Critical factors in the solution process

-a descriptive study

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Abstract

Saturated markets and a competitive business climate create pressure on organisation to find new ways to remain competitive and differentiated towards competitors. One new strategy is to adapt a more service oriented business, and more specifically a concept call solutions. Solutions is about moving from only selling e.g. products or single services, to offer a whole solution to cover more needs, an offer usually created together with the customers. This demand on the market together with limited research on the concept of solution, makes it an interesting area to study. The purpose with the study was to describe the whole solution process between the supplying firm and the customer. In order to do so, a longitudinal, dynamic model based on extant literature was developed, which consisted of three stages and 11 important factors throughout these three stages. The primary data collection came from interviews with managers from five companies, all experienced within the area of solution strategy. Out of the eleven theoretical factors, four factors were explicitly highlighted as most important;

Keywords: Solution, Solution process, Service, Co-creation, Factors
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Uppsala, 28th of May 2014

Ludvig Hersan          Joakim Lundstedt
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1. Introduction

1.2 Increased service trend

Structures in firms are at currently subject to big changes by expanding into a more service oriented business (Antioco et al., 2008; Davies, 2004), with a clear trend to start incorporate more services in the offerings (Kowalkowski, 2011). Vargo and Lusch (2004) states that businesses and society as a whole is moving towards being more service oriented. The trend has been highlighted by the acknowledged Swedish industry magazine (Verkstäderna, 2007) and in addition last year the union journal (Handelsnytt, 2013) argued for the need for services as a possibility for growth in saturated markets. Earlier, manufacturing firms have looked upon services as an add-on to the core product offering and a necessary evil for the product sales (Robinson et al., 2002). However, when firms face mature markets they need to find new ways to remain competitive and to differentiate themselves; where one way for companies is to offer more services in their offerings (Kowalkowski et al., 2012; Kommerskollegium 2010-2). This is due to a decline in the Swedish manufacturing industry (Kommerskollegium 2010-1) partly because of change in consumption pattern, development in emerging markets, and automatization (Kommerskollegium 2010-1). Because of these new preconditions in the market, the manufacturing companies need to invert more services into their offerings if they want to grow.

1.2 Leads to the solution approach

To be able to better respond to customer needs (Homburg et al., 2000) there has emerged the concept of solution, within the service concept (Sawhney, 2006; Tuli et al., 2007). The solution orientation comes with changes for the organization (Raddats & Easingwood, 2010). This shift in focus from just producing products to become more of a customer solutions-based firm (Vargo & Lusch, 2004) is a part of the differentiated strategy for product firms due to increased competition on the market (Biggemann et al., 2013). To respond to the market needs, solutions are developed (Sawhney, 2006), solutions is a combination of services and products. According to Antioco et al. (2008) the income coming from services have increased and become important for the firm’s competitiveness. Therefore, companies try to incorporate services and to become more of total solution providers for their customers. In agreement, Nordin and Kowalkowski (2010) and Tuli et al. (2007), says that offering solutions to customers could strengthen the customer relationship and reduce competition. There are many benefits with solutions (Lovelock & Gummesson, 2004). Service managers believe that the
need for solutions, like additional value-creating services and rental agreements, will continue to grow (Kowalkowski et al., 2012). The solution approach have made it possible for the customer to “rent” and get access to goods, networks, expertise, 24-hour service and systems.

Solutions, according to Tuli et al. (2007), are embedded in a relational process and are therefore process-centric. The solution concept is by Biggeman et al. (2013) described as a dynamic process, which goes through different stages, where the supplying organization can offers solutions to ever changing problems. Within the process the interaction and ongoing relationships are constantly mentioned, where the supplier and customer together are co-creators of the offered solution (Vargo & Lusch, 2004). The creation of the exact solution is done through interaction between the supplier and the customer (Sawhney, 2006). Therefore, competencies in building and maintaining the relationship become vital for the firm (Grönroos, 1999). According to Vargo and Lusch (2004), the academic concept is shifting from the goods or services exchange to the process of exchange. The goods, for example, are just partly involved in the exchange, where the application of the intangible resources of human skills, knowledge and competences are vital.

Research of the concept solution does exist, but there is also a clear demand within the service research to further address the solution process. Influential authors give their recommendations to elaborate deeper in the area of solutions. Bongsug (2012, p.128) states that “framework for solution development is rare”. Carlborg et al. (2014) say that there is a need for more studies on the process to get more understanding of the interactions with the customer. Moreover, according to Raddats & Kowalkowski (2014), the different solution definitions could be better categorized. Other researchers in the area (Tuli et al., 2007) say that there are many areas within solutions which have limited research, one example is solution effectiveness. Sawhney (2006) gave many future research suggestions where one was to address the delivering of the solutions. Stated in personal correspondence Kowalkowski (2014) further confirms the solution process needs more research.

There is a call for more research within the solution process area and at the same time the need for solutions seems to grow due to new service demands on the market (Kowalkowski et al., 2012). Therefore, we aim to investigate how the service solution process is outlined with the customer. The literature review showed that the solution process often is divided into a type of a model with different stages. Based on the literature review we come to present the
solution process divided into three stages (attracting, developing, consolidating), which here are presented by our model, below named Figure 1.

![Solution Process Model](image)

*Figure 1. The solution process model*

Further on, within this model, eleven critical factors affecting the outcome of the solution process will be presented in chapter 2.

### 1.3 Purpose of the study
Due to a growing demand both on the market and in the research, the purpose of the study will be to describe and give examples on how a service-solution process is outlined through the three stages attracting, developing and consolidating with the customer and what demands this puts on the supplying organization.

### 1.4 Research questions
Which are the critical factors for the supplying organization during the solution process?

### 1.5 Logic of the paper
In Chapter 1, *Introduction*, the paper get introduced by the increasing service trend, which leads to the service solution approach, in order to differentiate the firm on the market. In the solution approach there is signs of limited research which the authors will investigate. The designed solution process model, the work model, is introduced, with three different stages of the solution process. The purpose of the study is to describe the service-solution process in three different stages, *attracting, developing, consolidating*. In these three stages there is critical factors which will be investigated.

Chapter 2, *Theory*, goes firstly through solution and other interrelated concepts, and which leads to the nature of the solution process. The literature review forms a work-model based on
influential authors within the solution subject, consisting of three longitudinal stages; attracting, developing, consolidating. The model further include important factors within each step in the process, which are separately presented.

In Chapter 3, Method, the structure of the work-model is also used as base for coding the empirical findings. The empirical data collection was done with qualitative semi-structured interviews with six suppliers and one qualitative questionnaire with the customer. There were used an abductive approach to capture the critical factors during the three different stages. The limitations of the study are lastly discussed in the end of the chapter.

In Chapter 4, Empirical investigation, the sources are firstly presented which further leads to an opening discussion for the interviews. The theoretical work-model are operationalized leading to the findings, of the critical factors, in the three different stages, attracting, developing, and consolidating. The empirical investigation follows the same structure as the theory.

Chapter 5, Analysis, also follows the same structure as the theory and empirical investigation. The empirical investigation are being compared and connected to the theoretical critical factors, to find out the similarities and differences. In the end of each factor, the “essence” are lifted up. The analysis leads to the main findings from each factor in the Chapter 6, Conclusions. Here the conclusions from each critical factor are drawn and also it is shown how some critical factor are linked to each other, in order point at the vitality in the process and to describe the whole solution process. It is also shown how some of the critical factors are prominent in the solution process. Also, included in the chapter are the papers contribution, the managerial and theoretical implications as well as further research to take on.
2. Theory

2.1 Solutions and inter-related concepts

The literature review gains insights that many of the service concepts and wordings used are interrelated, or similar, and sometimes they seem to have almost the same meaning. Some examples interrelated with service-concepts are: servicizing (Rothenberg, 2007), service innovation (Kindström et al., 2013), service-infusion (Kowalkowski et al., 2012), NSD - new service development (Kindström & Kowalkowski, 2009), integrated solution (Davies et al., 2006) and total service package (Roth & Menor, 2003). Other wordings often used in the literature are service-centered and customer-centered view (Shet et al., 2000), full-service (Kowalkowski, 2011), and solutions (Bongsug, 2012; Sawhney, 2006, p. 365-366; Tuli et al., 2007), where the latter is the concept this study will focus on.

Solution definition also has varied definitions dependent on who is asked. Nordin and Kowalkowski (2010) say solutions are usually vaguely defined, and are used in different occasions, often to describe single service and product bundles (Windahl & Lakemond, 2010) which however is an inflexible view of the concept. This view does not seem unusual though. A bit more flexible and customer centric view is that solution is a tailor made and integrated combination of goods and services to fulfill a customer’s business needs (Davies et al., 2006; Sawhney, 2006, p. 367-368). A more flexible and customer centric perspective of the concept is the definition that Tuli et al. (2007) uses when trying to explain how the customer side define the concept. They say customers tend to view a solution more broadly as a set of customer–supplier relational processes with different dynamic, interactive and longitudinal stages. This definition is suitable when following Vargo and Lusch’s (2004) reasoning that the customer is always a co-creator of value. Also, according to Grönroos (2011), this is the logical perspective of it since the customer is not only the co-creator of value, but also a central player in the value-creation. There are obviously different definitions of the solution concept, and this also becomes more prominent during the interviews where the different companies investigated in this study works very differently in terms of flexibility within their solution strategy approach. Therefore, a specific solution definition is not chosen for this study, instead an awareness of the indefiniteness will follow for the rest of the thesis.

2.2 The nature of the solution process

Biggeman et al. (2013) say that the process of the customer solution goes through many stages, in where the suppliers’ products and services could be discovered to be used for
solving more complex issues than they originally were designed for. Customer solutions are dynamic, emergent, nonlinear and co-created with the customer, where the interest of the supplier and customer change throughout the process. Vargo and Lusch (2004) explain that the supplier should learn from the customers, be adaptive to their dynamic and individual needs and collaborate with them. Therefore, the firm needs dynamic capabilities, which by Teece (2007) are defined as routines within the firm's managerial and organizational processes, that aim to gain, release, integrate and reconfigure resources. Interaction is a fundamental base in the solution process and is according to Grönroos (2011) a mutual action where two or more actors create an effect on each other. Because of the rapid environmental changes and new requirements placed on business, to be able to follow these changing prerequisites, a responsive interaction needs to be in place.

According to Raddats and Kowalkowski (2014) incorporating a solution business is a horizontal activity that reaches over different phases. It could be processes spanning over decades. It is a continual sequence of economic and social processes according to Vargo and Lusch (2004). Customer solution is a concept where the supplier and the customer together have formed the offering that contains goods, services and software, which are embedded in longitudinal, relational processes between the business partners (Cova & Salle, 2008, p.319). During this longitudinal process the circumstances change, and the interest of the parties varies. All the different incidents, and the environmental changes affect the outcome of the solution (Cantu et al., 2012).

2.3 The Solution process model

Researchers have explained this longitudinal, dynamic process with a model, such as Sawhney (2006, p. 372), Tuli et al. (2007), and Kindström and Kowalkowski (2009). They all describe the solution process consisting of different stages. There is no common established theoretical framework to use, but these three models could be pointing towards an emergent common view of how the process could be described. This is also noted by Cova and Salle (2008, p. 324) who states that “these studies call for a comprehensive framework of complex items’ transaction cycle”.


