your competitors? (price, relation or quality: performance, features, reliability, conformance, durability, serviceability, aesthetics, perceived quality) user friendliness, other?
6. What are the customers' perception of your products and services?
7. Do you have an open dialogue with your customer/customers?
8. What are the competitive advantages of your company compared to the competitors?

About customer value

9. If one would describe your work in terms of activities, how would you describe your work?
10. What triggers the activities and who activates the trigger?
11. With whom do you cooperate to perform these activities?
12. What is your line of thinking when you have to prioritize?
13. How do you support your customers to reach their goals?
14. Do you have a program/organisation to develop your employees' competence (technical/other)?

To create customer value with Combitech

15. In what cases do you work closely with consultants in your daily work?
16. Do you categorize consultants? What categories? Why?
17. When, according to the figure below, do you involve different consultants?
18. When, according to the figure below, do you involve Combitech?



19. What are your requirements on consultants?
20. Are there different levels of requirements?
21. Do you know the goals and strategies of Combitech? Do you discuss these issues?
22. What are the strengths of Combitech?
23. What are the improvement areas of Combitech?
24. Give an example of something that would surpass your expectations.
25. What relation do you have with Combitech? (quality, length exchanges, phase, etc.)
26. What type of contract do you have with Combitech? Pros and cons?
27. Combitech has a magazine "On Time", what is your opinion on if Combitech would provide information on their courses in the magazine?
28. Other issues that you would like to mention?

Thank you for the interview!

Appendices

LIST OF CODES FROM EMPIRICAL MATERIAL JKG	
<p>NB= Niklas Barkman CAA Carl Anderson interview on 15 December 2008 CAB Carl Andersson on 24 Februari 2009 TW= Ted Wolfram SL= Susanne Lieberg</p>	
Organisation	<p>CAA2 90-95% consultants. CAA7 sales group. CAA10 organisation and commitments in Combitech. CAB5-6 industrial group meetings. CAB6 organisation, personnel structure, funds. CAB8 org JKG. CAB8 organisation. CAB10 rivalry between cities. CAB10 RE = JKG + Växjö.</p> <p>TW2 organisation JKG. TW11 consultant meetings at Combitech.</p> <p>NB7 what kind of people are here? Company structure, Combitech's organisation. NB9 organisation. NB11 marketing personnel. NB13 Saabband. DS2 business development, Göran Backlund, Combitech's divisions.</p>
Reorganisation	CAA2 merger, CAA3 AerotechTelub,
Marketing/Sales	<p>CAA6 there's half a black hole, the Intranet, out picture is delayed for our customers. CAA8 no contact with the CEO, the end users, SENSYS, information about the end user. CAA9 understanding the customer. CAA10 hiring, hiring and customer value. CAA10 contact with the customers. CAA11 customer contact, onTime. CAA12 reluctance to describe the services. CAA12 sales managment group, marketing and knowledge. CAB3 aiming at the large companies. CAB5 marketing goals, market cultivation, expansion. CAB7 activities. CAB8 CRM. CAB8 Sales. CAB 8 easy business. CAB9 customer relations, industrial group meetings. CAB11 customer relations, leadership training. CAB11-12 customer relations. CAB12 customer relations, market cultivation.</p> <p>TW3 the consultants write their own CV.</p> <p>TW10 the hiring process, improving communication and job description.</p> <p>NB1 business contract, offer, contract, profitability. NB6 marketing. NB11 previous marketing work and marketing initiative. NB14 purchase process directly with purchase, specialists. DS5 channel for customer information, customer group meetings, sales. DS6 sales push, hesitance from the customer, developed relationship with the customer, selling to new customer. DS7 different focus in the beginning or towards the end of the relationship. Sales, marketing. DS8 somebody (customer) knows about</p>

