Aalto University
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Strategies for Deploying Information Services Offerings in the B2B Capital Goods Industry

MSc Degree Programme in Strategy

Master's thesis

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Abstract of master's thesis

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Objective of the Study

The objective of the study is to analyze how can manufacturing-oriented organizations transform their business through deploying value-based information service offerings to complement and enhance their traditional offering, and what factors need to be considered to facilitate a successful transition. In addition, the study aims to outline implications for strategy implementation and the prevailing manufacturing-oriented business model in the B2B capital goods industry context.

Methodology

The study was conducted as a qualitative, intrinsic single-case study. Research data was collected through semi-structured interviews in the case company and the case SBU. The analysis and interpretation of the data followed a systematic combining approach, best characterized as 'abductive'. A theoretical framework constructed on the basis of the literature review established the sensitizing concepts guiding the analysis and interpretation process.

Findings and Conclusions

The results suggest that a key determinant in successful deployment of an information services strategy is the sequential development of service-oriented microfoundations for dynamic capabilities in the areas of enhancing and maintaining market orientation (sensing capabilities); developing service strategies, service-oriented business models, and value-focused service offerings (seizing capabilities); as well as aligning organizational structures, human resources and corporate culture, and reshaping the firm's value network (reconfiguring capabilities).

In particular, establishing a platform for systematic, institutionalized generation of value knowledge is crucial, and constitutes the foundation for all further value-focused activities. Moreover, adopting an end-to-end view of customer relationships would be beneficial in aligning management of the customer relationship portfolio with the relational nature of service business. All decision-making concerning customers should be based on optimizing long-term value for the firm and the customer, and coordinated across all customer-facing functions of the firm.

Finally, the findings indicate that the development of new value-focused service offerings should be separated from product development, to enable better consideration of the unique characteristics of service offerings. While a bi-directional link to the product development process should be maintained, decision metrics and decision-making criteria optimized for service offerings are essential in facilitating the co-existence of manufacturing and service logics within the firm.

Keywords information services, service transition, service-based business model innovation, value-based customer engagement, dynamic capabilities, B2B capital goods industry

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Tutkielman tavoitteet

Tutkielman tavoitteena on analysoida miten valmistavan teollisuuden yritykset voivat kehittää liiketoimintaansa arvopohjaisen palveluliiketoiminnan suuntaan tuomalla tarjoomaan lisäarvoa tuottavia informaatiopalveluita, ja selvittää mitkä tekijät vaikuttavat muutoksen onnistumiseen. Tämän lisäksi tutkielma pyrkii hahmottamaan mitkä ovat muutoksen implikaatiot strategian jalkauttamiseen sekä vallitseviin liiketoimintamalleihin investointihyödykkeitä valmistavan B2B-teollisuuden näkökulmasta.

Metodologia

Tutkielma toteutettiin laadullisena yhden tapauksen tapaustutkimuksena. Tutkimusaineisto kerättiin teemahaastatteluilla kohdeyrityksessä ja sen kohdeliiketoimintayksikössä. Aineiston analyysi ja tulkinta noudatti niinkutsuttua systemaattisen yhdistelyn menetelmää, joka määritellään 'abduktiiviseksi' menetelmäksi. Kirjallisuuden pohjalta kehitetty teoreettinen viitekehys ohjasi analyysi- ja tulkintaprosessia.

Johtopäätökset

Informaatiopalvelustrategian toteuttamisessa avainasemassa on palvelusuuntautuneiden dynaamisten kyvykkyyksien kehittäminen lähtien niinkutsutuista mikrotekijöistä. Mikrotekijöiden osa-alueet voidaan ylätasolla jakaa markkinaorientaation kehittämis- ja ylläpitämiskyvykkyyksiin (mahdollisuuksien tunnistaminen); palvelustrategioiden, palvelulähtöisten liiketoimintamallien ja arvopohjaisten palvelutarjoomien kehittämiskyvykkyyksiin (mahdollisuuksien hyödyntäminen); sekä organisaatiorakenteiden, henkilöstöresurssien ja yrityskulttuurin yhteensovittamiskyvykkyyksiin ja ulkoisen arvoverkon muokkauskyvykkyyksiin (rakenteellinen muovaus).

Kyvykkyys arvoymmärryksen systemaattiseen kehittämineen ja siihen liittyvän tiedon aktiiviseen tuottamiseen ja hyödyntämiseen muodostaa pohjan arvolähtöiselle toiminnalle. Palveluliiketoiminnan tiiviimpi asiakassuhde edellyttää kokonaisvaltaisen asiakkuuden hallinnan kyvykkyyksien kehittämistä, päätöksentekomekanismien yhdenmukaistamista yrityksen kaikkien toimintojen yli, sekä päätöksentekokriteerien suuntaamista pitkäaikaisen asiakasarvon optimointiin.

Arvolähtöisten palveluiden kehityksen irrottaminen normaalista tuotekehityksestä mahdollistaa palveluiden ominaispiirteiden paremman huomioinnin. Kaksisuuntaisen keskusteluyhteyden säilyttäminen tuotekehitykseen on tärkeää, mutta itsenäiset arviointi- ja päätöskriteerit palvelukehityksessä mahdollistavat kitkattomamman palvelu- ja tuotelähtöisen logiikan rinnakkaiselon.

Avainsanat informaatiopalvelut, palvelutransformaatio, palvelulähtöiset liiketoimintamallit, asiakkuuksien arvopohjainen johtaminen, dynaamiset kyvykkyydet, valmistava teollisuus

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1. INTRODUCTION

Traditionally, industrial manufacturing companies have operated in a product-oriented fashion, many with a long history of success. However, with the competition becoming fiercer by the day, and pressures on the margins mounting relentlessly, more and more firms are attempting to differentiate by increasing the proportion of services in their offering. While generally accepted as a promising strategy, many have found out that the practical implementation is surprisingly difficult. This study looks into this contemporary business issue through the lens of a case company, currently in the middle of its own service transformation.

The ever-increasing rate of globalization and advances in manufacturing capabilities in the developing countries are making competition in the capital goods manufacturing sector more and more intense, even in previously secure niche markets. Many established and historically successful companies, used to relying on their technological edge and product quality to win deals, are being confronted by aggressive upcoming low-cost competitors and increasingly capable professional buyers, both exerting strong pressure on margins (Wise and Baumgartner, 1999; Windahl et al., 2004).

The rapid diffusion of technology advancements in today's business environment makes it difficult to maintain a competitive advantage based on technology alone. The competition is closing the gap technology-wise, and is able to provide 'good enough' quality to satisfy all but the most demanding customers. As the level of commoditization in the market increases, the resulting profit squeeze forces established players to seek other means of differentiation in response to decreasing margins (Brax, 2005; Matthyssens and Vandenbempt, 2008).

Being able to differentiate effectively requires that the organization is market-oriented, i.e. able to 1) generate market intelligence regarding the current and future customer needs, the market environment and competitors, as well as trends affecting the market environment, 2) disseminate the information throughout the organization, and 3) leverage the information by devising and executing appropriate market responses (Kohli and Jaworski, 1990).

Expanding on their earlier work, Jaworski et al. (2000) present two different perspectives to market orientation: a market driven approach and a driving markets approach. The former refers to accepting the market structure and market behaviour of players as a relatively fixed construct, and adapting or reacting to the market environment and its changes in order to maintain alignment. In contrast, the latter approach aims to actively change prevailing market behaviours, and/or the structure of the market. Alternatives for changing the market structure consist of eliminating players, building a new or modified set of players, or changing the functions performed by the players. (Ibid.)

While the literature on the subject of differentiation is diverse, and outlines a number of different strategic approaches for non-price-based differentiation, for example Gebauer et al. (2005) suggest that "extending the service business seems the right way to escape the trap of decreasing product margins", and that "competing through services enables product manufacturers to earn the highest margins". There is increasing evidence that service-based business models are emerging as the new dominant logic for marketing, and supplanting the traditional goods-dominant paradigm (Vargo and Lusch, 2004; Salonen, 2011).

A key element in the service-dominant logic (SDL) introduced by Vargo and Lusch (2004) is the change of focus away from product offerings and their characteristics, and towards the desired customer outcomes which the offerings can be used to achieve. Consequently, the perception of value changes from product-focused *value-in-exchange* to service-focused *value-in-use*. Tangible products and resources are not considered to possess embedded intrinsic value, but rather can be seen as a value platform or value foundation which carries a potential for value creation when deployed in the customer's own value creation process (Grönroos, 2008). A similar principle is echoed in the concept of customer centricity (see e.g. Shah et al., 2006), which equally emphasizes the significance of customer benefits over tangible products and product features, and underlines the imperative for creating value for the customer.

Grönroos (2008) further suggests that while the customer is indisputably the main actor in the value creation process, the role of the supplier can also be broader than remaining a passive value facilitator only providing the foundation (resources) for customer's value creation. In a true service provision mode, the supplier participates in value fulfilment through its direct interactions with the customer during the value-generation process. Value creation under the service logic can thus be considered as a process where the customer, actively assisted by the supplier, uses the value foundation provided by the supplier as a means to co-create value.