The three models used as a base for the model in this study is briefly presented accordingly: Sawhney (2006) have in his model “customer activity cycle”, which from the name can be drawn that the model is from the customer´s angle, divided the process in three stages, simply called pre, during, post, with a short description of each stage the following way: Pre – when customers are deciding what to do to get the desired result; searching, deciding, acquiring
During – when customers are doing what they decided on; installing, using, operating
Post – when customers are keeping things going – reviewing, renewing, extending, upgrading, and updating.
Tuli et al. (2007) says that the process is “a set of four relational processes”, and these four stages are named accordingly:
Requirement definitions – customers are not fully cognizant of their business needs and should have discussed with the supplier to elaborate them
Customization and integration – customization involves designing, modifying, or selecting products and services to fit a customer’s environment and integrating them into a coherent whole
Deployment – it refers to the delivery of the integrated solution and its installation within a customer´s environment
Post-deployment support – it is more than providing spare parts, operating information, and routine maintenance. It also includes deploying new solutions in response to customers evolving requirements.
Kindström & Kowalkowski (2009) have come to call their model “A four stage framework of NSD” where they describe the four stages from an angle compared to product sales the following way:
Market sensing – more sources for innovation; local and central as well as external and internal. Innovation coming from local decentralized actors
Development – Significantly more customer input and interaction. Investment patterns are different
Sales – Technical attributes are not in focus. Customer-centric rather than product-centric process. Emphasis is mainly on value-in-use rather than on value-in-exchange
Delivery – People intensive and co-produced. Relationship intensive/enhancing.
So based on these extant models made by influential researchers in the area, the creation of the model used in this study was made. See table 1 below where extant models is compared with the model used in this study.
Coherently for the three extant models used as a base, and the model created during the progress of this study are all longitudinal and dynamic to its nature, consisting of three or four stages with the purpose to describe the process between a supplier and a customer on its way from the initiate steps into the closure steps of the process. It starts with an initial stage called attracting, which implies for example the first contact with the customer. The second step is developing, where the solution is designed. And lastly, the third stage is consolidating when the solution is up and running. See model on p3.

Further on, when reviewing the literature in the subject of solution, as already stated, the process can be divided into the three stages. What also has been noted is that there are some factors that seems recurrent, and are repeatedly mentioned through the extant literature. Even though solution selling can be tracked back to the 1960s (Cova & Salle, 2008 p 321) there is relatively sparse literature in the subject (Tuli et al. 2007), but in the literature that do exist, there are some factors that comes back recurrently. These factors are captured through a thorough review of the literature on solution. The work made by the leading researches in the field has been analyzed and the subjects repeatedly mentioned in studies have been categorized into a distinguished factor. The different factors were then placed under which stage it belonged, and in a chronological order where best suited in the solution process model. With the word factor here is meant an important element needed in order to fulfil the solution process. Therefore, it could be seen as critical factors for the solution process. The three stages of the model are interrelated with each other and should not be seen as isolated from each other, neither should the factors. The first attracting stage the critical factors are market sensing and network partners. The second developing stage, the critical factors are

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Table A summaries the references used as a base for the solution process model in the study.
proposition, personnel roles, development costs, innovation, flexibility and ICT. Lastly, in the third stage, the consolidating stage the critical factors are incremental sales, knowledge sharing and long term perspective.

2.4 Attracting stage

2.4.1 Factor 1. Market sensing

Market sensing involves a deep scanning of the customers, competitors, and also within the internal firm (Kindström & Kowalkowski, 2009). It includes sensing of the customers needs (Kindström et al., 2013; Tuli et al., 2007).

Therefore, when selling a solution it is necessary not only to sense the customer but also sense other actors on the markets (Matthyssens et al., 2006). One reason, according to Kindström and Kowalkowski (2009), is that system integrators, contractors and consultants are actors that could have a huge impact on the specification of larger contracts. These actors also have close customer contracts.

According to Kindström et al. (2013) firms usually use traditional marketing research techniques to learn about their customers’ needs. Establishing deep customer knowledge involves institutionalizing feedback loops and creating organizational systems, roles, and processes that constantly seize and communicate customer demands. Tuli et al. (2007) states that relational processes are crucial for the supplier to know the customers’ requirements regarding customized solutions. Therefore, according to Nordin et al. (2011) the firm needs to have a deep understanding of their customers. However, as Tuli et al. (2007) say, solutions are not just developed by the supplier. Solutions could also be developed by the customer, which goes together with the service-dominant logic, where the value proposition also comes from the customers (Ballantyne et al., 2011).

Tuli et al. (2007) say that both the customer and supplier have an important role in the discovery process, and that the effectiveness of a solution also relies on the customer. For the supplier it is vital to ask right questions and to talk to many stakeholders in the customer company to spot both recognized and unrecognized needs. Since customer’s needs change throughout time, it could lead to changed expectations from the solution provider. To spot customer needs the supplier need to understand the customer’s wider business; their employee situation, their business model and their internal operating processes. Anderson et al. (2007)
claim that firms delivering services need to be aware of their customers' whole business processes, also customers' own customers.

2.4.2 Factor 2. Network partnering

Network partnering involves building partnership to deliver solutions in an ever changing business network (Cova & Salle, 2008, p.330; Biggeman et al., 2013). It includes to what extent the firm should rely on its external network partners, or if the firm should deliver solutions internally or use a hybrid approach (Kowalkowski et al., 2011).

Through network partners the firm possess core competencies, which they get competitive advantages from, by coordinating and conjuncting with others (Biggeman et al., 2013). Matthyssens and Vandenbempt (2008) explain that lots of firms rely on their downstream partners to cooperate in taking risks, when it comes to solutions. Tsai and Ghosal’s (1998) findings point at the vitality of developing social capital in form of relational ties with customers’ stakeholders to get valuable information. Cova and Salle (2008, p.330) say it is vital to have knowledge for building partnership with other actors in the business network, when developing solutions. According to Biggeman et al. (2013) customer solutions are created by ever changing forces in the business environment, driven by actions of actors in the extended network. Furthermore, Biggeman et al. (2013) say that an implementation of a solution has a market-shaping effect by changing the environment in the market. The competitors and actors in other networks react to the market-shaping effect by the solution. The managers need to be aware of this market changing and shaping effect in the network, when starting developing solutions. In line with this, Cantù et al. (2012) say that solution drivers come from a combination of changing forces.

However, according to Kowalkowski et al. (2011) the firm has the choice, to what extent, deliver solutions internally in-house, through external partners or through a hybrid. The choice the firm makes is related to the contingency perspective, dependent on the internal and external context, where solution providers have to adjust to different market- firm- and offering-specific factors. The hybrid arrangement takes advantage of both internalisation and externalisation, by for example, focusing core services internally and on low-margin non-core services externally. Internalisation demands more time and resources and implies a future risk of conflicts in the channel. Therefore, it could be seen as more effective to have service partners. However, by externalising the firm run the long-term risk of making the
intermediary most profitable which has the closest contact with the customer. Firms externalise if they do not have enough capabilities, capacity and the cost efficiency to internalise (Axelsson & Wynstra, 2002).

2.5 Developing stage

2.5.1 Factor 3. Proposition

Proposition refers to which part that stands for the proposition. However, mostly, the supplier is together with the customer co-creating the offered proposition, through an intense interaction (Vargo & Lusch, 2004; Lapierre, 2000).

Vargo and Lusch (2004) explain that the solution process enhances on the customer as being a co-creator of the offering. Where the supplier organization, along with the customer in a reciprocal process forms the offering. Galbraith (2002) says that the customers’ needs to be brought in early in the process to create attractive offerings, which requires deep interaction. This is in line with Kindström and Kowalkowski (2009), who state that the customers should be involved in co-developing efforts with the firm. Kindström et al. (2013) state that firms also co-develops and interacts with partners, beside the customers, to visualize, understand and deliver value propositions. Grönroos and Voima (2013) say that the value creation usually is seen as co-creation, where the supplier and customer creates value together. However, when it comes to the customers, Lapierre (2000) states that they want to have a service process and interaction based on quality. Vital for the suppliers are flexibility, responsiveness, reliability and communication skills. Interaction is the key in the process of collaboration and learning so that adaptation can be made that suits the customer (Vargo & Lusch, 2004). The solution development demands intense interaction (Cova & Salle, 2008, p.319).

2.5.2 Factor 4. Personnel roles

Personnel roles involves what demands their is on personnel when selling solutions and what the firm could do meet those demands. The demanded skills are relationship skills (Kindström et al., 2013), interaction and technical skills (Rothenburg, 2007), customer oriented service skills (Gebauer & Kowalkowski, 2012) and a deep understanding of the customer (Kindström & Kowalkowski (2009).

Since the solution process involves skills and roles to interact with the customer it leads to a strong demand in the front-line to have competencies in building relationships (Kindström et
al., 2013). Also, Gummesson (1991) says that the personnel in a firm, who interacts with the customer, has an important role as part-time marketer. Besides interaction skills, Rothenburg (2007) states that the personnel needs technical skills, which includes a deep understanding of the customer’s processes. Furthermore, the firm recruits employees based on their personality traits grounded on how well they role fit in their customers operations. Therefore, the service the firm offers could be enhanced by the recruitment and also by rewarding and training service skills according to Homburg et al. (2002). Gebauer and Kowalkowski (2012) say that these service skills are customer oriented and are not just technical skills but also a competence on how to behave. For a firm to improve their customer and service orientation, according to Ballantyne et al. (2011) and Neu and Brown (2005), it needs to hire personnel which not only has technical skills but also has a customer oriented attitude and behavioural skills. These attitudes and competencies make it possible to communicate and listen to customer and have a learning relationship with the customers.

More specifically about customer value, according to Echeverri and Skålen (2011) customer value is the result of interaction consisted of behavioral judgement, affections and attitudes. Grönroos and Voima (2013) say that the supplier is accountable for the production process which partly consists of back- and front-office processes. The firm produces processes and resources for customers value, the firm is seen as a facilitator of the customers’ value creation and provides potential value-in-use (Grönroos, 2011). According to Kindström et al. (2013) it is vital for the firm to help the customers to value the benefits of the new offering, therefore the front-line needs the knowledge for selling the service forcefully.

Kindström and Kowalkowski (2009) say that salespeople have to understand the customers’ profit logic and operations and also that sales are changing from reducing costs to increasing value and productivity. Therefore, salespeople have to be good in business logic, managerial thinking and to understand the local service operations. The communication between the salespeople and the other service personnel is of great importance, for example, breakfast meetings with salesmen and service technicians could be a way to enhance the communication.

2.5.3 Factor 5. Development costs

Development costs regard suppliers who try to recover their development costs of the solution by spreading its cost, through standardizing solutions, among its customers (Biggemann et
al., 2013; Sawhney, 2006, p.447). Also, brought up, is what the customer could gain through solutions, which are reducing and get more control over its costs (Kowalkowski et al., 2012).

Customer solutions could be created when a supplier finds an opportunity for sales of a standardized, repeatable solution and spread all the development costs among its customer (Sawhney, 2006, p. 447). According to Biggemann et al. (2013), challenges with customer solutions are pricing and intellectual property rights disputes; the supplier wants to own the solution so the firm could take it to other markets. The suppliers will always seek to recover their costs, retain the ownership of the solution and charge the customer of the development cost. At the same time the customer wants to be the unique buyer of the solution and not pay for all the development costs. When implementing a solution, sacrifices and recovery and short-term costs starts, at the same time other actors come to take advantage of the solution, before the supplier is benefitting from the developed solution. Therefore, selling solutions according to Brady et al. (2005) demands strong skills in risk analysis, key account management and finance.

Kowalkowski et al. (2012) say that customers do not always have control over their overhead costs when buying single services or products. With a solution approach the customer could get a more accurate perspective on what something costs. Moreover, according to Rothenburg (2007) a servicizing as well as a solution approach could lead to customers using less material and by that reduce their costs and at the same time benefit the environment.

2.5.4 Factor 6. Innovation

Innovation concerns which actor, the customer or the supplier, who innovates in the solution process. Innovations driven by the customers are for example 24-hour service and rental agreements (Gallouj & Weinstein, 1997), while at the same time the supplier diagnose the customer needs (Tuli et al., 2007). However, there is a third way in order to innovate together with, collaborate and interact with the customer (Edvardsson et al., 2006; Alam, 2006).

Service innovation is a wide concept according to Bessant and Davies et al. (2007) and do not only regard the uniqueness or newness of the service. Gallouj and Weinstein (1997) say that service innovation is also about innovating in other areas of the service system, for example the firm could study the customer role and competences in the service process, in order to innovate. De Jong and Vermeulen (2003) say that service innovation is about the buyer-seller
relationship; customer interfaces and the delivery process, and according to Lusch et al. (2010), it is typically about sensing the opportunities coming from external technology.