	us before they hire us. DS8 Customer of the customer. DS9 the buying process, sales work frequency.
Project structure	
Recession	
Business models, offers	<p>CAA1, CAA2 small margins; CAA2 services within SW-development. And electronics development. CAA3 resource consultant versus competence consultant, management consulting. CAA3 selling of education. CAA4 business model. CAA5 ISO certification. CAA9 work for a month and send an invoice, business modell, fixed price. CAA10 fixed price + loss. CAA11 the hiring process. CAA12 not a good job outline. CAA13 understanding the end goal better. CAB3 inhouse, total undertaking, outsourcing, Ericsson. CAB3 creative excercises in order to come up with new business models. CAB4 measure efficiency, calculate fixed price. CAB6 Gap between hourly basis business and costs.</p> <p>TW1 customer support</p> <p>TW3 how to get a happy customer</p> <p>NB1 offer, contract, profitability (NOTE this is also listed under the "marketing/sales" heading), NB 2 profitability, win-win, win-lose, homeshore, total commitment. NB3 homeshore, outsourcing, homeshore and reason, negotiations, customer needs. NB4 Entry time and question of competence, the offer, buying process, separate versus competence consultant, purchase versus needs planning, discussion with development executives. NB5 package and define them, motivation and pressure to do it, pressure on SAAB. NB7 Aerotech Telub business offer and competence. NB9 total supply. NB12 co-operation partner, widen the offer, external resources, the offer in the future. NB13 packaging, challenges. DS1 Simcom. DS4 resource consultant, specialist consultant. DS7 the offer: simcom, homeshore.</p>
Finance	<p>CAA3-4 very sensitive system. CAA4 finances in a blossoming economy. CAA4 20% marginal, too expensive before, price flexibility. CAA5 constantly increasing costs. CAB1 99% ongoing work which is paid monthly, fixed price, increasing costs during a fixed price project. CAB2 the half fixed price model, fixed price customers, CAB2 count the cost, help from the finance department. CAB3 the finance department's different business models, fixed price. CAB6 personnel structural capital.</p>
CLL	<p>CAA 3 On the Job Training. CAA11 K net.</p> <p>TW3 unique with a focus on courses/learning. NB6 further learning,</p>

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Values	CAA1 Culture, CAA2 Combitech vs Aerotech Telub.
SAAB	CAA5 management fee. CAB6-7 costs SAAB. NB13 Saabband, Saab directives.
Personnel	CAA4-5 experienced and younger consultants, they "want" a lot. CAB5 personnel care. CAB10 leadership and leadership development. SL2 personnel development.
Vision/strategy	CAA2, CAA2 difficulty to agree on a vision. CAA6 we often talk about which position we want to take and which values we want to emphasise. CAB4 strategy. CAB11 strategy >6 months. NB8 strategy: JKG and LKG. NB9 strategy in JKG. NB9-10 customer value and argumentation. NB14 sharpening marketing work and sales. NB15 attitude towards Sarah's work. DS3 goals and strategy, the lead words, the future for Combitech, offers and profiling. DS3 which opportunities there are for such an investigation.
History	CAA1-2-3 NB6 history, leadership. NB7 Carl Andersson's role; Aerotech Telub. NB8 Combitech's history. DS2.
CRM system	NB11.
The interviewees' backgrounds	CAA1 SL1 NB6 Niklas' history. NB7 driving forces. DS1 David's post, driving force, background to how the hiring came about.
Evaluation of Combitech	CAA11 the advantage of consulting Combitech, why does the customer hire us, customer evaluation. CAA12 customer evaluation. TW9 own evaluation. TW10. SL9 Combitech's advantages and disadvantages, the customers' appreciation. DS4-5 assessment (the question of self-confidence), price competition, price national defence.
The market/the customers/the competitors	CAA7 customer segmentation. CAA8 who is the customer, customer contact person. CAA9 customer size, CAA10 the customers in JKG. CAA11 Cybercom. CAA12-13 Getinge successful to not so successful co-operation, personal chemistry. CAB4 sister company Avitronics. CAB 5 Ericsson and framework agreement and volume. CAB12 competition. SL1 different amount of formality in different lines of business, creativity, standards, steering documents. SL2