Reaching a similar conclusion in the solution business research stream, Tuli et al. (2007) argue that instead of a bundle of offering elements, value fulfilment should be considered from the customer perspective, and seen as a set of relational processes consisting of requirements definition, customization and integration, deployment, and post-deployment support. This process-oriented view resonates with Grönroos's (2008) perspective, and exhibits similarities to the relationship marketing concept of the Nordic School research tradition (see e.g. Ravald & Grönroos, 1996; Grönroos, 2004).

Similarly to Tuli et al. (2007), the relationship marketing school of thought considers value to be generated in the interaction process between the supplier and the customer, consisting of a number of events over a period of time. These events may be planned or unplanned, and relate to any kind of interaction elements, including information, physical goods, services, or social contacts (Grönroos, 2004). However, it should be noted that the value added by various events between the supplier and

the customer can be either positive or negative. For example, a high perceived value of the core product can be decreased by e.g. untimely deliveries, unsatisfactory service, lack of necessary information, or similar. In such a case, the interaction events do not create value, but rather cause value destruction (Ibid.).

Consequently, operating under the service logic necessitates that suppliers shift from product and technology orientation to market orientation, transform their offering and value proposition to focus on customer outcomes, and adopt increased relational focus / long-term perspective to their customer relationships, paying constant attention to the value-creating (as well as potentially value-destroying) events taking place during the value fulfilment process. In short, manufacturing firms aspiring to transition towards the service logic must undergo a fundamental transformation affecting virtually all aspects of their organization (Figure 1).

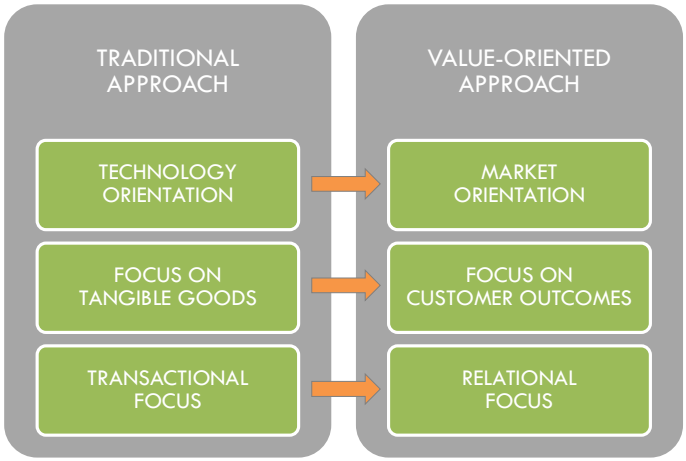

Figure 1. Transformation challenge of a traditional capital goods manufacturing firm.

Brady et al. (2005) echo the above in concluding that firms endeavouring to undergo the transition need to "transform almost every aspect of the way they do business – from their business strategies and positions in the value stream, to their capabilities, organisational structures, cultures and mindsets". In a similar vein, Neu and Brown (2005) argue that the feasibility for goods-dominant firms to embark on the transition path depends on "their capability to adapt several factors of strategy and organization to fit conditions in the highly complex market".

As can be expected, the transition is a challenging task, and a number of scholars have pointed out the difficulties encountered by firms in the course of the transformation process (see e.g. Cornet et al., 2000; Foote et al., 2001; Miller et al., 2002). Called the "service paradox" by Gebauer et al. (2005), it would appear that for a number of manufacturing firms, the investments towards growing new service

business succeed in expanding service offerings and correspondingly increase costs, but ultimately fail to generate the anticipated higher returns.

In order to succeed, firms must develop a set of dynamic capabilities (see e.g. Eisenhardt and Martin, 2000; Teece, 2007) for 1) sensing the market opportunity and shaping the market, 2) seizing the identified opportunities, and 3) reconfiguring capabilities to enable continuous alignment (and re-alignment) of firms' tangible and intangible assets.

1.1 Research Objectives and Research Gap

The case company is a medium-sized manufacturer of high technology products and system equipment, and a global market leader in the high-end segment of a niche market. Faced with increasing competition from low-cost manufacturers and the emergence of good-enough products challenging the traditional market paradigm, the company is forced to seek out new competitive advantages. In one of its two business areas, development of value-adding information and decision support services in the company's domain of expertise has been chosen as the strategic response to the threat of commoditization.

Within the case company, the Case SBU is currently faced with the question of how to best implement the business area strategy of developing and deploying information services offerings. In practise, a successful implementation requires that the Case SBU undertakes its own service transition, to the extent possible within the boundaries set by the case company, and at the same time preserving and sustaining its existing business.

The present study links to this strategic initiative, and its objective is to:

1) determine success factors for deploying industrial services offerings in the capital goods equipment industry,
2) explore and suggest strategic actions to facilitate Case SBU strategy implementation and its transition towards information services offerings, and
3) outline the potential implications for the prevailing manufacturing-oriented business model

Within academic context, the study is positioned within the theme of service transformation of industrial capital goods manufacturing companies (see e.g. Oliva and Kallenberg, 2003; Gebauer et al., 2005; Neu and Brown, 2005), having its roots in the discourse on service-dominant logic. While service-dominant logic has been a major area of interest since Vargo and Lusch's (2004) seminal work, recent years have seen a new surge of interest in 'servitization' and value creation in industrial context, as outlined by e.g. Baines et al. (2009).

However, as concluded by Baines et al. (2009), "There is a paucity of previous work that provides guidance, tools or techniques that can be used by companies to servitize". Drawing from the experiences of the case company, this study aims to yield additional insight in this area, through examining how could the service transition be carried out in the case company environment.

Information and decision support services are a subset of the broader discussion on industrial services, which to the author's best knowledge have not been widely researched in the extant literature, as opposed to services which directly complement a tangible capital goods offering. The study also aims to contribute to providing a better understanding of this sub-area by exploring the subject in the context of the case company. Finally, the study will touch the topic of business models suitable for an industrial services provider, and participate in the discussion summarized by Zott et al. (2011).

1.2 Research Problem and Research Questions

Following the research objectives outlined above, the research problem is divided into two sub-parts. The first sub-part approaches the service transition on a general level, and focuses on developing an overall framework for determining the critical elements and success factors inherent in the service transition process, based on existing academic knowledge. Building on the general level framework, the second sub-part then delves deeper into the case company's specific environment, and looks into the implementation aspects of devising and deploying a service-oriented business model, as well as the potential implications in the case company context. Correspondingly, the research questions for this study are formulated as follows:

Research Question 1:

> *What critical success factors for deploying service-oriented strategies in technology-intensive B2B capital goods industry have been identified in academic literature?*

Research Question 2:

> *What strategic actions could be taken to facilitate the transition towards information services offerings in the Case SBU context, and what are the implications for the Case SBU's prevailing business model?*

The study seeks to answer the first research question mainly through existing academic research and theory, whereas empirical findings play the main role in answering the second research question.

1.3 Structure of the Study

The study is structured into five chapters as follows. This first chapter introduces the background underlying the study and the research topic, outlines the research problem and research objectives, and defines the research questions.

The following second chapter focuses on reviewing extant literature and presenting the existing theory, concepts and frameworks used in approaching the research questions. More specifically, the first theory sections 2.1 - 2.2 respond to the first research question by outlining the rationale and reported outcomes for service-oriented strategies, and presenting the success factors for service transformation identified in extant literature. Furthermore, two study propositions to be tested in the empirical context are formulated. The final theory section 2.3 lays the groundwork for approaching the second research question by developing a theoretical framework for identifying the key issues encountered in implementing a service-oriented strategy.

The third chapter describes the research methodology of the study, presents the choices made in research design, and details the different stages of the research work. Moreover, the last section of the third chapter evaluates the validity of the study, and discusses its limitations. Empirical findings are presented throughout the fourth chapter. The chapter begins with an introduction of the case company and the Case SBU, and continues by testing the theory-based propositions developed in the second chapter. Next, the chapter seeks to answer the second research question through analysing the implementation of a service-oriented strategy in the Case SBU context.

Concluding the study, the fifth chapter presents recommendations for the case company (section 5.1), and suggests general implications to managerial practice and academic theory (sections 5.2 and 5.3, respectively) derived from the results of the study. Finally, the last section of the fifth chapter proposes potential avenues for future research.

2. LITERATURE REVIEW

The following literature review chapter begins with a discussion on service-based differentiation and its role as one potential strategy for adapting to the changing marketplace, and continues with a review of performance outcomes of service-oriented strategies, as reported in previous research.

Expanding further on the concept of service-based differentiation and service transition, the next section is dedicated to devising a service-oriented strategy, the capabilities required in the transition, and the success factors identified in existing literature. A theoretical framework for the microfoundational capabilities underlying the success factors is presented in the second section of the literature review.

Finally, the last section in this chapter focuses on developing a theoretical framework for identifying the key issues in the implementation of a service-oriented strategy, and outlines the key issues emerging from academic literature in each microfoundational capability area determined in the previous section.