Gallouj and Weinstein (1997) claim that service innovation usually are driven by the customer, for example 24-hour service and new forms of rental agreements and replacement machines, are all innovations initiated by customers. Those are innovations which cannot be traditionally planned, managed or programmed (Zaltman et al., 1973). In contrast solutions often involves a pre thinking, from the supplier, of customers future needs (Pagh & Cooper, 1998; Sawhney, 2006, p. 370). The customer could have a limit understanding of what their needs are (Lapierre, 1997) Therefore, according Tuli et al. (2007) the supplier diagnoses their needs.

Edvardsson et al. (2006) say that service innovation demands collaborative, and proactive involvement from the customer. Kindström et al. (2013) claim that companies contact lead customers early in the service developmental process and design the new services jointly with both their customers and suppliers. The co-development enhances the firms linkages to the customer and improves the customer-sensing skills. According to Alam (2006) to be able to innovate successfully regarding services, it implicates lots of interaction with customers and players in the service system. Companies should, therefore, aim for reaching a capability for interaction, to enhance their customer bonding. The interaction with the customers gives the company the chance to sense new innovation opportunities according to (Mannervik & Ramirez, 2006, p. 58). Customers always have their role in the co-innovation, which could be valuable for the suppliers for improvement of their value propositions. In line with this, Kowalkowski et al. (2012) state that firms in the interaction process are better able on an ad-hoc basis to seize innovation opportunities. In order to create service innovation, the firm need to have the capability to reconfigure and identify microfoundations (Kindström et al., 2013). Microfoundations are according to Tecce (2007, p.1319) the “distinct skills, processes, procedures, organizational structures, decision rules, and disciplines”.

2.5.5 Factor 7. Flexibility

Flexibility refers to how much the firm could be flexible and customize its offering to best meet the customers need (Vargo & Lusch, 2004). The firm needs to have the skill to balance between standardization and customization (Kindström & Kowalkowski, 2009). In the beginning the firm needs to be flexible and customize its offerings to meet the customer need;
specific needs, however, in the long run, in order to make profit of the solution, the supplier need to standardize the solution.

According to Kindström and Kowalkowski (2009) one key for success, when it comes to solutions, is the firm’s skill to balance between standardization and customization. Tuli et al. (2007) state that customisation is a way to compete by offering unique or superior value through the modification, design, and selection of services and sometime goods, which meet the customer’s needs. Vargo and Lusch (2004) explain that the supplying organization is to be adaptive and willing to listen to the exact demands of the buying organization. And in that sense be customer centric and flexible in the offering to best meet the customers need. To always have the customer central in where the definition of value takes place. Biggemann et al. (2013) say that the customer prefers to be the unique buyer of the solution, where the solution will become a part of the competitive advantage. However, according Penttinen and Palmer (2007) customization regards establishing close relationships with enhanced exchange of information, stronger operational linkages, and clear contractual statements of each side’s responsibilities, which all have the potential to diminish the risk of the provider. If solution providers according to Sundin and Bras (2005) are customizing, the firm is closer to see exactly what the customers’ needs and wants are.

Nevertheless, the risks with solutions can be analysed by a customisation focus (Nordin et al., 2011). As Johnson and Selnes (2004) explained, customised offerings also involve the risk of higher costs since customization demands for customer-specific knowledge, dedicated resources, and the need to adapt the offering continuously to changing situations and needs. Customization services are related to “competence risk”, which makes the risk bigger for the provider for failing to deliver and develop the products and services at the right cost and on time (Lampel & Mintzberg, 1996; Ng et al., 2009). Furthermore, if the customisation is restricted to the first customer, strategic risk goes up since the offerings has to be modified to be suitable for the other customers. Customisation could also be expensive since the offering is unique and standard resources and parts cannot be used (Nordin et al., 2011).

However, customers usually favor customisation since they get the exact offering they demand, and the suppliers draw the advantage since they minimize the strategic risk of not fixing their customers’ problems and fulfilling their needs (Nordin et al., 2011). Despite of this, according to Biggeman et al. (2013), providers should have in mind that developing and
even executing customer solutions does not secure customers' loyalty. Instead, customers could seek standardized solutions, to avoid getting locked into a relationship with a supplier and to minimize the development costs. The suppliers therefore need to be able to develop standardized solutions, which comes from the customized solution. A supplier will not be likely to take part in a solution if it cannot see a larger market for standardizing a solution, since the investment costs then could be recovered and profit gained.

2.5.6 Factor 8. Information Communication Technology

ICT have become a cornerstone for service development (Kindström et al., 2013). ICT make it possible for improved intra-firm collaboration (Kowalkowski et al., 2011) and to interact with the customers (Ramirez, 1999).

Since services becomes more and more information-based, the technology built in the products has to back up the ICT system, which is used for the services (Kowalkowski & Brehmer, 2008). Because service development is more and more becoming associated with information communications technologies (ICT) development, service strategies and goals are being re-examined based on new business opportunities provided by ICT, like fleet management solutions. Furthermore, for technology exploration the firm should explore and scan for technological changes outside the service system and look for what new-to-industry technologies are coming and how the firm could get service value out of them (Kindström et al., 2013). Since according to Kowalkowski et al. (2012) service-related business progression is either technology-driven or customer-driven.

Developing solutions demands coordination and interaction of activities, not just between but also within organizations and ICT make it possible for emerging service processes (Biggemann et al., 2013). Closer integration in the firm can be reached by a uniformed ICT system, to improve intra-firm collaboration (Kowalkowski et al., 2011). According to Kindström et al. (2013) a firm which develop services needs to answer the questions of what interfaces there is between local and central service units and between its functions. Furthermore, Ramirez (1999) says that ICT are used to make it possible for salespeople and other personnel to interact with their customers in order to get monetized value of their solution, however the services could be of a complex art and not all values could be monetized.
2.6 Consolidating stage

2.6.1 Factor 9. Incremental sales

Incremental sales does here relates to additional sales, which are services that are sold additionally and in an incremental way, when the product deal is already done (Kindström & Kowalkowski, 2009). When the supplier service-innovate at their customer operations, the firm have the possibility to sell more. Therefore, the supplier for instance, need to recalibrate its opportunities, in order to sell more. Therefore, the solution are incrementally changing throughout time.

Industrial services are usually developed ad hoc, not managed strategically and are generally sold and added when the product deal is already done (Kindström & Kowalkowski, 2009). According to Kindström et al. (2013) a key factor in order to increase the service orientation in a firm, is to realize a correlation between selling more services and an increased product sales in the future. Furthermore, companies usually put much effort in the definition and design of their new services, however, they rarely emphasize how to take tangible actions on how to commercialize, and scale up to sell their new services.

Kowalkowski et al. (2012) claim that it is vital that service innovation is seized in an ad hoc and less formal manner. Therefore, there is a need for both a mental model for incremental change and a suitable organizational structure. A successful service solution strategy includes continual adaptability, modifications, seizing of ad hoc innovation, management of intertwining goals and continuous recalibration of opportunities (Kowalkowski et al., 2012).

2.6.2 Factor 10. Knowledge sharing

Knowledge sharing is vital when selling solutions (Kindström & Kowalkowski, 2009) since collective learning is a core competence in an organization (Prahalad & Hamel, 1990). The firm could by knowledge sharing reuse components and learn from its earlier activities (Davies et al., 2006).

Several authors emphasize the importance of knowledge sharing and interaction within the firm, for instance Biggeman et al. (2013) claim that solution development demands coordination and interaction not just between but also within in the firm. Further, Kindström and Kowalkowski (2009) say that when selling solution type offerings, predictability of lifecycle and maintenance are vital, which demands intra-firm cooperation between the R&D
and the service organization is important. Likewise, according to Prahalad and Hamel (1990) collective learning is a core competence in a firm, like for example how to coordinate diverse production skills. Benefits with this are many. Davies et al. (2006) say that through the interaction the firm is better able to learn from its earlier service activities and reuse components, and by that make it easier for future exploitation initiatives. By, for example, be able to identify services in one area and offer it to a larger customer base in another area (Matthyssens et al., 2006). In relation to this Kowalkowski et al. (2012) claim that the attributes of the service-infusion alter over time, from being highly emerging and disjointed in practise, to become more systematic and structured throughout the time, with centralized service development, uniform global service strategies, an increased standardization of systems, and better local-central coordination

2.6.3 Factor 11. Long term perspective

When selling solutions, the firm needs to have a long term perspective, where close relationships with the customers are necessary for complex offerings like solutions (Kowalkowski et al., 2012). Close relationship further are favouring internalisation (Kowalkowski et al., 2011). Investing in quality, to stay for the long run, will improve the suppliers margins and relationships (Kindström & Kowalkowski, 2009).

According to Shah et al. (2006) a customer centricity implicate a long-term relationship business approach which goes deeper than activities like just acquire information about the customers (Narver & Slater, 1990). Close relationships are often necessary for extensive and complex offerings (Kowalkowski et al., 2012). Tuli et al. (2007) say that relational process usually exists when it comes to bundling products and services and creating value. Kowalkowski et al. (2011) state that a key factor for a service company offering solutions is to strengthen the customer relationship and to make the customer a strategic business partner. According to Tuli et al. (2007) relational processes that customers consider to be crucial are requirement definition and post deployment support. Suppliers who do not pay attention to these processes could result in dissatisfied customers, a decrease in sales and lower profitability. Furthermore, Kowalkowski et al., (2011) claim that the relationship approach favours internalisation and that externalisation decreases the possibilities to create and keep business relationships, which could hinder the firm, from getting closer to their customer.
In other words according to Kindström and Kowalkowski (2009), to have a long term perspective is essential, and with a short term perspective following could happen. Inexpensive manufactured components could result in lower prices, however, this typically leads to lower quality, which in the end will lead to more frequent maintenance and reparation. In the short run it could have a positive effect on the utilization of service personnel and service sales, however in the long run it will result in a worse relationship with the customer and it will also hinder the company from having good margins on their more advanced offerings with more services included (Kindström & Kowalkowski, 2009).

2.7 Summary of the theory

The theory section starts with different service concepts, which is a multifaceted word with many different definitions. A broad general discussion is made leading to one part of the area of service concept, called solution. The nature of solution is defined as a longitudinal, dynamic process and is co-created together with the customer. There are different dynamic, interactive and longitudinal stages through the solution, which also is a relational process. There is limited research on this solution process and in order to investigate this process, a work model have been designed based on Tuli et al. (2007), Sawhney (2006, p. 372) and Kindström and Kowalkowski (2009) models. The designed model constitutes of three stages: attracting, developing and consolidating. The solution process model with its important factors also work as a framework and are based on the literature review. See model below.

![The solution process model with the critical factors](image)

*Figure 2. The solution process model with the critical factors*
The *attracting stage* implies to get the first contact with the customer and find out what their needs are. The second stage; *developing* is when the solution is designed together with the customer. Lastly, in the *consolidating stage* is when the solution is up and running, where the supplier wants to maintain the relationship. The models includes critical factors for each stage in the process, in total eleven factors that are presented in a more or less chronological order.

In the *attracting stage* the critical factors are *market sensing* and *network partners*. In the developing stage the critical factors are *proposition, personnel roles, development cost, innovation, flexibility* and *information communication technology*. Lastly, in the third stage, the *consolidating stage*, the critical factors are *incremental sales, knowledge sharing* and *long term perspective*. These factors are critical since they are prominent in the literature, throughout the different stages in the solution process. These critical factors are taken from the literature, and will through interviews and a questionnaire, be connected and compared to practitioner’s reality of the solution process. These eleven factors will be analysed to see which are most prominent.
3. Method

3.1 A qualitative method
A qualitative method was used to get a deeper in-depth understanding (Saunders et al., 2012, p.163) of the solution process. We wanted to outline the whole solution process, and describe it. Therefore, the nature of the research design is descriptive since the solution process is described (Saunders et al., 2012, p.171). Since the subject of study is much up to the individuals perception and moreover their social construction of the solution process, the study gets an interpretive approach. Further, the informants’ perception about the solution process is more relativistic than absolute, since there could be different interpretations of the solution process and its context. The primary data collection came from in depth interviews with informants from five diversified supplying companies with the common denominator being they use the solution concept as strategy. The interviews was complemented with a customer firm questionnaire.