	<p>security classifications.</p> <p>NB5-6 competitors. NB6 competition. NB9 customers JKG. NB10 competitiveness, JKG segmentation. NB13 Avitronics. DS2 JKG's market. DS3 marketing input from consultants, need of market information, segmentation. DS4 segmentation, offer, the customer's market. DS7 marketing pull. DS8 the competitors. DS9 co-operation with the competitors, flexibility.</p>
Activities	<p>CAB7 (about sales)</p> <p>TW1 processes and project management.</p>
Under assignment	<p>TW1 no forward planning, tentative turn instead. TW2 problems with the assignment. TW2 Inhouse, welding together, identity. TW3 participation with customer, match the consultant with expectations. TW4 backward, questioning in a non-offensive way, the customer appreciates advice, inhouse versus at the customer's, personal motivation. TW5 positive pressure, motivation, organising PU at the customer's, activities in PU, dokumentation. TW6 handling demands, no documentation, co-operation with the customer under PU. TW7 PU: meetings, co-operation, review, the whole picture, tension between external commitments and tasks. TW8 tension. TW8 being a course leader and in an assignment, communication within PU, time management, performance in assignments. TW9 work load, creativity. TW9 how does one affect finances for the customer? How to create customer perceived value for Combitech? Organisation in smaller groups. TW11 informal leaders, competitors at the same customer, the customer's customer. TW12 if the customer is a competitor, dress code, inhouse operations. SL2 The customer's organisation and documentation, controlling, the team leader's role, Pull versus Push, leadership/project management in assignment. SL3 Hiring, verification and company maturity and quality instead of cost etc... SL4 quality and products. SL4 dialogue and communication, creating surplus value for the customer, defining who the customer is, the customer's organisation, end customer no contacts. SL5 the end customer's demands, hiring, activities at the customer's, the customer has changed the time schedule twice during the day. SL6 project management, PU meetings, everyday tasks, shared leadership. SL7 means of communication during product development, communication, unclear management. SL8 leadership course, one obstinate, the consultant role and surplus value, financial improvement for the customer. SL9 be aware of needs, blind to flaws, who is the customer and who is the end customer? SL10 implementing, working towards goals, team spirit, good communication and relationships in the team.</p>

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LIST OF CODES FROM EMPIRICAL MATERIAL AT LINKÖPING	
List of codes from empirical material NFB: Niclas Fock second interview + page number NFA Niclas Fock first interview MB Marie Bredberg	
Organisation	MB3 Profit centre, information transfer; MB4 future organisation. MB4/MB7/MB8 sub-contractors. MB6 segment, business areas; MB7 functional organisation; MB9 the strong and the weak sides of the organisation. MB10 organisation, co-operation and businesses, MB10 specific to marketing industry. NFA2 culture, brand name NFA3 business areas, segments. JKG, NFA4 C. org, integration of companies, NFA4 the small boat, consult organisation; NFA11 the business areas organisation; NFA12; NFA17 the financial department and profitability. NFA17 organisation and new employees. NFA18 misunderstanding on my part regarding the organisation. NFA19 Organisation and co-operation, organisational experience and competence.
Re-organisation	NFB1; (See also Saab's re-organisation NFB13, NFB14); MB2, MB10 NFA2 why such a frequent change of organisation? NFA8 Reason for re-organisation at C, Saab.
Marketing/Sales	MB6 marketing and the demands from the customers. MB11 OnTime, Intranet. NFB4 laidback attitude, NFA12-13 Eva Kvist, advertising is not enough, different cultures. NFA13 first contacts; NFA13 face to face, solving a problem, complex services for sale. NFA14 sales competence at Combitech. NFA17-18 network to the industry, India, difference within sales between the two divisions.
Project structure	NFB1; NFB2 (demands, expectations; responsibility, project economy; puts new demands on C's leadership and project focus.); NFB3 communication, combining consult and in-house, selling of projects; NFB4 fixed price in projects; design house; the ability to run projects at home.
Recession	NFB5 NFA15 the future.
Business models, offer	NFB5 young engineers, homeshore MB2, MB4 the challenge in the future, total concept,