2.1 Service-Based Differentiation as a Strategic Response

Contrasting the distinctive characteristics of industrial services to the relatively standardized and less complex services offered with consumer goods, Davies (2004) concludes that industrial services

- are customized to meet each buyer's unique needs;
- allow greater scope (range of services) and intensity of services per unit of output (product);
- provide higher margins and recurring revenue streams during often exceptionally long product life cycles; and
- occur before, during and after a product is delivered to the customer

In addition, industrial services markets are often concentrated, with a small number of suppliers providing specialized services to few large business or government customers over a long-term business relationship (Ibid.).

The product-service offering position of a firm can be considered as a continuum, where the relative importance of services gradually increases from minimal ("services as add-on") to being the main focus of the firm's value proposition ("tangible goods as add-on") (Oliva and Kallenberg, 2003). For most manufacturing companies the optimal position can be found somewhere between the two extremes, and making the choice on which position should the firm occupy on the transition line is a key determinant in a firm's service strategy (Gebauer et al., 2005; Neu and Brown, 2005). The

product-service continuum as presented by Oliva and Kallenberg (2003) is illustrated in Figure 2 below.

A distinction is often made between two broad categories of services, first proposed by Mathieu (2001). Mathieu divides service offerings into services supporting the base product (SSP), and services supporting the customer's action (SSC). SSP type services are provided to assist the customer in installing and using the product, and consist of e.g. after-sales technical support, installation and commissioning services, product repair and spare parts, and product upgrades (Antioco et al., 2008). In turn, SSC type services can be considered as stand-alone "services as a product", which are not necessarily tied to a tangible product. These services can include for example process- and business-oriented consulting and training, financing services, management of the maintenance function, or even fully managing product-related operations, i.e. outsourcing services. (Ibid.)

SSP type services are standardized services traditionally offered by manufacturing firms in conjunction with the product offering, often with the main motivation of enabling and enhancing sales of the base product (Oliva and Kallenberg, 2003). Consequently, they would typically be found on the left-hand side of the P-S continuum. More complex and customized, entailing a higher relational intensity, focusing on customer outcomes, and less dependent on the tangible base product (Mathieu, 2001), SSC services can be considered to represent the right-hand side of the spectrum. Therefore, a transition from one end of the product-service continuum to another can also be seen as a transition from providing mostly SSP services to incorporating more and more SSC services into the service offering portfolio.

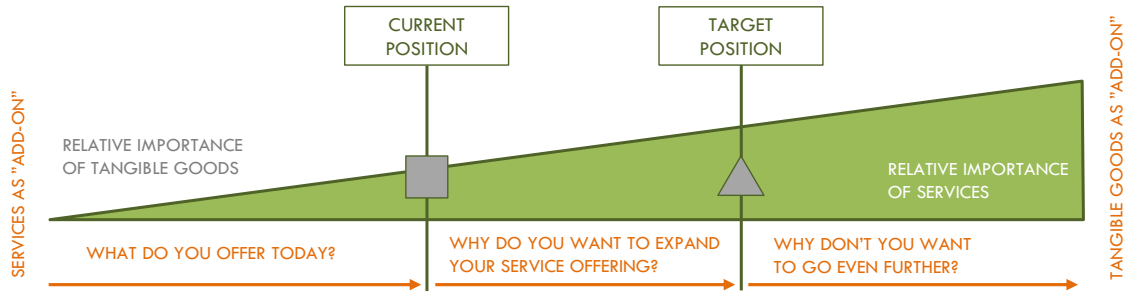

Figure 2. Illustration of the product-service continuum. (Oliva and Kallenberg, 2003).

However, as Salonen (2011) remarks, it should also be emphasized that especially in the case of capital goods manufacturing firms, none of the potential service strategies are likely to replace product and technology excellence or compensate for the lack thereof, but rather complement and 'amplify' the existing core strengths by adjusting and renewing the mechanisms through which value creation takes place. Maintaining the competitiveness of the underlying product and technology base should therefore remain a top priority regardless of the chosen service strategy approach.

Performance implications of service transition strategies

Studying the impact of service transition strategies to firm value, Fang et al. (2008) find that at low levels of service revenue (<20% of total revenue) the impact tends to be neutral or slightly negative. Significant payoffs from a service transition strategy are visible only after the service business reaches a critical mass of approximately 20-30% of total revenue, after which firm values were observed to increase rapidly. The observed result is moderated by three main variables, which are service relatedness (the extent to which firm's service business links to its core product business), industry growth, and industry turbulence. While service transition strategies appear to be a good fit for firms with high service relatedness, and/or for those in slowly growing or highly turbulent industries, the results indicate that service strategies do not necessarily positively impact firm value in high growth or low turbulence market environments, or for firms with low service relatedness. (Ibid.)

Eggert et al. (2011) suggest that the performance of a service strategy depends also on the fit between the service offering type (SSP/SSC) and the level of the firm's product innovation activity. SSC type services have a direct positive impact on long-term profitability when product innovation activity is low. However, in firms with high product innovation activity the deployment of SSC services appears to have no long-term profitability impact. This is explained by a possible loss of strategic focus and potential misallocation of scarce resources, both of which would be better directed to the core product business in high product innovation environments. Conversely, SSP services are found to positively impact long-term profitability in environments with high levels of product innovation, through their role of supporting and facilitating the sales of the core product. (Ibid.)

Homburg et al. (2003) highlight the role of soft factors, namely corporate culture and human resource management. Service orientation of the corporate culture and service orientation of the human resources function were both shown to positively influence the quality of a firm's customer relationships, which in turn had a strong positive impact on the firm's overall profitability. Interestingly, the impact on firm performance was found to be greater than that of the direct profitability of the services offering, indicating that enhanced customer relationships can be a major indirect mechanism through which potential performance improvement in service-oriented firms takes place. (Ibid.)

In a study of 195 strategic business units (SBUs) in manufacturing firms, Gebauer (2008) identifies four representative external environment configurations and four strategy approaches typical to manufacturing firms, outlined below in Table 1 and Table 2.

Table 1. Identified representative external environment configurations in the capital goods manufacturing industry. Adapted from Gebauer (2008).

Environmental factors / Customer preferences	Type 1 external environment	Type 2 external environment	Type 3 external environment	Type 4 external environment
Competitive intensity / product	High	Low	High	Low
Competitive intensity / service	High	Low	High	Low
Market growth	Low	Intermediate	Low	Intermediate
Price sensitivity	High	Intermediate	High	Intermediate
Customer preference for ensuring proper functioning of the product	High	Intermediate	Intermediate	Intermediate
Customer preference for optimizing efficiency and effectiveness of the product in the customer's operating processes	Low	High	Intermediate	Intermediate
Customer preference for collaborative innovation for customer's operating processes	Low	Low	Low	High
Customer preference for reduction in initial investments	Low	Low	High	Low
Occurrences of external environment type	n = 80 (41%)	n = 54 (28%)	n = 28 (14%)	n = 33 (17%)

Table 2. Identified strategy configurations of capital goods manufacturing firms' strategic business units. Adapted from Gebauer (2008).

Focal elements in firm/SBU strategy	Type 1 strategy approach	Type 2 strategy approach	Type 3 strategy approach	Type 4 strategy approach
Cost leadership	High	Low	High	Low
Product differentiation	Low	High	Intermediate	Intermediate
Service differentiation	Intermediate	High	Intermediate	Intermediate
After-sales services	High	Intermediate	Intermediate	Intermediate
Process-oriented services	Low	High	Intermediate	Intermediate
Research and development	Low	Low	Low	High
Operational services	Low	Low	High	Low
Occurrences of strategy configuration type	n = 63 (32%)	n = 83 (43%)	n = 23 (12%)	n = 26 (13%)
Strategy characterization	After-sales service provider	Customer support service provider	Outsourcing partner	Development partner

The results of Gebauer's (2008) study demonstrate a significant link between SBU performance and the alignment between the identified external environment and strategy configurations, with 100 out of 108 high-performing SBUs having opted for a 'matching' strategy approach (type 1 strategy approach for type 1 external environment configuration, and similarly for other configurations). On the low-performing end of the sample, only 10 of the 77 low-performing SBUs had selected a matching strategy approach (Gebauer, 2008). It would thus appear that the strategy-environment fit can predict performance, and, conversely, that the identified configurations provide a useful perspective in devising high-performing service strategies.

All in all, the review of the service-oriented strategies and their performance implications in extant literature lends support to the hypothesis that with certain caveats, a service-oriented strategy can be an appropriate response to maintaining competitiveness and restoring firm performance in commoditizing markets, formulated below as Proposition 1.

Proposition 1: Moving 'forward' in the product-service continuum and increasing the relative importance of value-adding services in the firm's offering portfolio appears to be an attractive strategy for escaping the commoditization trap when alignment between strategy, organizational factors and the external market environment can be achieved, and the target level for service business volume is above the critical threshold.