3.2 Data sources
The investigated companies in this study were chosen because they are all using solution as a sales strategy. The informants representing the companies that were interviewed for the primary data collection are all to a high degree involved in this procedure, and therefore have deep knowledge of the process (Please see appendix A for more details of the companies, and the informants). To get a fuller view of the process, we chose to complement the data collected from the supplying firms with data collected from a customer’s perspective. The customer firm, referred to as “Source7” in the following chapter, is currently in the latter stage of the solution process with the supplying firm referred to as “Source2”. The companies investigated is operating in diversified industries, differs extremely much in revenue, and as also will be noted, they vary a bit in how they define solution, particularly in how flexible and willing they are to adapt to their customers. Therefore, we got a variety of diverse types of solutions in the research. Four of the investigated firms were contacted through personal contacts, and one by calling the firm office. The customer was reached through the help of the supplying firm source2.

3.3 Data collection
The primary data in this study was primarily collected through ‘non standardised’, qualitative, semi-structured interviews (Saunders et al. 2012, p.375), of which four face-to-face interviews
were done with source1, source2, source3, and source5. Two telephone interviews were conducted with source4 and source6. Lastly, a qualitative questionnaire was conducted for Source7; the customer. See table B below for an overview. The face-to-face interviews were conducted in person with just the interviewers and the informant, which made it possible to avoid interruption and listen exactly on what the informant was saying. During the face-to-face interviews and the telephone interviews we tried to take away the tension by explaining for the informant that we were going to have more of a free discussion and follow the flow of the conversation. By having contact with the informants beforehand on what topic the interview was going to be about, made it easier for the informant to prepare for the interview. The interviews were in Swedish and were later translated to English in the empirical and analysis chapters. Below is information about the interview presented in table 2.

Table B  Interview information

<table>
<thead>
<tr>
<th>Company</th>
<th>Date 2014</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Source 1</td>
<td>5 March</td>
<td>face-to-face interview</td>
</tr>
<tr>
<td>Source 2</td>
<td>12 March</td>
<td>face-to-face interview</td>
</tr>
<tr>
<td>Source 3</td>
<td>13 March</td>
<td>face-to-face interview</td>
</tr>
<tr>
<td>Source 4</td>
<td>9 April</td>
<td>telephone interview</td>
</tr>
<tr>
<td>Source 5</td>
<td>10 April</td>
<td>face-to-face interview</td>
</tr>
<tr>
<td>Source 6</td>
<td>16 April</td>
<td>telephone interview</td>
</tr>
<tr>
<td>Source 7</td>
<td>27 March</td>
<td>questionnaire</td>
</tr>
</tbody>
</table>

Table B presents how and when the interviews were conducted

Following Bryman and Bell’s (2011, p.467) reasoning the interviews were conducted with an interview guide, for the suppliers, (see appendix B) consisting of “questions on fairly specific topics to be covered”. These topics were, critical factors, based on the extant literature. Since the focus in these interviews was on catching the informants’ perspective and point of view, the informant had freedom to respond very freely, and during the interview the interviewer did give follow up questions to capture deeper understanding of the informants’ specific knowledge. Probing questions (Saunders et al. 2012, p.378) were asked like “tell me more
about the process” and also for seeking further explanation when the interviewers did not understand and/or wanted a deeper understanding and the meaning of what had been said. This reduced the level of uncertainty. Also, questions not included in the guide were in some interviews asked (Bryman & Bell, 2011, p.467).

The interview guide (and the questionnaire) were based on the work model, and constructed to have a focus on understanding how the process were outlined jointly by the supplier and the customer during all the three stages of the solution process. The service solution process was discussed during the interviews in these three stages. The first part of the interview with the supplier was about how the supplying firm acts to find their customers, “Attracting stage”, consisted of market sensing and network partners. The second stage the discussion contained of how the developing process looks like with the customer when forming the solution, “Developing stage”, including proposition, personnel roles, development cost, innovation, flexibility and information communication technology. Lastly, in the third stage the discussion went about how the continued interaction looks like when the process already started, “Consolidating stage”, consisting of incremental sales, knowledge sharing and long term perspective (see Appendix B). Also, a qualitative questionnaire was designed to capture the customer’s perspective (see Appendix C). The questions for the questionnaire have almost the same theoretical base as for the interviews with the suppliers. However, the questions have been reformulated and adapted to fit in to the customers perspective. Some factors (network partners, personnel roles, ICT, incremental sales, knowledge sharing) were not logically asked for the customer, since they are just relevant to ask for the supplier and not the customer.

A database was created with all the transcriptions of the interviews, the questionnaire and other relevant documents in order to enhance the reliability (Gibbert et al., 2008). However, the findings from the semi-structured interviews are not meant to be repeatable, because the interviews mirror the reality at the specific time and context they were collected (Saunders et al. 2012, p.382). The specific context could change over time, and as the solution process is complex and dynamic, it makes it difficult to replicate the study. Therefore, the reliability suffers in this study.

Before the interviews an introductory presentation of the interview script with the specific themes, which would be discussed, was explained for the informants. The quality of their
answers increased since we informed the informants, through the telephone and by email, and made it possible for them to prepare for the interview.

The semi-structured interviews had a high level of trustworthiness since they were carefully conducted and where the majority were face-to-face, recorded and transcribed to eliminate misinterpretations (Eisenhardt & Graebner, 2007). The advantages we got from audio recording the interviews were that the recording allowed us as interviewers to focus on the listening and ask the right questions (Saunders et al., 2012, p.396). Since we could focus on the listening, we came up with additional questions to ask, which then could be replicated in the next interview if it was suitable. We could also listen to the interview again and get direct quotes and get the accurate answer. The two telephone interviews was also recorded through the telephone.

Before hand-in of this thesis, all the informants were given the possibility to read through the presentation of the findings in the interviews. They were also given the possibility to approve our presentation of the companies, and the informants.

3.4 Data analysis

The qualitative data processing and analysis consisted of comparisons and connections from the empirical findings with the extant literature. Since the interview guide was based on the work-model of the solution process, the coding of the transcriptions was categorized after the different factors in the model. The data has been coded and sometimes used under more than one critical factor. However, since the interviews were semi-structured and rather freely, a careful sorting was made in the material (Bryman & Bell, 2011, p. 586).

Awareness exists about difficulties in avoiding bias when interpreting the answers from the empirical investigation for example with the knowledge we gained through our research could affect the questions that we asked (Yin, 2009, p. 79). Further, the answers of the informants could also be affected for example, if their answers or the results in any sense could be a disadvantage for the participant ahead (Saunders et al. 2012, p.381). The data analysis was systematically assembled by the empirical investigation and theoretical concepts throughout the thesis, which is called an iterative process according to Bryman and Bell (2011, p.13). We worked abductively since it is suitable for the qualitative research. However, taking the abductive approach (Saunders et al., 2012, p.148) involved a risk since the data collection and
analysis could arise gradually over time. For instance, this resulted in a continuous revision of the factor during the study and resulted in a reduction of the factors, first chosen for the work-model.

### 3.5 Limitations

In descriptive studies it is needed to have a clarified picture over the phenomenon before collecting data (Saunders et al., 2012, p.171). Since we wanted to describe the solution process where there is a call for more research, it was an issue to get a clear picture before collecting data.

The empirical investigation could have been more fruitful if all the interviews were done face-to-face. However, it was not possible for all the investigated firms to do a face-to-face interview so the two telephone interviews and one questionnaire were our second and third best options.
4. Empirical result

4.1 Presentation of the sources

The companies investigated in this study differs in many ways. They vary in size; the smallest of the companies have a revenue that needs to be multiplied about 37000 times to reach the revenue of the biggest company. They also operate in complete different industries, and varies from being a manufacturer, to only service. Their views and how they conduct their solution strategy also differ between the companies. A more richer presentation of the different companies can be read in appendix A but a short presentation of the primary sources is here presented:

Source1 - Lena Petersson, Business Development Executive, Nordic Region
ISS Facility Management

Source2 - Bo-Lennart Jonasson, Regional Category Manager, Nordic Countries
Electrolux Professional Laundry

Source3 - Marcus Nilsson, Owner and Director
Mobic Mobile Communication

Source4 - Peter Sandberg, Branch Manager Nordic and DACH cluster
UTI Logistics

Source5 - Henrik Knobel, Application Technology Center Manager

Source6 - Björn Svensson, Manager Spot Welding
ABB Robotics

4.2 Initial conversation to interview

Before started talking about the actual factors and the connected questions there were an introductory discussion between the informant and the authors, where the two parties sat down and had a natural conversation. The authors explained what is included in their education and such things, whereas the informant could tell more about their role in the company, and the business they're operating in. These talks worked well to get a more relaxed
atmosphere, and an amount of trust were developed between the parties. Already in this stage the discussion led into solution and the informants start talking about their view of the solution concept.

During these discussions some insights were given about the informants general view on solution, and the way the concept were performed at the specific company. All the companies still sell their single products, or single services to customer, and in a similar manner between the companies they treat solution selling parallel with their single offerings.

Source1 says they offer all services in a property, so that their customer can focus, and be as effective as possible, on their core business (p1). Source3 (p1) says they are monitoring their market to see if there are any companies that is asking for a solution that is a bit special or odd, because when selling a solution that no one else can offer, there is better possibilities for higher margins, and a good chance for satisfied customers which also could renders into incremental sales. This reasoning pervades all interviews. There is clear signs that the companies chooses to offer solution to differentiate themselves to reduce competition and have bigger margin on their sales. Another argument to incorporate a solution selling strategy is to increase the volume of their sales by as stated by Source 6 (p2) to move the boundaries of their offerings into selling more services around their traditional sales. Source4 (p1-2) explain they try to be more adaptive to their customers than their competitors, and if their customers want to have them inhouse to take care of their complete transport (which is their core competence) solution that is not considered to be a problem.

4.3 Attracting stage
4.3.1 Factor 1. Market sensing
The establishments of new business opportunities is mainly initiated through two paths; firstly a RFQ (request for quotations), which is a business tender procedure, secondly an active search from the sales personnel. In the former case, the companies does not earn the possibility to be invited to such events without being established on the market within the specific industry, and have a well-known brand and good reputation (Source6 p3). State and municipality business is affected by the Swedish law on public tender procedure (LOU), where Source2 (p1) capture all these opportunities with their acknowledged tools. In the latter situation the sales staff at the investigated companies have their individual way of conducting the search. Usually in an independent manner and through following the markets by
traditional channels such as newspapers and internet. Source4 and Source2 also have an IT-system that allows them to search for activities in their area of industry.

Source1 and Source3 say they can find possible customers through contacts. In some cases the contacts can be initiated internally through offices in other parts of the world (Source4 p3). Source1 (p3) says that they are looking to find strategical bigger business, and have a search cycle for five years forward. Source5 (p4) have a big, established partner network that works parallel with their own sales department. Fairs was mentioned as a channel by Source7 (p1) who represents the customer side. When it comes to new built construction it is usually linked to an entrepreneur, were Source2 (p1) said “hopefully we already have a signed contract with them”. Traditional door knocking as sales method was repeatedly mentioned throughout the interviews, which Source2 (p1- 2) claims generates the best results. Commercial and advertisements were also mentioned, by Source3 (p1) who also emphasize on keeping the eyes and ears open to detect new possible opportunities (p1). Sales structure is mostly divided on segment, but also structured geographically. Bigger clients is getting more attention; in many cases through a specific key account organisation. The suppliers can also be contacted directly by the customers (Source1 p4; Source4 p5). Source1 (p4) says “it is a clear advantage to already have a relation established when contact is initiated with hopes on sales opportunities. Because, if a relationship is already established it is very difficult to say to a business partner that we do not want to work with you”.

There is also lots of research being done to learn more about the customers, conducted in different ways by the informants. Source1 says the firm could call the front desk at the company and ask them things about the organisation (p3), and also visit the scene to see what can be offered to this customer (p5). Source3 (p5) says “If relation is to be established, we must learn more about the customer”. Source3 (p1) also needs to learn about the best solutions possible on the market to offer to their customers. Knowledge about the customers is more than just the technical issues, Source1 (p5) also speaks of finding out the values of the potential customers, and what is important for them in addition to the core business.