	<p>internationalisation; MB8 we need to think about what our business is. MB8 global offer. MB9 covering the entire project. MB10 differentiation; NFA5 the concept of "customer perceived value", influence the customer. NFA5 3-4 distinct concepts, young engineers, NFA6 young engineers (b), outsourcing concept, NFA7 Homeshore, Ericsson, a lot of personnel in the business concepts. NFA9 future changes in offer, press on prices, products in industry.</p> <p>NFA15 growth and profitability, partnership, Homeshore, consultant hours and profitability. NFA20 broad experience as a consultant. NFA 26 business development and definition. NFA27.</p>
Finances	<p>MB5; MB8 annual report, profitability; MB8 profitability market segments. MB9 Profitability, key figures; covering the entire project.</p>
CLL	<p>NFB5 Pandora's box, courses; NFB6 TTG/COP, criteria for becoming an expert, LCN; NFB7 Technology Transfer, OJT, possible to keep on invoicing, Red Teams, K net; NFB8 K net, Sparring, Dual Coaching; NFB8 CLL History, research; NFB9 research, the steering committee, adept/apprentice structures, pair programming, Dual coaching, career steps, Red teams, OJT, Courses; NFB10 Unique to Combitech, research, industry postgraduate students. NFB11 Lessons Learned, Research results, external researchers, project diaries, spin-off in the industry, steps in education. NFB12 research, difficulties with CLL; who takes the initiative to get training, CLL and performance reviews, NFs Lic; NFB13 marketing of CLL. NFB13 CCLs cost for Combitec. NFA20 CLL, LCN, Communities of Practices, learning och incentives. NFA21 incentives and promotion and obstacles at the customer's. NFA26 the dialogue seminars.</p>
Values	<p>NFB11</p> <p>NFA22-23 new employees and hierarchy.</p> <p>NFA23 the leadership.</p>
SAAB	<p>NFB13 Pain in the ass; NFB13 re-organisation; NFB14 re-organisation</p> <p>MB2; MB8 financial strategy from SAAB, profitability goals; MB12 sometimes wastes time on things that don't contribute to anything. NFA5 the three stakeholders.</p>
Personnel	<p>NFB13 personnel and brand name,</p> <p>MB11 Incentive</p> <p>NFA21 Incentive (and learning)</p>
Vision/strategy	<p>NFB14 (three), The need for one; NFB15 vision, strategy and goals; 30/70 Program NFB15</p> <p>MB2 strategy plans; MB3 strategy, strategy vs action plan vs</p>

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	organisation; MB7 prioritised markets, NFA4 what makes us unique?/customer perceived value; NFA12, NFA22 Vision, culture och vision; NFA23 visions. NFA25 the vision.
History	NFB14; MB1; MB2; NFA1 NFA2 + Combitech at the beginning. NFA11; NFA27
CRM system	NFB15
The interviewee's background	MB1 Marie Bredberg's experience, MB1 The role of the CEO; NFA 3 education, his role, NF4 NF's role, NFA5 interests.
Combitech's assessment	MB5 NFA15
The market/the customers/the competitors	MB5 customer needs, offer to different customers, future development. MB6 customer needs, demands from the customers; MB7 The competitors; MB8 covering the entire project, challenge. MB10 Industrial market specificity. MB10 argue for customer perceived value. MB12 very exposed to competition; NFA5 changes in the business of consultancy. NFA7-8 Competitors; NFA10 customers and steering committees plus customer perceived value. NFA15 the competitors. NFA16 Tieto Enator. NFA26 definition of customer perceived value.
Activities	MB 11 contact persons; MB12 Contact with the customers, responsibility areas, the division executives, NFA9-10 co-operation with Marie. NFA21-22 activities; NFA23 steering committee meetings, NFA23-24 aktiviteter, leadership forum, the big leadership group. NFA25 leadership, coaching, activities. NFA 25 the customer and creating customer perceived value.

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