2.2 Devising Service Transition Strategies in Capital Goods Manufacturing Firms

While the 'service transition' or increasing the service content in the firm's offering has been established as a promising strategy (Fang et al., 2008; Gebauer, 2008), the recipe for successful implementation remains elusive. In the following section the transformation is discussed in more detail, starting with a review of the success factors identified in extant literature. Moreover, as the service transition is first and foremost a demanding adaptation and change process, it can be expected that success cannot be achieved without having an advanced level of dynamic capabilities present in the firm (see e.g. Teece, 2007).

The dynamic capabilities framework is used to link the identified success factors to the microfoundational capabilities which need to be developed in order for the firm to prepare itself for the transition. By focusing early on to the underlying foundational elements, firms can develop the market sensing and shaping capabilities, seizing capabilities, and reconfiguration capabilities relevant to the service transition. The section concludes by combining the identified success factors and the dynamic capabilities perspective into a framework outlining the microfoundational capabilities required in the transition.

Success factors for industrial services

Gebauer et al. (2005) suggest six success factors to be considered for achieving high service revenue in manufacturing firms. These are market-oriented service development and clearly defined service development process, focus on the value proposition to the customer and progression towards SSC type services, a relationship marketing approach, defining a clear service strategy, a separate service organization with profit and loss responsibility, and establishing a service culture. The culture aspect is also strongly emphasized by Homburg et al. (2003), who suggest that ingraining a service mentality into the corporate culture and the firm's personnel is a key factor in a successful implementation of a service-oriented strategy.

While noting the importance of building relationships with customer organizations, Matthyssens and Vandenbempt (2008) highlight the need to extend the relationship building efforts also to actors in the broader business network, such as e.g. supply chain partners, suppliers of complementary offerings and other network partners, concluding that "de-commoditization and transition from basic product to solution are complex phenomena that remain difficult to accomplish by a single company in a value chain". However, Matthyssens and Vandenbempt (2008) also acknowledge that efforts to reconfigure the value constellation may be inhibited or even blocked by the prevailing dominant industry recipe, especially in markets where long-standing and generally accepted modes of operation have developed over time.

Neu and Brown (2005) focus on the alignment of strategy and organizational factors with the external environment, and classify their recommendations in five categories – strategy, structure, processes, human resources, and measurement & rewards – following Galbraith's (1973) Star model of organizational design. The recommendations include a number of similarities with the findings of Gebauer et al. (2005), but also introduce a number of factors which are not equally prominent in the work of Gebauer et al. (2005). Among these are ensuring access to existing organizational resources, adapting frontline roles and aligning human resources accordingly to cope with the more complex market environment, cross-functional collaboration and integration of business unit responsibilities, decentralization of decision-making authority, adapting the management financial incentive system, and improvisational approach to implementing strategy (Neu and Brown, 2005).

Oliva and Kallenberg (2003) argue that creating a separate service organization with its own metrics, incentives, reporting systems and sales force is a critical factor in succeeding the early stages of the transition. Furthermore, Oliva and Kallenberg (2003) find that developing the capability to create and effectively run a distributed service delivery network counts among the key success factors in the transition. As the transition progresses, moving towards more complex SSC services, capabilities for risk and cost assessment of providing long-term performance contracts becomes of high importance. Finally, it is suggested that the transition should progress in gradual steps (Oliva and Kallenberg 2003). It should be noted that the separate versus integrated service organization is a point of contention for Neu and Brown (2005), who consider that integrating business unit responsibilities provides a more effective platform for service business, and that the more complex the market environment (moving towards the right-hand side of the service continuum), the more organizational integration is needed.

Auguste et al. (2006) emphasize the importance of carefully defining the objectives of the planned service strategy and the sources of competitive advantage, and aligning actions accordingly. On a general level, the strategic intent for expanding the service business can be either defending and supporting the existing product business, or generating growth through independent service offerings. In turn, competitive advantage can be seen as flowing from either economies of scale, or from economies of skill. Attempting to achieve both of the generic objectives at the same time, or pushing simultaneously for both large volume and high skill-based differentiation, may result in actions which undermine each other, and fail to produce the desired results. Optimal organizational and business model design then depends on the alignment of the strategic intent – competitive advantage pairing. Consequently, a crucial success factor is to make design choices in the domains of pricing, sales, delivery, and organization model which are coherent with both dimensions/axes of the pairing.

Ulaga and Reinartz (2011) approach the success factors from a resource-based perspective, and consider that the unique resources that most manufacturing companies possess consist of their installed base and the product usage and process data it has generated, their product development and manufacturing assets, their product sales force and distribution network, and their field service organization, all of which can be leveraged in the transition. In order to succeed, manufacturers need to develop capabilities for processing and interpreting service-related data from the installed base, assessing and mitigating service operations execution risk, designing products and technologies to enable and facilitate service operations (design-to-service), and selling and deploying hybrid product-service offering.

Table 3 below summarizes the different success factors identified from extant literature, categorized under the themes of creating and enhancing market orientation, strategy development and implementation, developing and aligning processes for service development, organizational alignment, human resources and corporate culture alignment, and value network development.

Table 3. Summary of the recommendations and success factors for industrial services in extant literature.

Focus area	Key recommendations	Authors
Market orientation	Active use of market intelligence in firm's processes; focus on value propositions; leveraging installed base data to create unique insights	Gebauer et al. (2005), Neu and Brown (2005), Ulaga and Reinartz (2011)
Strategy development and implementation	Defining a clear service strategy, strategic intent and competitive advantage; improvisation in strategy implementation as appropriate; choice of exploitation or exploration strategy	Gebauer et al. (2005), Auguste et al. (2006) Neu and Brown (2005), Fischer et al. (2010)
Offering process development and alignment	Market oriented and clearly defined service development process; design-to-service in product dev. process; developing execution risk assessment and mitigation capability;	Gebauer et al. (2005), Ulaga and Reinartz (2011), Oliva and Kallenberg (2003)
Organizational alignment	Separate, decentralized service organization; decentralized decision-making authority; ensuring access to existing resources	Oliva and Kallenberg (2003), Gebauer et al. (2005), Neu and Brown (2005)
Human resources and corporate culture alignment	Adapting frontline roles; ensuring intrafirm collaboration; establishing a service-oriented corporate culture; aligning management financial incentive system	Homburg et al. (2003), Neu and Brown (2005), Gebauer et al. (2005)
Value network development	Initiating relationship marketing; interfirm collaboration; business network reconfiguration; developing hybrid offering deployment capability	Gebauer et al. (2005), Matthyssens and Vandenbempt (2008), Oliva and Kallenberg (2003) Neu and Brown (2005), Ulaga and Reinartz (2011)

Gradual or radical transition

Among the key questions in devising a service transition strategy is whether the transition should take place incrementally, or in radical leaps. The extant literature largely argues for a gradual transition (Oliva and Kallenberg, 2003; Salonen, 2011) during which organizational factors can be adapted and aligned with the new strategy and market environment (Neu and Brown, 2005), or sees the transition as a number of consecutive evolutionary stages through which the company progresses by developing capabilities needed to operate at the 'next level' (Helander and Möller, 2007).

Expanding the view of the service opportunity to a broader set of activities in the customer organization, Sawhney et al. (2004) classify service business development initiatives into four categories based on whether they are directed at the customer's primary activity chain or an adjacent activity chain, and whether they involve adding new activities, or reconfiguring existing activities (Figure 3). Moreover, Fischer et al. (2010) find that the approaches primarily used by firms are adding activities to the customer's primary activity chain (temporal expansion), and adding/reconfiguring activities in an adjacent activity chain (spatial expansion and reconfiguration). Of these two approaches, the former can be seen as an exploitation strategy with incremental development, whereas the latter is an exploration strategy where the transition takes place as a radical shift (Fischer et al., 2010).

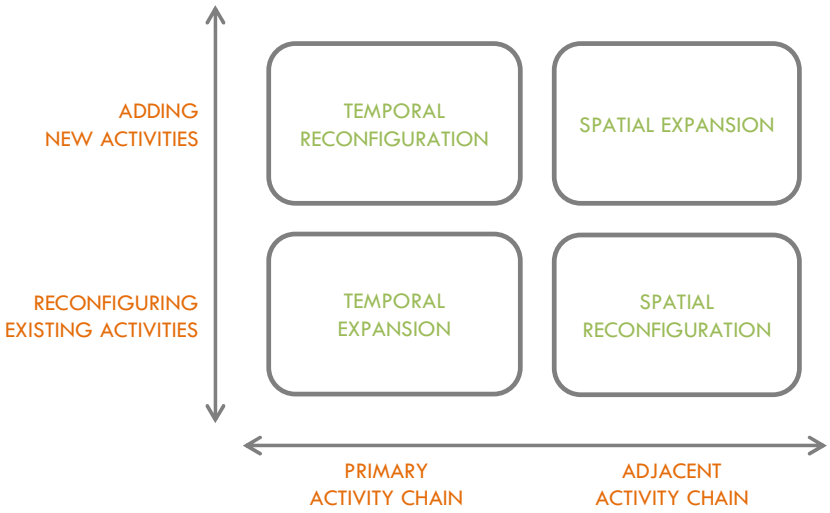

Figure 3. Illustration of the service opportunity matrix. (Sawhney, 2004)

Based on the above, service strategies can be classified into two broad categories, exploitation and exploration. Exploitation is fundamentally a reactive (market-driven) strategy, while exploration strategies attempt to proactively transform the market environment (driving markets) (Fischer et al., 2010). However, while exploration strategies appear to present a significantly higher upside in services growth potential, executing them successfully also requires the firm to possess more advanced dynamic capabilities. (Ibid.)