4.3.2 Factor 2. Network partnering

The level and to what extent collaborations with other partners varied between the informants. It also varied where in the value chain the external partners were involved; if they were allowed to face the customers, if the supplier worked as an intermediary, or if the knowledge
of the customers where involved backoffice. Source4 (p1) who works within transportation do not own any of their vehicles, but relies instead of buying space for their cargo from external partners. Source1 has the same situation, they does not own anything (p2) but instead coordinates internal and external services to their customers. Source2 (p2) says it is an absolute prerequisite to work with partners because they cannot be best at everything. Source1 (p2-3) says that they can have ten different subcontractors, but also emphasizes on the importance of having most part of their offerings coming from the internal organization because they want better control of the process including quality, environmental concerns, responsiveness and customer interface. Source2 and Source5 who is in manufacturing also have partners further back in their value chain.

Source2 (p6) says they have external partners that do technical solutions for them that they buy pre packaged and branded for them. Source3 (p12) explains a situation where the firm did not have all the knowledge and capability to solve a specific technical part of the whole solution, so the firm needed to outsource this part, they then decided to set up their own tender procedure and invited possible contractors to solve their needs. This procedure is called an open innovation says Source2 who on a regular basis lets specialist subcontractors innovate solutions so that their competencies can gain both the subcontractors, the informant, and their customers. They buy the technics the subcontractor deliver instead of buying and internalise the company and then work close and intense with them (Source2 p6). This is to generate long-term relations, instead of being predators that buys these companies just to shut them down (p3).

Both Source2 and Source5 have certified partners to drive sales and integration. The partners are called excellence partners (Source2 p7) and integrators (Source5 p4) or certified value providers (p7), and can act closer to the market and customers. They are giving a thorough education (Source5 p4) and a also a certification (Source2 p7). Source5 (p4) says this gives them an enormous sales network. Source4 (p3) enhance on the possibilities to gain advantages of using their offices from other parts of the world. They could be entangled in a network and have partners and customers that could be used throughout other divisions in the firm. Source3 (p6) also speaks of the importance of having customers as references, and them acting as informal representatives because they are happy with the service provided. This has led to more business propositions from other potential customers. Source2 (p3) also talks
about that smaller firms, could on occasion, be internalized so that certain competencies or strategically network positions, for example closer to competitors could be gained.

4.4 Developing stage

4.4.1 Factor 3. Proposition

The process can be initiated by both the supplier and the customer as mentioned earlier (factor1). For the more comprehensive contracts it seems more common with a tender procedure initiated by the customer where a problem is defined, and possible suppliers are invited to bid and together with the customer come up with a solution to the problem. The process include two main stages. In the first stage in this procedure the supplier needs to respond to the checklist specified by the customer. At this level there is still many suppliers striving for the contract. Next stage is where the supplier have the possibility to give suggestions of creative solutions. This requires a more frequent interaction between the parties consisting of physical meetings and correspondence via both phone and e-mail. The supplying organization tries to find out the exact need of the customer. Their knowledge about the customer and experience of similar situations in previous events helps the supplier to form the offerings. According to Source1 (p7) in this stage the supplier can come with suggestions that improves the offering. These kinds of suggestions gives you a comparative advantage (p7). In this stage it is also vital to listen to the customer, and find out what they really do need in addition to what is being mentioned in the checklist outlined by the customer (Source3 p2). To gain this information it could be a tactical move to talk to the people at operational level that has more understanding of their actual daily needs (Source3 p6).

During the process the number of potential suppliers is constantly decreasing until the customer chooses the single supplier to deliver their solution. The supplying firms wants to avoid situations on where they stand head to head against other suppliers with only the price deciding on whether or not the deal gets closure. They want to differentiate themselves through smart solutions and therefore have better margins on their offerings (Source6 p8). In cases where the supplying organization through their sales personnel finds customer the solution process could be outlined without interference of competitors. This is according to Source1 (p4) very interesting, but it builds on established relations and personal references. In some cases the customer just makes orders of their services without a proper implementation (Source4 p5).
4.4.2 Factor 4. Personnel roles

During the whole solution process, there are different specialists and managers involved in the progress. How the organization around this process is formed varies a bit between the informants, and is to a high degree dependent on the size of the potential customer. When dealing with bigger customers there is usually a key account organization involved. The smallest projects involves only the single salesman, and the bigger organization involves five to seven people with different expertise, where there is first a responsible with a title such as sales manager, project manager, or key account manager for the bigger customers. It is also important to have operative staff included in the process (Source1 p7; Source4 p5). Then, there is usually different back office functions such as calculations, and technical skill support. For the biggest customers some of the informants uses an executive sponsor; i.e. a person from top management, to increase their management level (Source4 p5; Source1 p4).

Source1 (p7) is adaptive in their setting of the project group dependent on how the counterpart forms their group. The firm talks about the importance in being able to talk to customer representative in a appealing way to them. If the customer for example has a person interested in human resources, or a person only looking at cost-efficiency, they also need to involve people in the organization to match these peoples wants (Source1 p7). The smallest firm (Source3 p7) among the informants do not have these kinds of resources, so the firm takes care of the whole process alone, including calculations, technical skills, and the social interface. They points out the latter demands high skills on the personnel, because of all the different people the firm interacts with in the process (p8).

Source2 (p10) and Source4 (p6) have pre calculated fixed pricing on their core service so sales organisation do not need to calculate, but only focus on relationships and sales. Source2 (p10) also points out the importance of technical skills and administrative ability for their salesmen, and Source1 (p1) on having persons in front being good at social interaction and to make good impression on the customer. Source2 (p10) explains the importance of having sales representatives involved in the whole process and to follow a customer over time, because this leads to more competent and responsible salesmen. Both Source1 (p10) and Source4 (p10) state that the staff working in the organization is the most important factor to succeed as a company.
4.4.3 Factor 5. Development cost

When working with solutions, there are challenges in keeping track of time and resources invested in a specific process. Especially, since sometimes the solutions offered is more customer tailored, and sometimes more of a best practise solution, without having the exact calculations for closure rate, or time invested in a customer. Source6 (p5) tells their business needs to be dimensioned and that they have a budgeted turnover they need to reach, and within this budget, there is room for different overhead cost. Source1 (p8) is more strict and explains they do not have any air in their calculations to elaborate on. Pricing for a detail can differ between cities because of circumstances in just that specific market, which needs to be considered in the calculations.

Source3 (p8) reason and compare customers where the process is in the consolidating stage to other potential customers, which at the moment is in the attracting stage. Source3 explains that they are investing lots of time on meetings and on different persuasion attempts, in the attracting stage, with the risk of all time invested to be just a sunk cost. On the other hand, if the customer goes from the attracting stage and reach the consolidating stage, it gives the firm much pleasure, with satisfied a customer, and with high margin incremental sales. Source3 does not keep track of time invested through any system and neither does the supplying firm think there is any point to do exact calculation and allocate losses on one customer, to other cases of successful businesses (p9). Source3 further talks of the importance on judging from case to case how much time to invest in a customer or when to give it up (p8). As explained by Source6 (p5) “it’s a matter of swings and carousels”.

4.4.4 Factor 6. Innovation

Innovation can be made in different phases of the solution cycle, such as internally in production, from external partners, from operative personnel, in interaction with the customer, or directly from the customers (Source2 p7). Usually when a customer invites to a RFQ they have done a thorough work and already been innovative. And in this stage they only want their customers to answer on the already innovative protocol. They have their definitions of their problem. Source6 (p8) says that many of their customer have their own standards and philosophies which forces the supplier to adapt into their exact proposal. Source3 (p2) solves this dilemma by talking to relevant people at the customer firm to find out in depth what they need and be really innovative and make suggestions on solutions the customers did not knew existed. Source2 (p8) says that the customer rarely has the ability to really know what they
exactly needs, but instead this is where the supplier step in show that they are experts. That is why the firm have chosen to predefine their offerings, and the customer is to decide whether or not to do a purchase. Source6 (p8) says that they are trying to profile themselves into having more readymade concept to promote for their customers. Source3 (p7) also states that operative staff on both the supplier and customer side helps out in to make details on all levels more effective. Lastly, Source1 (p9) claimed the importance of having people at the operational level, who are being able to innovative daily in their business.

4.4.5 Factor 7. Flexibility

Our core business is important, but to make the customer stay longer, services needs to be provided around it, says Source4 (p6). Source6 (p2) talks about their aim to expand their area of delivery. They want to understand their industry, and in what context their products is used in, and then deliver more services around their core business that are being done by others today, and by doing so become more attractive to their customers. The firm could then have pre developed complete solutions, to offer, which for example could be rental agreements, leasing and financial help. Important for Source6 is also the provision of support for the delivered products that makes the customer feel safe after they have started using the products (p7).

Source 3 (p4) does not think that all customers have the exact same need. The firm says that a broad concept could be offered but without excellence it is different to sell it to customers. “Instead we try to listen to the exact needs of the customer and be foreseeing about upcoming needs so solutions to these upcoming needs can be delivered by us” (Source3 p4). Being foreseeing is also mentioned by Source6 (p8), and the firm explains that their knowledge and ability to be foreseeing could have such an impact so that it could become praxis for a whole industry. If the firm succeed with that, they can copy their solutions to many other customers. Source4 (p6) have an IT-system they use to integrate their customers administrative system with theirs, which gives them the possibility to take over some of the administrative work for their customers.

Source3 (p11) explains as long as they feel secure in having the knowledge about a service, it is up to the customer how they want the service outlined. If a customer wants a specific service that does not exist today, then the firm just have to build one (p5). And if the customer wants the firm to have a person to support them, Source3 will see what they can do about it.
On the contrary, Source2 (p5) is reasoning by saying that it would take a lot before they start to take care of the whole function with staffing and all of that, around their products. What is being provided from the firm are within their solution concepts, and it is what is necessary to make the distribution and logistic around their products, which is needed to make the process to work (p8). Source2 says that if a customer would want staffing for the function, there is other facility management companies which could do that.

4.4.6 Factor 8. Information Communication Technology

ICT is being used by all the informants, but in different areas. Source3 offer ICT as their core business but does not use it themselves, in their own business operations. Source4 use their high level of knowledge in ICT as a mean to lock in their customers into a relationship. By integrating their systems with their customers system, it smoothes their communications and thereby also their cooperations. Furthermore, invoices and other administrative services can be managed by this system (p7). And also, keeping track of the progress of their services so the customer have control and do not need to talk to the operational staff from the supplier firm directly (p8). Source1 also have a well-developed ICT system that can be integrated and communicated to other systems. If payed for, this system can be used by the customers (p9). As similar with the ICT-system used by Source4, the system Source1 uses is also functional within administrative services, and to keep logg on the daily operations.

Source3 (p1) also talks about system integrations. The firm provided a navigations solution to a big customer, and in the system they integrated much more functions, and everything was integrated into the customers existing ICT services. Source2 and Source5 who operates in manufacturing have a technological product as a base for their solution. Within their service provision, technical support and repairs is a vital mean to make their customers happy with their provision. ICT system are used by both these companies to communicate automatically when support is needed in their products. Source2 (p3) says their serviceman gets a telephone message from the product when repair is needed, and he can be there before the customer even knows anything is wrong. Source2 also needs ICT for other functions within their area of delivery. Source2 continues explaining they don not have an internal ICT system to keep logg and track over customers and solutions delivered (p9) whilst Source5 on the other hand says “this is the most important thing in the company so that knowledge and experiences can be shared throughout the offices in different countries (p16)”. 

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4.5 Consolidating stage

4.5.1 Factor 9. Incremental sales

The informants are all agree upon that incremental sales are important and something they actively work with. Coherently they say this type of sales are easier due to a relationship already is established. Frequent contact and dialogue with the customer is a large part of it, which aims to understand the customer’s needs and provide service and support at the same time. “We try to understand their needs and then we offer them our range of different offers to help and support our customers that have our products and solutions” says Source6 (p9) The intention with a frequent contact is according to many informants to make sure the customer is satisfied, stay up to date with possible changes in the customers organisation as well as to be present in order to discover new needs and identify opportunities that might arise. All those things are regarded to lead to incremental sales. This can be done for example through follow up meetings for products where there is possibilities to see if they need more help or have a need, according to (Source4 p9). This is also a way of developing the business with the customer, according to Source2 (p3) and as he continues “there’s lots of business around our core product”. In additional sales much is dependent on the salesperson; for instance to judge the timing for a visit, gain understanding of the customer needs and identify possibilities (Source2 p12; Source6 p9). The timing of the visits are essential, if a customer is all satisfied it is usual that three years can pass before a new visits, further Source2 (p12) even mention that it can be up to a ten year period before the customer needs a visit, and that is something for the salesperson to decide.

4.5.2 Factor 10. Knowledge sharing

Source4 (p3) argues that if you have information about the customer, received from a person internally in the organisation, the first dialogue with a customer gets easier. Source1 (p12) talks about possibilities of using best practice in different segments, and further (Source2 p9-10) values the exchange of knowledge between employees which are discussions that can lead to solutions of difficult problems and create more value than they are aware of “The intellectual discussion generate much more added value than most of the participant realize.” (Source2 p9-10). Source2 (p9) reasons around the importance of a system that allows information to be shared between the offices, and admits that because not having a system to secure this, there’s a huge leakage of knowledge disappearing when a salesman leaves the organisation.
4.5.3 Factor 11. Long term

To create and contain a long term relationship is to a high degree dependent on the person who have the contact with the customer. According to Source4 (p6) it is preferable to have someone from the operational department that have everyday contact with the customer, already in the implementing phase. The daily communication is essential and also works as a way to get a closer relationship to the customer, since if the communication works the customer know where to turn and get a positive approach from the firm. This includes directions regarding responsiveness, for example how long time it takes before answering the phone or e-mail (p9).

Another important contact for keeping the customer satisfied is the service and follow-up during the years in between two purchase, which sometimes can be up to ten years. Especially when the firms have a full service contract with the customer, the possibility of keeping a relation with the customer increase and also ability to make sure the customer is satisfied. Full service means service at least every year, which creates an opportunity for the service person to works as a “front face” for the firm, he can keep relationships alive and maintain the firm’s reputation and then the likelihood to keep the customer is extremely high (Source2 p11).

A method used by Source2 (p10) is to give the salesperson more responsibility, which naturally leads to that he is thinking more long term and make sure to get things right from start. Source2 (p10) says that “it is only the salesperson who have met the customer, talked to the customer and thereby noted what the customer need”, which is also described as having a decreased effect on the failure rate. Another way of creating a long term relationship to the customer is to integrate the IT-system into the customers operations. The IT integration is made without charging the customer as a mean to keep the customer in the long run according to Source4 (p7). Another way also mentioned by Source4 (p9), to keep the customer, was to take out the customer on activities such as Christmas table and midsummer lunch for instance to create a more personal relationship.
5. Analysis

5.1 Attracting stage

5.1.1 Factor 1. Market sensing

In the early stage of the solution process, the investigated supplying firms want to establish contacts with potential customers, which is naturally a prerequisite for business to be conducted. The supplying firm, Source1, tries to early build a relationship to lock their customer into a relationship. Building relationships directly after have scanned the market and found potential customer, in the beginning of the solution process, enhances Tuli et al. (2007) statement, that relational processes are crucial for the supplier already in this early stage.

In line with (Ballantyne et al., 2011) value proposition could also could come from the customers, which Source7, but also the rest of the empirical investigation, pointed out. The Sources and (Ballantyne et al., 2011) were in agreement saying that the initiator for the establishment of the contact could come from both the customer and the supplier. Therefore, if the customer could be the initiator of the created solution, the firm do not want to stay behind, and loose power of the solution development, and needs to be closer. Source1 and 3 tries are on the right way when they try to be close to their customers and understand their customers deeply as Nordin et al. (2011) put it.

Furthermore, Kindström and Kowalkowski (2009) say that system integrators, contractors and consultants are actors that could have a huge impact on the specification of larger contracts. These actors also have close customer contracts. This is accordance with how Source2 and Source5-6 have their sales partner network, as their organization structure to get closer to their customers. Kindström and Kowalkowski (2009) says that to knowing the market, involves a deep research of the customers, competitors and the internal organization. This is described in detail in the study and highlighted by Source3 as “the most important detail to succeed within their business”. Therefore, it is crucial for the supplier to scan not just the customers, but also other actors in the network.

Tuli et al. (2007) found out that customers see it as vital for the supplier to ask right questions and to talk to many stakeholders in the customer company, which are enhanced by the investigated Sources. Furthermore, the supplier also needs according to Tuli et al. (2007) to understand the customer’s wider business needs, including the employee situation, the
business model, the internal operating processes, which Source1 said to be vital in the early stage of the solution.

In essence: Already in the market sensing stage, after scanning the market, the suppliers try to lock their customers in a relationship, shown by the empirical investigation. Furthermore, the market sensing stage showed that the customer also could be the actor who initiate the contact for solution, which demands the supplying firm to stay close to their customer, to see what their customers future needs are. And also so the supplier does not lose too much power in the solution making. Also shown it is vital for the supplier to sense not just the customer, but also other actors, to stay close to their customers.

5.1.2 Factor 2. Network partnering

The informants said that they use external partners, although by different extent, to coordinate their offered solution. All investigated supplying firms use a hybrid approach, but with different variations of externalisation and internalisation. As Kowalkowski et al. (2011) say, the investigated firms could probably see possible benefits by internalizing and using external partners to deliver their solutions. Using the hybrid approach, the question arise of how much the firm should either internalise or externalise their parts in the solution. The firms externalise and collaborate with other partners since they do not have the knowledge and capabilities (Source3), could see possible benefits (Source4), not the technique (Source2) or are too far away from the market and their customers (source2 and 5). This is in line with what Biggeman et al. (2013) states, that the firms see a competitive advantage by getting access to others core competencies by conjunct and coordinate with each other. It is also in agreement, with Matthysen and Vandenbempt (2008), who say when implementing solutions the firm relies on their downstream partners to cooperate. The mentioned Sources are also in accordance with Axelsson and Wynstra (2002), meaning that they externalise since they do not have enough capabilities, capacity and the cost efficiency to completely internalise. Therefore, according to Matthsens et al. (2006) and by investigating the firms network, it is necessary to sense partners and have the knowledge to build partnership (Cova & Salle, 2008) to be able to develop solutions.

The firm, Source1, could for example have ten different subcontractors, but they also emphasis having most parts of their offering internally. By having most parts internally they can have more control of the process involving quality, environmental concerns,
responsiveness and customer interface. Source1 uses a hybrid arrangement, with weight on internalization, probably since the firm could see, according to Kowalkowski et al. (2011), advantages of the internalisation. By having most of their parts internally, Source1 can focus on their core services in-house and having their low-margin non-core services externally. Also, Source2 internalize some smaller firms, for gaining competencies and a better strategical network position. Reason for Source1 to avoid externalising too much could, according to Kowalkowski et al. (2011), be that the firm runs the risk of making the intermediary most profitable which has the closest contact with the customer. However, to internalize demands time and resources and could imply a future risk of conflicts in the channel according to Kowalkowski et al. (2011). Therefore, for Source4 it could be seen as more effective to have lots of service partners, where the firm does not own anything. However, the question arises what is the best fit for each firm. The answer is as Kowalkowski et al. (2011) says, the best choice is connected to the contingency approach. Meaning that solution providers have to adjust to different market-firm-offering-specific factors and find what is the best fit for them.

In addition, Source2 say they put value on long-term relations as well as Source4 and 5 says that their partners give them an enormous network. Therefore, as Biggemann et al. (2013) claim, the managers need to be aware of the network-effect and ever changing forces (Cantù et al., 2012) when starting developing solutions. Lastly, Source3 said that it was also important to have customers as informal representatives for the firms services, which could lead to business propositions from the customers. Therefore, as Anderson et al. (2007) state, it is also important to be aware of the customers' whole business processes and as Alam (2006) says, to interact with customers to be able to service innovate.

In essence: The balance between internalization and externalization is a crucial question for the supplying firm, since both arrangements comes with both pros and cons. All of the investigated firms externalise but with different degrees, and they all use a hybrid approach. Its shown that there is no best way to make this arrangement according to Kowalkowski et al. (2011), its a matter of best fit. However, some points the firm should be aware of is that it is important as Source1 said, to have the control over the whole picture. Also that the firm does not lose the daily customer contact, which is important for the interaction in the solution, which facilities internalization.
5.2 Developing stage

5.2.1 Factor 3. Proposition

As stated by Vargo and Lusch (2004), interaction is key in the process of collaboration and learning so that adaptation can be made that suits the customer. Throughout the whole solution process, subsequently also during the developing stage, the interaction needs to function between the two parties so that services can be outlined to fit the exact needs of the customer. This was also found out in the interviews, where for example Source3 highlights the importance of interacting with different persons at the customer firm so that in depth knowledge could be gained of what they exactly needed.

Source1 takes it one step further and adapts their organization during the process so that the people from their own organization have a perfect fit with the people from their customers organization. So understanding of each others reasoning comes naturally, and the interaction thereby encounters less confusion. In these examples the proposition is being made through interaction to find out the exact needs of the customer. Source2 differs from this reasoning when stating that customers do not always know what they need, and therefore they, as experts, needs to tell the customer what needs to be done. So, the involvement of the customer firms to create value differ between the investigated firms. Even though it is a co-creational process, the level, and to what extent the customer is participating in the offered proposition differs depending on the supplying firms way of doing business.

In essence: Interaction is key in the proposition making and needs to work between the two parties in the solution. This is enhanced by both the empirical investigation and the theory. Source1 try to adopt its offerings as much as possible and listen to their customers proposition, whilst Source2 differ and does not always try to adapt to the customer.

5.2.2 Factor 4. Personnel roles

Kindström et al. (2013) state that the solution process involves skills and roles to interact with the customer and that there is a strong demand on the front-line to have competencies in building relationships. This is something that our informants coherently put emphasis on. Source1 (p1) points out the importance of having persons in front being good at social interaction and to make a good impression on the customer. A good offering is much dependent on the supervisor willingness to handle its personnel in a professional way, so they get satisfied, which equals more customers and
which in the end result in more money to the firm. According to Source3 solution is a lot about social competence, since it is about people, handle the customers and have lectures for the management.

Also, Gummesson (1991) says that the personnel in a firm, who interacts with the customer, has an important role as part-time marketers. This is also emphasized by our informants regarding the operative staff that makes the daily interface after the solution is already developed. Source4 says this needs to work smoothly to retain customers, therefore there are directives outlined for the staff on how to act towards their customers in terms of, for example, time of response on a customer query. Besides interaction skills, Rothenburg (2007) states that the personnel needs technical skills, which includes a deep understanding of the customer’s processes, which also is consistent through the interviews. Source3 has, as mentioned earlier, already pointed out this ability as the single most important in the solution process, and Source2 (p10) also points out the importance of technical skills and administrative ability of their salesmen. Both Source4 and Source1 says “their personnel's ability to handle their customers is the most important ability in this process”.

**In essence: Both Kindström et al. (2013) and the informants put weight on the personnel who meets the customer have strong social and relationship skills, since solutions is based on interaction. Strong relationship skills equal in a better offering, more customers and in the end more money (Source1). But demanded from the personnel is also to have technical skills, which is the most crucial skill according to Source3. While Source4 still put more emphasis on the social interactive skill.**

### 5.2.3 Factor 5. Development cost

The data collected during the interviews gave insight that pointing towards an unison awareness of an increased risk that comes with a solution selling strategy compared with selling single services or goods. Examples of customer solutions challenges, according to Biggemann et al. (2013), are pricing and intellectual property rights disputes; the supplier wants to own the solution so the firm could take it to other markets. None of the informants mentioned anything about the latter, the informants in this study seemed to take it for granted that the property rights of the solution outlined were theirs. They had awareness of their competitors and that they did the same or similar solutions. But the solution outlined for a customer was theirs to reuse to the extent there was a demand for it.
Pricing on the other hand was discussed through most of the interviews. The firms do not want to fall into a price war and an intense competition with others. They were also aware of the increased risk when selling solution, and that they are taking over a risk from the customers because the customers do not need to buy single products and services and coordinate them themselves (Kowalkowski et al. 2012), instead the coordination, and therefore also a part of the risk, is being made by the supplier. This coordination, and the investment in resources it takes, is a bit of a challenge, and the reasoning from the informants can be interpreted as there is an absence of managerial exact directives, and an absence of support to have control over the development cost. Biggemann et al. (2013) is also a bit vague in his reasoning around this when they state the suppliers seek to charge the customer of the development cost as much as possible.