Dynamic capabilities

The resource-based view of the firm (RBV) posits that competitive advantage flows from the bundle of tangible and intangible resources the firm possesses (see e.g. Wernerfelt, 1984). In order to achieve sustainable competitive advantage, the resource configuration must consist at least in part of valuable, rare, inimitable, and non-substitutable (VRIN) resources (Barney, 1991). As few firms can achieve competitive advantage through tangible resources only, developing intangible resources and capabilities – so-called core competences – is a key challenge faced by most firms (Prahalad and Hamel, 1990).

However, when the market environment changes, resources and capabilities may be rendered obsolete, or even become detrimental to the firm by transforming into core rigidities – a persistent reliance to previously successful ways of thinking and/or operating which no longer function adequately (Leonard-Barton, 1992). Therefore, in addition to the operational resources and capabilities needed to perform in the present day, to maintain competitiveness firms also need 'second-order' capabilities for observing changes in the external environment and adapting their resources and capabilities accordingly. These dynamic capabilities are defined by Eisenhardt and Martin (2000) as "the organizational and strategic routines by which firms achieve new resource configurations as markets emerge, collide, split, evolve, and die", manifested in the processes of integrating, reconfiguring, gaining and releasing resources.

Teece (2007) classifies dynamic capabilities into three categories: capabilities to 1) sense and shape opportunities and threats, 2) seize opportunities and 3) maintain competitiveness through enhancing, combining, protecting, and, when necessary, reconfiguring the business enterprise's intangible and tangible assets. These capabilities are at the core of firms' ability to renew and adapt to changes in the marketplace, and are to a greater or lesser extent crucial in any change process the firm endeavours to undertake.

Underlying these capabilities are a number of "microfoundations", the "organizational and managerial processes, procedures, systems, and structures" which together constitute the capability itself. The microfoundations include e.g. processes to direct internal technology development, tap supplier and complementor innovation, identify target market segment and changing customer needs (sensing); skills to devise effective decision-making protocols, select appropriate technologies / product architectures, develop suitable business models, and build loyalty and commitment (seizing); as well as adopting loosely coupled organization structures, developing integration and coordination skills, and achieving incentive alignment (reconfiguring) (Teece, 2007).

Developing and maintaining dynamic capabilities requires an entrepreneurial approach differing from that of traditional operations management. Excellence in the operational dimension may enable a firm

to generate a competitive return for a time, but is unlikely to be a sustainable source of competitive advantage in the long term. As Teece (2007) concludes, at the core of retaining competitiveness in the face of changing environment is an agile corporate mindset and an entrepreneurial attitude:

> *Maintaining dynamic capabilities thus requires entrepreneurial management. The entrepreneurial management in question is different but related to other managerial activity. Entrepreneurship is about sensing and understanding opportunities, getting things started, and finding new and better ways of putting things together. […] Entrepreneurial management has little to do with analyzing and optimizing. It is more about sensing and seizing — figuring out the next big opportunity and how to address it. (Teece, 2007)*

Microfoundations for service transition

Meshing the dynamic capabilities perspective with the industrial services success factors discussed earlier and summarized in Table 3, the identified success factors can be considered as the microfoundations for dynamic capabilities in the service transition context, and categorized according to whether they fall under sensing and shaping capabilities, seizing capabilities, or reconfiguring capabilities.

Following Teece (2007), the capabilities related to market orientation, i.e. processes, mechanisms and analytical systems for gathering market and technological insight and using the acquired knowledge to direct internal development efforts fall under sensing and shaping capabilities. In turn, the capabilities listed in the service transformation literature under the themes of strategy and business model development and service offering development, including decision-making mechanisms, are considered as seizing capabilities. Finally, the remaining themes of organization alignment, human resources and corporate culture alignment, and value network development are defined as reconfiguration capabilities.

Overlaying the dynamic capabilities framework on the previously identified success factors can help in enriching present understanding on the microfoundational capabilities required in the service transformation, by providing a more generic theory perspective from which previously undiscovered success factors may potentially be deduced. Moreover, as the service transition literature typically emphasizes the dimensions of external and internal alignment, the same division is followed in the categorization, illustrated in Figure 4.

To conclude the section on the key success factors in deploying service-oriented strategies, the findings derived from the existing literature are summarized in Proposition 2 below.

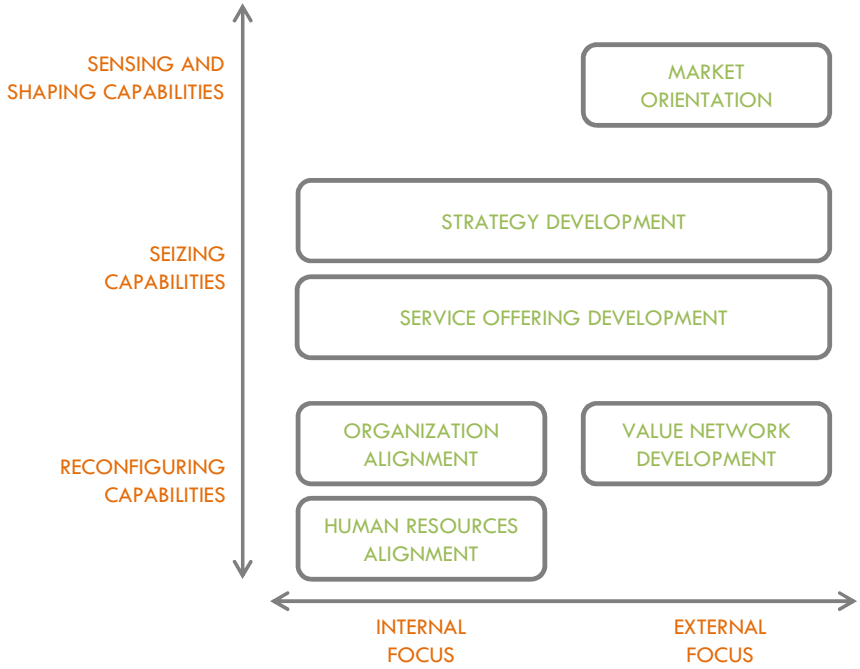

Figure 4. Key microfoundational capabilities and focus areas in service transformation.

Proposition 2: A key antecedent for a successful service transition is the development of service-focused dynamic capabilities through microfoundations in market orientation, service strategy development, service offering development, organizational alignment, human resources and corporate culture alignment, and value network development.

2.3 Implementing a Service-Oriented Strategy

In terms of strategy implementation and managerial practise, the study proposes a theoretical framework for identifying the key focus areas in the implementation process. Constructed based on the findings from the extant literature, the framework is illustrated in Figure 5 below.

The theoretical framework distinguishes between the organizational and functional dimensions within a firm in dividing the identified service transition key elements to a 'timeline' based on whether they fall under offering development stage, go-to-market stage, or value delivery and capture stage. However, this should not be taken as the sequential order in which the elements should be considered and evaluated when planning the transition strategy, as certain elements such as for example differentiation or profit formula obviously need to be considered well before the actual go-to-market takes place.

The framework is further divided into three themes, illustrating the academic research streams from which the theoretical framework has been constructed. These themes are the business model itself, the broader implications of and changes necessitated by the implementation of a service-oriented business model, and finally the development of the value proposition for value-based customer engagement, as perhaps the most important element of a service-focused business model.

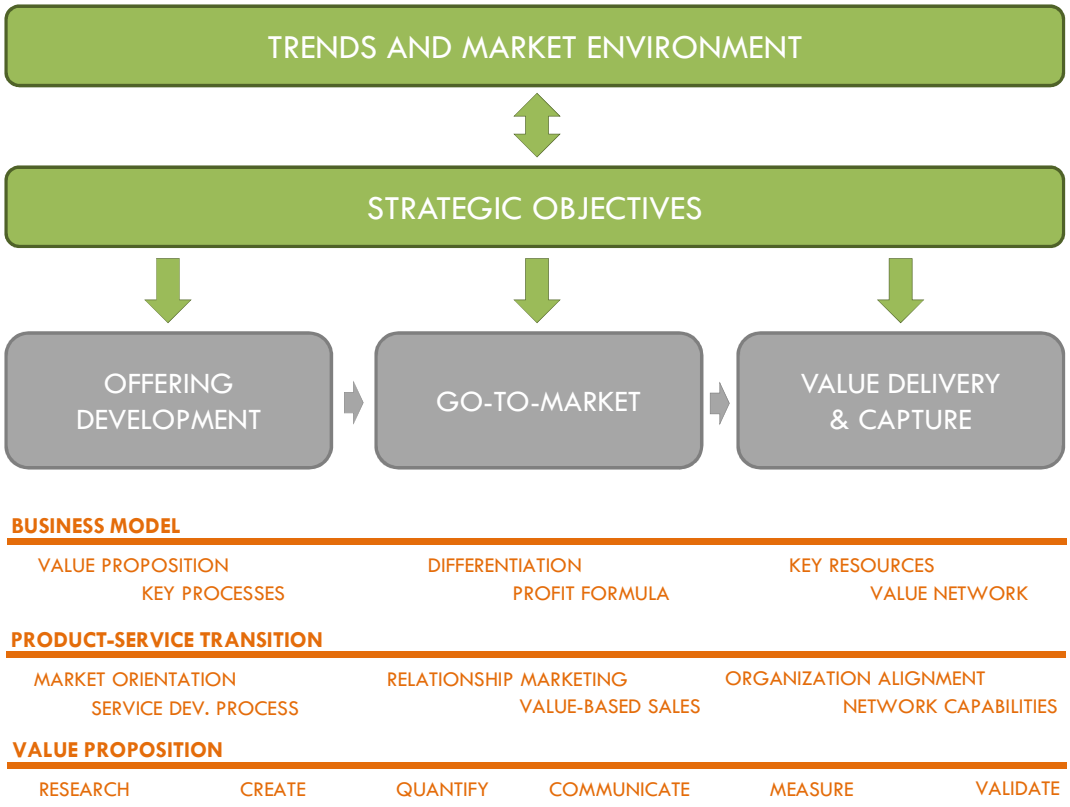

Figure 5. Illustration of the theoretical framework.

Linking back to the microfoundational capabilities framework presented in Figure 4, market orientation capabilities are needed for sensing the external market environment and the trends therein, and also for potentially shaping the external environment when feasible. Drawing upon seizing capabilities, strategic objectives are then developed based on the insight generated from the external environment, providing direction for offering development, go-to-market, and value capture activities. Finally, reconfiguring capabilities play the main role in aligning the firm's internal structures with the external environment and the defined strategic objectives.

The following sections examine in more detail the key elements in implementing a service-oriented strategy, and synthesize findings for each identified area of interest. Following the service transition microfoundational capabilities framework (Figure 4), the discussion begins from enhancing market orientation, proceeds through strategy and business model development, service offering development, alignment of the organizational structure and human resources, and concludes with the development and alignment of the firm's external value network.

Enhancing market orientation

A key prerequisite for being able to create effective value propositions is a sufficient level of market orientation within the organization. Market orientation can be defined as a corporate culture or an organizational mindset where the entire organization and all its individual employees are committed to the creation of superior value to its customers (Narver et al., 1998). Market-oriented culture can be divided into three behavioural components: *customer orientation*, the understanding of the current and latent needs of the potential customer base and the use of that information to create value for the customers; *competitor orientation*, an understanding of the strategies and capabilities of alternative providers aiming to satisfy the same customer needs and the active use of the information to enable creation of superior value; and *interfunctional coordination*, the coordination of all business functions to effectively disseminate and utilize the market information to create superior value (Narver and Slater, 1990).

Narver et al. (1998) suggest two main strategies for creating a market orientation within an organization. A "programmatic approach" focuses on imparting principles of market orientation and the skills needed to operate in a market-oriented fashion through formal teaching methods, abstracted from specific customers. It is described as deliberate (as opposed to emergent; Minzberg and Waters, 1985), top-down, prescriptive, and process-focused. In turn, a "market-back approach" emphasizes experiential learning, and incremental adaptation based on feedback from the market and the firm's actual performance in creating customer value. Characterizations for the market-back approach include emergent, bottom-up, and pragmatic.

Of the two strategies, the programmatic approach can be effective for kick-starting the change process in organizations where market orientation is low, and when utilized in a highly focused fashion to complement the market-back approach. However, the market-back approach and the learning it generates is considered to be the only viable approach for reaching higher levels of market orientation, its positive impact increasing as the understanding of market orientation in the organization improves, creating a positive feedback loop (Narver et al., 1998).

Gebhardt et al. (2006) present a detailed four-stage model on how market orientation could be developed within organizations, and how the cultural transformation process unfolds. The first stage, *initiation*, is triggered by the recognition of an external threat. While the organization as a whole may not yet understand or acknowledge the seriousness of the threat, if sufficiently powerful stakeholders within the organization recognize the danger, they may commence 'clandestine' preparations for a cultural transformation. In the second stage, *reconstitution*, the transformation plan is taken public and implementation of the transformation effort starts. Conscious value and norm development efforts are undertaken to replace the organization's existing set of values with more market-oriented ones, and to create a more market-oriented culture. Reconnection with the market is needed to develop a shared understanding of the market, and to disseminate the understanding throughout the organization, including also the traditionally 'non-customer-facing' functions. (Ibid.)

Upon reaching the third stage, the firm has undergone a major, fundamental change, though the new culture is still to some extent fragile. At this point, the focus is turned towards *institutionalization* of the transformation, including aligning reward systems to support and reinforce desired behaviours. The fourth and final stage concerns the *maintenance* of the organization's market orientation. As time passes, diverging interpretations of the transformation and its root causes emerge, and the capability to handle future challenges may decrease. In order to combat this phenomenon, e.g. cultural screening of new members, introducing culture maintenance rituals, maintaining ongoing market connections, and nurturing vigilance against management fads and fashions may help in preventing dilution of the organization's culture. (Ibid.)

In manufacturing organizations, leveraging product usage and process data from the installed base may also provide an important source of insight into the latent value creation potential in customers' operations and processes (Ulaga and Reinartz, 2011). With proprietary access to the data derived from the installed base, manufacturers with analytics and data interpretation capabilities can develop service offerings with unique potential for productivity gains in the customers' processes. It should be noted however that the capabilities needed for this type of sensing activity often exceed the capabilities traditionally associated with market orientation, falling more under the domain of advanced technology-based data processing and interpretation. This further accentuates the need for cross-functional collaboration and systematic dissemination of market and customer intelligence. (Ibid.)

Strategy and business model development

Defining the relationship between strategy and business model, Casadesus-Masanell and Ricart (2010) consider business model as the "the logic of the firm, the way it operates and how it creates value for its stakeholders", whereas strategy involves the design and choice of the business model, from a number of available alternatives, to be implemented by the firm. As one example, strategy might involve devising contingent plans for switching from one business model to another should certain changes in the market environment occur. In turn, the chosen business model defines the set of tactical competitive choices available for the firm, enabling certain tactical options but also ruling out others. (Ibid.) The relationship between strategy, business model and tactics as outlined by Casadesus-Masanell and Ricart (2010) is illustrated in Figure 6 below.

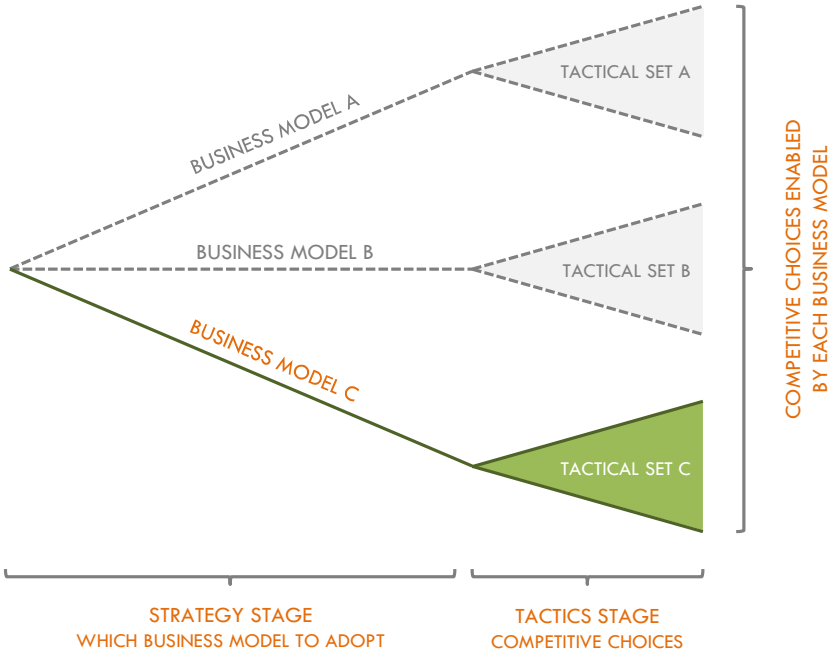

Figure 6. Relationship between strategy, business model, and tactics. Adapted from Casadesus-Masanell and Ricart (2010).