In essence: Selling solutions seems to come with an increased investment risk according to the informants. Furthermore, intellectual property rights, meaning who owns the solution, are a challenge according to Biggeman et al. (2013). However in contrast, based from the informants answers, it seemed that this was not that a big challenge since they take it for granted that they owned the solution and could reuse it however they wanted. Pricing was on the other hand more discussed, and they do not want to fall into a price war, therefore we assume that the suppliers try to build relationships to avoid lowering their prices. In overall there seems to be a lack enthusiasm around the development cost topic. At the same time, the literature review showed no concrete way on how to handle the development costs.

5.2.4 Factor 6. Innovation

According to Source2 the customers rarely know what they exactly need and that the firm steps in to show that they are experts. Source3 says that they try to be really innovative and make suggestions on solutions the customers did not know existed. This is in accordance with Pagh and Cooper (1998), Lapierre (1997), Sawhney (2006) and Tuli et al. (2007) saying that forming solutions involves a pre thinking of customers future needs. Also, that customer could have a limited understanding of what its needs are and that both the customer and supplier have an important role in the discovery process. Therefore, as Source2 said, the supplier could diagnose their customers’ problems and needs. The firm also says that its external partners are usually innovating technical solutions for the firm, therefore according to Lusch et al. (2010) the firm should sense external technology opportunities. Furthermore,
Source2 said that they usually have done all the innovate work before the customer gets invited and have their predefined offering, which also Source6 says when they try to have ready made concepts for their customers. However, in contrast Gallouj and Weinstein (1997) states that the service innovation are usually customer driven, which according to Zaltman et al. (1973) are innovations which cannot be traditionally planned or managed. In line with this, Source6 is trying to adapt to their customers standards.

Anyhow, there is a third option to service innovate, which is, according to Edvardsson et al. (2006) and Kindström et al. (2013), a collaborative and interactive approach, where the customer and supplier co-develops the solution. The firm should therefore be aiming for reaching a capability for interaction, to enhance their customer bonding and as Mannervik and Ramirez (2006) say, the interaction with the customer gives the company the chance to sense new innovation opportunities.

In accordance with the interactive approach, Source3 is talking to relevant people at their customers firm to find out in depth what the needs are. In consensus, Kowalkowski et al. (2012) states that firms in the interaction process are better able on an ad-hoc basis, to seize innovation opportunities.

Lastly, Source2 said that innovation could be made in different phases of the solution process, such as internally in the production, from external partners, from operative personnel, in the interaction with the customer and directly from the customers. This is in line with, Gallouj and Weinstein (1997) De Jong and Vermeulen (2003).

In essence: Mostly of the innovation seems to come from the supplier in Source2, which goes inline with Pagh and Cooper (1998), Lapierre (1997), Sawhney (2006) and Tuli et al. (2007). Source3 and 6 seems to innovate but at the same time trying to listen to its customer, who by Gallouj and Weinstein (1997) and Zaltman et al. (1973) are doing most of the innovation work. There is a middle way, enhanced by most of the research in the study, saying that both the supplier and the customer are innovating together through interaction, which also Source3 and 6 are doing but through different extent.
2.2.5 Factor 7. Flexibility

All the informants want to provide services around their core business but to varying degree. Source3 tries to listen and meet their customer specific wants and needs. Source3 could therefore be connected to Vargo and Lusch (2004), who explain that when the supplying organization is willing to listen to the exact demands of the customer, the firm is flexible and customer centric to meet those needs. Source3 competes by being flexible and customizing their offered solutions, which also is in consensus with Tuli et al. (2007) and Biggemann et al. (2013) who say that the firm competes by customizing and offering unique offerings, which meet, the customer’s need. The firms could, by the customization approach also as Sundin and Bras (2005) and Nordin et al. (2011) points out, come closer to their customers by meeting their exact demands.

In contrast, Source6, has pre developed complete solutions to offer. They are also trying to replicate their solutions to many of their customers. Source2 is also saying that it would take a lot before they start to take care of the whole function, for example with staffing, around their products. The firms says that if a customer would want staffing for the function there is other facility management companies they can use. Source2 and 6 show signs of less customization and flexibility which could be motivated by Johnson and Selnes (2004) argument, who say that customised offerings also involve the risk of higher costs since customization demands for customer-specific knowledge, dedicated resources, and the need to regulate the offering to continuously changing situations and needs. In agreement according to Nordin et al. (2011), the strategic risk increases if the customization is restricted to the first customer, which then has to be modified which is time consuming and expensive since the offering have to be unique and standard resources and parts cannot be used. Other factors, for Source2 and Source6 wanting to standardize could be that their customers, according Nordin et al. (2011) are seeking standardized solutions to not get locked in to a relationship with them.

In essence: The firm according to Kindström and Kowalkowski (2009), needs to have the skill to balance between standardization and customization. Solutions, also require that the firm customizes and is flexible when it starts out with its first customers. However, the customised offerings could be more or less standardised over time according to Nordin et al. (2011) for mostly financial reasons.
5.2.6 Factor 8. Information communication technology

ICT was used by all the informants, but to different extent, and also for different reasons. Biggemann et al. (2013) say that developing solutions demands coordination and interaction of activities, not just between but also within organizations, and ICT makes it possible for emerging service processes. Interpreting data from our informants showed this to be true. Source4 used it to facilitate administrative communication and to automate support services. Source2 and Source5 also used it to automate support services by communicating to the support staff when to intervene to do repairs on their products. Source3 has ICT as their core business so he help all his customers with services around this area. Source1, Source4 and Source5 use it for internal communication which according to Kowalkowski et al. (2011) is a mean to improve intra-firm collaborations. Kindström et al. (2013) are reasoning around what interfaces there are between local and central service units and between its functions. The knowledge level of ICT varied between the informants, and what one informant said they were lacking (Source2), another informant (Source5) said their most important separate function in their firm was their ability to share knowledge between the divisions, and that ICT was a prerequisite for this function.

In essence: ICT is seen as vital for solutions since both the theory and the informants pointed out that ICT makes it possible to coordinate activities and enhance the communication and interaction within the firm.

5.3 Consolidating stage

5.3.1 Factor 9. Incremental sales

All the informants said that incremental sales, is important and something they actively work with, which is easier when the relationship is already established. This goes well together with Kindström and Kowalkowski (2009) who says that industrial services are generally added when the product deal is done. They are not managed strategically but developed ad hoc, meaning that the industrial service sale is developed to fit just for the specific solution. According to the informants, additional sales requires’ frequent contact and dialogue, to partly identify new needs and opportunities that might arise. Related to this, Kowalkowski et al. (2012) say that service innovation is seized in an ad hoc and less formal manner, and that a successful service solution strategy involves continuous recalibration of opportunities, which the informants talked about.
Kindström et al. (2013) say that selling more services drives product sales and companies rarely emphasize how to take tangible actions on how to commercialize, and scale up to sell their new services. However, a concrete action could be to have follow up meetings as Source4 has done, where there are possibilities to see if the customer have a need. Source2 and Source6 emphasize on the importance of the interval in between the follow up meetings since additional sales are much dependent on the salespersons understanding of the customer needs and his or her ability to identify opportunities.

In essence: Incremental sales are important according to all the informants which is in agreement with Kindström and Kowalkowski (2009). It requires frequent contact, dialogue and recalibration of opportunities. However, Kindström et al. (2013) say that firms do not take the actions to sell more, while the informants show some sign but not really powerful signs of actions, they take to sell incrementally more.

5.3.2 Factor 10. Knowledge sharing

Source4 says that if you receive information about the customer internally, the dialogue gets easier. Source2 values the exchange of knowledge between employees and the intellectual discussion generates much value. This confirms Biggeman et al. (2013), who says that solution demands coordination and interaction within the firm. By knowledge sharing internally, like Source4 and Source2 are doing, the firms are as Prahalad and Hamel (1990) states; learning collectively, which is a core competence of the two firms.

However, Source2 talked about the vitality of a system that allows information to be shared between the offices, and admits that because they are not having a system to secure this, there is a huge leakage of knowledge disappearing when a salesman leaves the organisation. This could therefore hinder the firm from learning from its earlier service activities and reuse components and by that make it more difficult for future exploitation initiatives (Davies et al., 2006). Since Source2 does not have an information system within the firm, it can hinder them from identifying services in one area and offer it to a larger customer base in another area (Matthyssens et al., 2006). “The ability to share knowledge between divisions in the firm is the most important part” according to Source5.
In essence: Both the informants and according to the theory knowledge sharing between internally makes generates much value by learning collectively which showed to be a core competence and crucial for the firm offering solutions. Source2 knowledge sharing does seems to lack and therefore valuable knowledge are constantly disappearing, which otherwise could be a competitive advantage for the firm, by reusing the knowledge from one customer to another.

5.3.3 Factor 11. Long term perspective

Logically, as the empirical investigation pointed out, it is dependent on the person who has the contact with the customer, to create and contain a long term relationship. To have someone from the operational department (Source4) is preferable since the daily communication is essential and works as a way to get closer relationships to the customer. Source2 says that a method to keep customers long term is to give the salesperson more responsibility, since the salesperson talks to the customer and knows the needs. In line with this, Tuli et al. (2007) says that requirement definition and post deployment support is important in relational process that customers consider to be important. Further, to have personnel working close to customers to build up long term relationship favours internalisation according to Kowalkowski et al., (2011), since the externalisation could hinder the firm getting close to their customers.

According to Source2 full service contract with the customer, service every year, is a way to keep a relationship. Also, integrating IT-systems into customers could work as mean to keep the customer (Source4), or to take out the customers on events to create personal relationship is another way to go. The mentioned Sources are on the right path, since Kowalkowski et al. (2011) says that key factor for a service company offering solutions is to strengthen the customer relationship and to make the customer a strategic business partner. The mentioned Sources activities are also going deeper as Narver and Slater (1990) say, than just acquiring information about the customers which is important in customer centric approach, which a solution is.

To generate long term relationships Kindström and Kowalkowski (2009) mention that inexpensive manufactured components, could result in lower prices, however this typically leads to lower quality, which in the end will lead to more frequent maintenance and reparation. In the long run it will result in a worse relationship with the customers. Source2
invests in high quality and wants to have stable high quality products, which does not lead to frequent maintenance and reparation, to minimize their costs, both financial costs, and as we see here, relationship costs. Source2’s focus on quality and their products are built to remain stable, with little maintenance service, over many years. According to Rothenburg (2007) this leads to the customer using less material and by that reducing their costs and at the same time benefitting the environment.

*In essence: The empirical investigation pointed out that the personnel who meets the customer have a crucial part in creating long term relationships, which favors internalization according to Kowalkowski et al. (2011). ICT tools, take out customer on events and focus on quality products are some methods the supplier could use to build long term relationships.*
6. Conclusion

6.1 Concluding discussion about the characteristics of the critical factors

The conclusion from the critical factor *market sensing* in the *attracting stage* are to build relationship with the customer but also with other actors on the market. The supplying firm also needs to be aware of that it is the customer who could initiate the contact, and therefore it is crucial to stay close to the customer to gain knowledge about the customers future needs. The conclusion drawn from the *network partner* factor is that it depends on the business situation, to what degree the firm should internalize or externalize. However, to have control and to have a good customer contact seemed crucial for the supplying firm, which therefore favors internalization in a solution context, where the interaction is prominent.