The extant literature proposes a number of different perspectives into the elements constituting a business model (see e.g. Zott et al., 2011). Johnson et al. (2008), suggest that a business model consists of four interrelated elements, which are customer value proposition, profit formula (revenue, cost, margin, resource velocity), key processes, and key resources. In turn, Chesborough and Rosenbloom's (2002) decomposition contains six elements; value proposition, target market, value chain, revenue mechanisms and cost structure, value network, and competitive strategy.

Focusing on the set of activities performed by the firm, Zott and Amit (2010) view a business model as the design of what activities the firm should perform, how should they be linked, and who should perform them. Teece (2010) considers business model as a blueprint of "the benefit the enterprise will deliver to customers, how it will organize to do so, and how it will capture a portion of the value that it delivers", determining the technologies/features to be embedded in the firm's offering and how do they generate value for the customers, what are the market segments to be targeted, how are the revenue mechanisms designed, and how is value captured and competitive advantage sustained.

This study adopts a hybrid view by combining elements from the above perspectives. For the purposes of this study, the key elements of a service-oriented business model are defined as *value proposition*, *profit formula*, *key processes and key activities*, *key resources*, *value network*, and *differentiation*. The chosen elements are described in more detail in Table 4.

Table 4. Key elements of a service-oriented business model.

Business Model Element	Description
Value proposition	Technologies/elements which form the offering, and the valuable outcomes they can create for the target customers
Profit formula	Revenue model, pricing logic, and cost structure
Key processes and key activities	Processes and activities instrumental for delivering the value proposition profitably and in a repeatable and scalable manner, including metrics, internal decision rules and incentive systems
Key resources	Rare and valuable ('bottleneck') resources needed to perform the key processes and activities
Value network	Position of the firm in the value network, and its links to customers, suppliers of complementary offerings augmenting the value proposition, and other business partners
Differentiation	Elements isolating the value proposition from alternative/competing offerings, and mechanisms inhibiting imitation by the competition

Value proposition and value-based customer engagement

Value proposition forms the core of the business model, defining the customer outcomes/benefits and the customer value the business model is designed to achieve. In essence, the value proposition provides the 'reason for existence' of the underlying business. For the purposes of this study, value is defined according to the customer perceived value concept, though other definitions exist as well (see e.g. Lindgreen and Wynstra, 2005).

Customer perceived value can be defined as the ratio of perceived benefits to perceived sacrifices, as assessed and determined by the customer (see e.g. Ravald and Grönroos, 1996; Ulaga and Chacour, 2001). In addition, value is always relative to the best available alternative, which can include, for example, competing or substitute offerings, performing the activities needed to achieve the desired outcome in-house, or doing nothing. Finally, value perceptions are subjective and can vary across

customers and circumstances. Consequently, each customer or customer group can be expected to possess a unique value preference profile, according to which value is perceived and different value elements assessed (Ulaga and Chacour, 2001). Perceived customer value and its relationship to the best available alternative are illustrated in Figure 7 below.

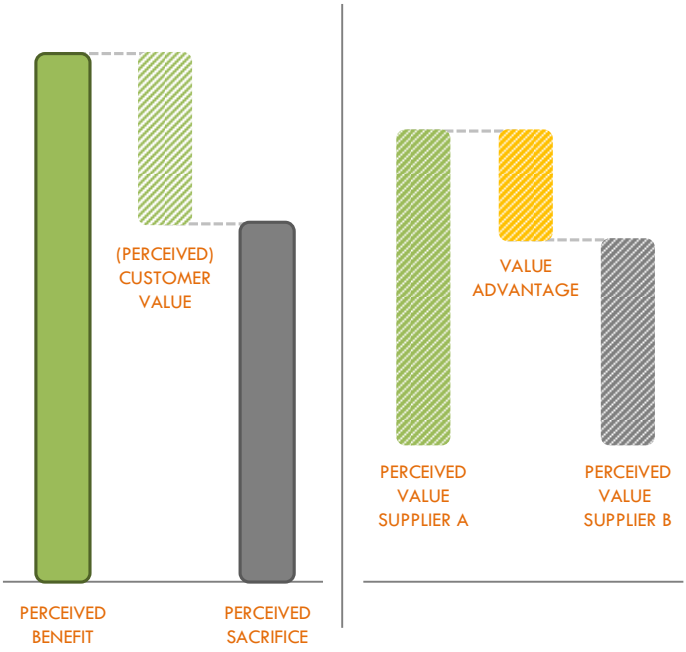

Figure 7. Customer perceived value as the ratio of benefits and sacrifices (left). Value advantage (value surplus) in relation to the best alternative (right). (Ravald and Grönroos, 1996; Ulaga and Chacour, 2001)

Anderson et al. (2006) classify value propositions into three categories. At the most basic level, an *all benefits* type value proposition lists each benefit the firm considers the offering to provide. However, the downside is that a value proposition constructed this way does not take into account either how the focal offering relates to alternative offerings, or the target customers' preferences. Taking a broader view of the alternative offerings available in the market, a *favourable points of difference* value proposition improves on the basic approach by comparing the focal offering to alternative options, and emphasizing the areas where the focal offering is superior to the alternatives. Nevertheless, this type of value proposition still fails to take into consideration the customers' individual value preferences, i.e. how much weight does a particular customer put on each of the different value elements. The most effective type of value proposition, titled by Anderson et al. (2006) as a *resonating focus* value proposition, remedies this shortfall by emphasizing only those favourable elements which are most valued by the customer.

Creating powerful value propositions requires a deep understanding of customer value preferences and alternative/substitute value propositions existing in the market. In order to be able to consistently

create effective value propositions, firms need to develop capabilities for formal and systematic value research, "a set of commercialization capabilities and practices employed to ensure in-depth understanding of select segments' and customers' business concerns and opportunities, and to understand what is valuable to customers" (Storbacka, 2011). Value research activities can consist of e.g. regular planning sessions with customers, formal research methods, and lead customer involvement. Importantly, value research should be conducted at the early stages of offering development process, forming the foundation for all subsequent development and business planning activities. (Ibid.)

At the customer interface, value propositions should be made tangible by quantifying the business impact the proposed offering can achieve when deployed to the customer's process (Anderson et al., 2006). This shift to a value-based customer engagement approach requires that the firm deploy sales personnel who understand the customer's business environment, are able to proactively identify value creation opportunities in the customer's business, and can craft and substantiate value propositions in a consultative manner and in cooperation with the customer (Terho et al., 2011). The same view is echoed by Sheth and Sharma (2008), who consider that in transitioning towards service-dominant and value-based logic the role of the salesforce will increasingly resemble that of a consultant, focusing more on education than persuasion; its competitive advantage and value creation potential flowing from expert-level knowledge of customers and solutions.

As value becomes the focus of the business transaction, it's natural that pricing and revenue models will also change to reflect the value creation potential inherent in the proposed offering (Terho et al., 2011). In moving away from the traditional cost-based pricing models to price setting based on the value perceived by the customer ("value-based pricing"), firms with high-value added offerings can potentially capture a larger share of the value their offerings are able to generate (Hinterhuber, 2004). This requires however that the firm has conducted appropriate value research to identify the value elements differentiating the firm's offering from the best alternative, and to understand what is the value perceived by the customers in the differentiating elements. (Ibid.)

Service offering development

In parallel with increasing market orientation, market and customer information should be systematically injected into the firm's offering development processes. As a starting point for successful service business development in manufacturing companies, Gebauer et al. (2005) recommend separating the product and service development processes, and creating a clearly defined service development process, designed following the best practises found in traditional service firms. A formal service development process is recommended, yet it should nevertheless not be overtly rigid

and restrictive, as *ad hoc* service innovation e.g. in local service units can be an important source of new business ideas (Kindström and Kowalkowski, 2009).

According to Gebauer et al. (2005), the service development process should consist of five stages: a market need identification stage; a new service idea generation stage; a preliminary service concept design stage; a pilot study / pilot project stage; and finally a market introduction stage. Kindström and Kowalkowski (2009) expand the view by emphasizing that in addition to the market sensing and concept development stages, it's crucial to include also sales and service delivery aspects to the development process. In particular, the service development process should allocate efforts to planning tangible actions on how to commercialize, scale up, and deliver the planned service concept. To achieve this, a greater number of internal functions should be involved in the development process, including also frontline employees. (Ibid.)

A particularly important facet of the service development process is linking the new service to customer processes and determining the customer value the offering is expected to generate. Value research and quantification of the customer value the new service offering is expected to generate should be conducted already in early stages of the development process (Storbacka, 2011). Suggested methods for value research include e.g. in-depth customer interviews and formal market research (Kindström and Kowalkowski, 2009), as well as lead customer involvement and regular planning sessions with key customers (Storbacka, 2011).

Moreover, Kindström and Kowalkowski (2009) note that while the service development process should be separate from the product development process and adjusted for the specific needs of service business, in the industrial context it's vital to at the same time maintain the two-way linkage to the product development process. This is echoed by Ulaga and Reinartz (2011), who argue that product offerings, in turn, should be "designed-to-service", such that the product is developed with built-in technological capabilities to enable advanced service and "hybrid" offerings. Examples of these characteristics could be for example network connectivity, advanced self-diagnostics, or remote monitoring capabilities.