In the next *developing stage* the critical factor *proposition* concludes that the supplier and the customer are through the interaction coming up with the proposition together, although to different extent. It is therefore crucial that the personnel have interactive social skills which the critical factor *personnel roles* concluded when selling solutions. Also in the critical factor *development costs* the conclusion could be drawn that suppliers try to build relationships to avoid lowering their prices and not fall into a price war, thereby increase the margins. Overall, the supplier seemed to lack the control of the development costs, which should be a point for improvement in able to have less sunk costs. Moving to *innovation*, the study concludes that both the supplier and the customer are innovating together through interaction. For the supplying firm to make any money on the solution, the firm needs to be *flexible* and customize in the beginning and after a while standardize the solution and take the solution to other markets. In that context *ICT* plays it parts since enhances the interaction, communication and coordination of activities within the firm. *Knowledge sharing* internally in the *consolidating stage* are therefore a core competence, since the firm could reuse the knowledge from one customer and apply the knowledge on another customer. *Incremental sales* showed to be of great importance, and that it is built lots of interaction with the customer. However, there was some lack of powerful signs from both the theory and the informants on how to sell more, even if some advice was given. The most important for the critical factor *long term perspective*, seemed to be the personnel who meets the customer daily.
The purpose of a solution is to differentiate the firm from other competitors. The study concludes that the investigated firms’ do not want to be compared with others, since they then could fall into a price war and an intense competition. They also do not want to hand over too much power to their customer and let them come up with the whole outline of the offering, since the firm could in that way easily be compared with other competitors. This is a bit contradictory to Vargo and Lusch (2004) and Grönroos (2011) who say that the customer is the central player in the value-creation; therefore the firm needs to listen and adapt to its customer. Therefore, the companies are trying to be innovative and differentiate themselves in a smart way so that customers are not just looking for the price, instead of what they could gain from the solution. However, if the supplying firm is not adapting to its customer that much, it could result in a less functioning interaction, which could lead to that the customer does not choose the supplier the next time. Since the supplier did not meet the customers specific needs which is of large importance in solutions.

Another challenge seems be to keep track of the development costs and how the costs should be spread out from the projects, which does not generate any income since they of any reason are called off. Furthermore, an important factor for the investigated firms’ seems to be to have the right personnel which favours for more internalization in positions interfacing the customer which also favours long term relationships. A deep understanding of the customers demands and needs is also a crucial ability which is built of intense interaction, which further enhances service innovation. Lastly, the firms ability to spread knowledge internally and learn among its division and reuse that knowledge into other solutions is vital for succeeding when selling solutions. ICT makes it possible to coordinate and interact within the firm so the organization can reuse the knowledge. Reusing the knowledge and standardizing seems to be a crucial part for the firm to make money of all the initially invested development costs.

Most of the critical factors points at the importance of interaction. Firstly in the *market sensing* factor, the firm tries to be close to their customer in order to build relationships, which is built on interaction. In the *network partners* factor, it shown that interaction with the customer is key in the internalization approach. The *proposition* is created from a interactive nature, as well as the *personnel roles*, where interactive skills are necessary. Also, the *innovation* happens through interaction and interaction is vital for *knowledge sharing* in the firm. *Incremental sales* is built on interaction and the long term perspective demands personnel who interacts with the customer.
6.2 The most important critical factors

After a thoroughly made analysis, conclusions can be made that the informants explicitly has highlighted the following as the most prominent critical factors:

- **Personnel roles**
  Good staff is stated by Source1 and Source4 as the most important factor.

- **Market sensing**
  Knowledge and understanding of the exact needs of the customer is pointed out as the single most important factor by Source3 and Source6

- **Knowledge sharing**
  Having the ability to share knowledge between the divisions. Learn from one event, and pass on all the knowledge gained to other similar situations is the most important factor according to Source5

- **Long term perspective**
  Source2 states that relations is extremely important, “that is the only thing that matters” (p2).

This study showed these mentioned factors to be seen as the most critical for the solution process. However, we conclude that in accordance with the contingency approach the critical factors will always be based on the specific business situation, meaning that the critical factors will be of different importance based on the firms situation.

6.3 Contributions

The call from researchers for more studies on the solution process is hereby answered. This study gives contributions to both researchers, and practitioners. First of all, the solution process is mapped in a comprehensive manner. So both practitioners and researchers can gain insight of how the solution process between a supplier and a customer could be outlined. The solution process model consisting of the three stages, along with the critical factors divided to each stage should give a clear overview of the process.
The managerial implications for practitioners, is that this paper should not be seen as an exact template to follow in detail when managing a solution process, but instead as an example of how the process were outlined for these specific companies in their specific context. And use this mapping with good judgment to see how the information in this thesis can work as guidance and support in other solution processes.

The theoretical implications for researchers at various levels, is that this thesis should more be seen as a complement to extant research on the subject. There are some research being done on the solution process, and this thesis aggregated with the extant literature, along with possible future research will hopefully start forming a whole which will make the picture of the solution process clearer.

6.4 Further research
This study is very broad in its nature, and investigates a process that includes many different elements and departments of a company. The process can be studied from different angles, and needs not be as comprehensive as this study has been. By studying the whole process like it has been done in this study, means it is only scratching the surface. To gain deeper knowledge of the different elements of the process, it would probably be advantageous to not focus on the whole process, but instead narrow down and focus on a more specific part of the process. For example, there seems to be lack of concrete ways in the research on how to handle the development costs.

To describe the solution process with a dynamic, longitudinal model (such as the one used in this study) has been made by others before us, which seems to work well, so using such model for future research in the subject is a good base. The breakdown of factors can possibly be done in other ways dependent on how the researcher chooses to.
List of references


Appendix A Presentation of the companies

ISS

ISS was founded the year 1901 in Copenhagen. They are operating in 50 countries. The company is responsible for 530 000 employees worldwide, with a turnover of 78.5 billion DKK in the year 2013. With their respective 11000 and 44000 coworkers they’re both Sweden’s and the Nordic countries biggest service company

Their offerings consisting of services and solutions within the different legs: catering, property, support services, cleaning, and facility management.

Their customers are mainly within: Industry, Business & IT, Real Estate, Public sector, and Transport.

The informant from ISS was Lena Petersson, working as Business development executive, Nordic region.

Electrolux

Electrolux was established in 1919 and is a multinational company selling more than 50 million products in 150 countries. Their turnover in 2012 landed at 110 billion SEK, and the number of coworkers is 61000. Their product portfolio includes refrigerators, dishwashers, washing machines, cookers, air conditioners vacuum cleaners and many more sold under various brands.

The part of the company that is being investigated in this study is the division that goes under the name Electrolux professional laundry. This division offers comprehensive solutions around laundry, with the washing machines very central in their offerings.

The informant from Electrolux was Bo-Lennart Jonasson, working as regional category manager, Nordic countries, in the division Electrolux Professional Laundry.
Mobic

Mobic was registered in Östersund the year 1994. They are mainly operating on the regional market. Number of employees is four, and the turnover was on the annual general meeting on the date 2014-02-28 set at 7 332 000 SEK. The company is registered within telecommunication equipment.

Mobic operates within all types of mobile communication and information technologies. Their offerings comprises sales within a range from single products such as mobile phones bought by individual consumers to very comprehensive offerings including many actors involved to offer a extensive, integrated solution within ICT. Their customers are mainly private persons, hauliers, small companies, but also bigger companies. This study focuses naturally towards their work model used when forming solutions with bigger companies. The informant from Mobic was Marcus Nilsson, owner and Director at the firm.

ABB Robotics

ABB is a manufacturing company, operating in around 100 countries and has 150000 colleagues worldwide. Their history extends over 120 years. Their revenue was during the year 2013 $42 billion. ABB’s organization is divided into five divisions; power products, power systems, discrete automation and motion, low voltage products, and process automation.

In this study the investigated department of the company is ABB Robotics.

The informant from ABB Robotics was

Björn Svensson, Manager Spot Welding

Henrik Knobel, Application Technology Center Manager

UTI Logistics AB

UTI is a company within logistics. They have launched offices and logistic centers in 59 countries since their inception in 1926. Number of co-workers in the firm is 190000. Their revenue was for fiscal year 2014 $4,441 billion. They are an industry leading non-asset-based
supply chain management company that delivers competitive advantage to their clients supply chains.

The informant from UTI Logistics was Peter Sandberg, Branch Manager Nordic and DACH cluster
**Appendix B – Operationalization (Interview Guide)**

<table>
<thead>
<tr>
<th>Questions on the Factors</th>
<th>From the theory</th>
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</thead>
<tbody>
<tr>
<td>1. How does your firm scan business opportunities and customers? <em>(Market sensing)</em></td>
<td><em>(Kindström &amp; Kowalkowski, 2009)</em></td>
</tr>
<tr>
<td>2. How does your firm learn about your customer needs? <em>(Market sensing)</em></td>
<td><em>(Kindström et al., 2013)</em></td>
</tr>
<tr>
<td>3. To what extent does your firm build partnership to deliver solutions? <em>(Network partners)</em></td>
<td><em>(Biggeman et al., 2013; Kowalkowski et al., 2011)</em></td>
</tr>
<tr>
<td>5. What is there for demands on the personnel when selling solutions? <em>(Personnel roles)</em></td>
<td><em>(Kindström et al., 2013; Rothenburg, 2007)</em></td>
</tr>
<tr>
<td>6. What could the firm do to meet those demands? <em>(Personnel roles)</em></td>
<td><em>(Homburg et al., 2002)</em></td>
</tr>
<tr>
<td>7. How does your firm manage your development costs of creating the solution? <em>(Development costs)</em></td>
<td><em>(Biggemann et al., 2013; Sawhney, 2006, p.447)</em></td>
</tr>
<tr>
<td>8. How does your firm innovate? Alone? With the customer? Through interaction? <em>(Innovation)</em></td>
<td><em>(Tuli et al., 2007; Gallouj &amp; Weinstein, 1997; Edvardsson et al., 2006; Alam, 2006)</em></td>
</tr>
<tr>
<td>9. How flexible are your firm in the offered solution to best meet your customers needs? <em>(Flexibility)</em></td>
<td><em>(Vargo &amp; Lusch, 2004; Kindström &amp; Kowalkowski, 2009)</em></td>
</tr>
<tr>
<td>10. What part plays ICT in your solutions? <em>(ICT)</em></td>
<td><em>(Biggemann et al., 2013; Kindström et al., 2013)</em></td>
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<tr>
<td>11. Does your firm try to actively sell more when the solution deal is already done?</td>
<td><em>(Kindström &amp; Kowalkowski, 2009)</em></td>
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<td><strong>Incremental sales</strong></td>
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<tr>
<td>12. Does your firm systematically share knowledge internally, in order to, for example, reuse it? <em>(Knowledge sharing)</em></td>
<td>(Davies et al., 2006; Kindström &amp; Kowalkowski, 2009; Biggemann et al., 2013)</td>
</tr>
<tr>
<td>13. What does your firm do to keep the customers and build long-term relationships? <em>(Long term perspective)</em></td>
<td>(Kowalkowski et al., 2012; Tuli et al., 2007)</td>
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### Appendix C – Operationalization (Questionnaire)

**Qualitative questionnaire for the customer** (reversed from the customer’s perspective)

<table>
<thead>
<tr>
<th>Questions on the factors</th>
<th>From the theory</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. How did you get in contact with your supplier? <em>(Market sensing)</em></td>
<td>(Kindström &amp; Kowalkowski, 2009; Kindström et al., 2013; Ballantyne et al., 2011)</td>
</tr>
<tr>
<td>3. Do you have the power to influence the development costs of the solution? <em>(Development costs)</em></td>
<td>(Biggemann et al., 2013; Sawhney, 2006, p.447)</td>
</tr>
<tr>
<td>4. To what degree does your firm stand for innovations in the solution? <em>(Innovation)</em></td>
<td>(Gallouj &amp; Weinstein, 1997)</td>
</tr>
<tr>
<td>5. How flexible is your supplier, and to what extent does your supplier customize the offered solution? <em>(Flexibility)</em></td>
<td>(Vargo &amp; Lusch, 2004; Kindström &amp; Kowalkowski, 2009)</td>
</tr>
<tr>
<td>6. How does your supplier act to maintain a good relationship? <em>(Long term perspective)</em></td>
<td>(Kowalkowski et al., 2012; Tuli et al., 2007)</td>
</tr>
</tbody>
</table>