In addition, developing a capability to assess and mitigate execution risk for the prospective service offerings is of high importance when designing service-infused or hybrid offerings (Ulaga and Reinartz, 2011). Defined as "the manufacturer's capacity to evaluate uncertainty about whether contractually agreed-on outcomes of hybrid offerings will be realized and then to design and implement safeguarding mechanisms to meet performance commitments while still maintaining internal profit targets", the ability to confidently create reliable outcome estimations is crucial to avoid mitigation mechanisms likely to either render the offering uncompetitive (e.g. price buffers), or necessitate a large critical mass which may never materialize (e.g. pooling approach to spread risk over a large number of projects). However, developing an accurate risk assessment capability is

expected to present a steep learning curve, and firms aspiring to achieve a fair level of proficiency should be willing (and financially capable) to accept the inevitable learning costs incurred in the process. (Ibid.)

Organizational alignment

Perhaps the most significant question in the organizational dimension of the service transition is the relationship between the services organization and the traditional business units. Extant literature largely agrees that the service business should be distinct from the traditional business (see e.g. Oliva and Kallenberg, 2003; Gebauer et al., 2005), but there are different views on the optimal degree of separation. The reasoning for a fully separate service organization is based on the premise that if the nascent service business ends up competing against the traditional product/equipment business for management attention and resources, it might never get a chance to grow and come into its own (Oliva and Kallenberg, 2003).

In addition, the prevailing organizational culture and the metrics and goals designed for product and equipment business may not be supportive for the development of a service business (Gebauer et al., 2005). For example, sales targets and an incentive system optimized for equipment business may steer the sales force towards traditional business, as at least short-term revenue from the sales of capital goods equipment is likely to be orders of magnitude higher than the revenue e.g. from maintenance service contracts.

On the other hand, Neu and Brown (2005) suggest that the best result would be achieved through a number of integrated business units instead of creating a fully autonomous service organization, as the latter approach may induce silo mentality. Aligning goals and incentives across business units is considered a better approach in that it mitigates potentially counterproductive sub-optimization at the business unit level. Neu and Brown (2005) also further propose that the differences in the findings compared to Oliva and Kallenberg (2003) could result from different levels of complexity in the external environment, and that in more complex environments the need for business unit integration and intrafirm collaboration becomes increasingly crucial.

Auguste et al. (2006) emphasize the alignment of the organizational structure with the strategic objectives of the service business, and suggest that for a service strategy designed to protect and enhance the product offering, a single organization and a single sales force would be optimal. Conversely, for firms aiming to create and deploy independent service offerings, separate business units and separate sales forces for the service and product businesses should be considered. The culture aspect still needs to be solved however, as the prevailing product culture in the traditional business units may inhibit or even suppress the development of service-oriented values such as

innovation, flexibility and customization, which contrast with the manufacturing norms of efficiency, standardization, and economies of scale (Gebauer et al., 2005).

Combining the different findings, it could be proposed that a separate service organization is suitable in the early stages of service business development, when the complexity of the services offered can be assumed to still remain limited. This would enable nurturing a service culture and facilitate the utilization of a service-oriented set of metrics and objectives, "sheltering" the nascent service unit from the product-oriented norms prevailing in the rest of the organization. As the firm eventually progresses through the service continuum and the identity of the service organization strengthens, a more integrated structure can be adopted to cope with the increased complexity of advanced service offerings.

Integration and intrafirm collaboration can then be enhanced through e.g. routine utilization of cross-unit and cross-functional virtual teams, allowing resources to be accessed from different units as needed. In addition, as the environment grows more complex, decision-making authority should be decentralized and disseminated to the lower levels of the organization, where managers "closer to" the situation at hand may have a better grasp of the diverse factors involved and the implications of different decision alternatives (Neu and Brown, 2005).

In the solution business research stream which is closely related to service transition, a so-called front-back hybrid organization model is proposed as one potential approach to enabling effective co-existence of both the traditional product businesses on one hand, and customer- and service-focused solution businesses on the other hand (Foote et al. 2001; Galbraith, 2002; Miller et al. 2002). Galbraith's (2002) suggestion is to create new "front-end" units to interface with customers and to create integrated offerings combining products and services, while the existing product business units would be refocused as back-end units tasked with nurturing, developing and leveraging existing technological and product capabilities. To ensure coherent direction for both the front- and the back-end, the units would be coordinated by a strong center function represented by top management.

According to Gebauer and Kowalkowski (2012), firms seeking to enhance customer and service orientation through organizational structure typically gravitate either towards a fully customer-focused organizational structure, or utilize a hybrid model where customer- and service-focused sub-units are embedded within a product- and geography-based organization. The former type consists of customer-focused SBUs complemented by separate offering units (including also a separate service offering unit on par with the product units), corresponding closely with the front-back-center organization model. The latter model on the other hand remains closer to the traditional product organization. Both the hybrid structure and the fully customer-oriented organization structure are illustrated in Figure 8 below.

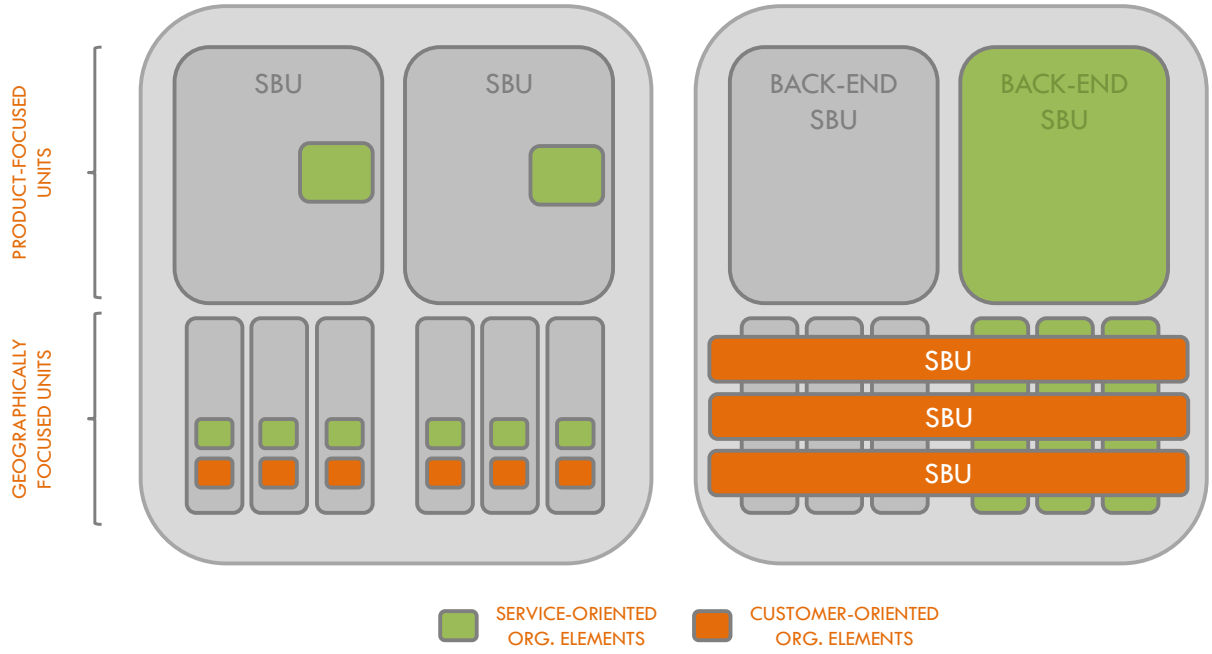

Figure 8. Illustration of the hybrid customer-oriented organization structure (left) and the fully customer-oriented organization structure (right). (Gebauer and Kowalkowski, 2012)

Human resources and corporate culture alignment

In their 2003 study, Homburg et al. found that two so-called soft factors – corporate culture and human resources management – have a significant impact to overall profitability in a service-oriented setting. A strong strategic emphasis on services, and the resulting service orientation of corporate culture and service orientation of human resources management, was shown to correlate with higher overall profitability. Interestingly, the soft factors did not affect profitability directly, but contribute towards a better quality of customer relationships, which in turn positively correlates to improved overall profitability (Homburg et al., 2003).

Neu and Brown (2005) have identified four key activities in which frontline personnel need to excel when operating in a service-oriented mode. *Serving as a trusted advisor* entails developing an in-depth understanding of the customers' business, and providing insightful, unbiased recommendations to solving customer issues. *Developing a learning relationship with individual customers* is crucial, as in a complex environment generalizations across customer segments or focus groups are less likely to provide tangible, actionable information on individual customer needs. *Leading a collaborative support performance* will become necessary, as a single employee is less likely to be able to master all the different aspects present in a complex service operation, and consequently cross-functional support

will be needed. Finally, the frontline staff naturally also needs to be able and willing to take on more responsibility and more demanding duties in *delivering a complex service*.

To succeed in the transition, existing roles need to be adapted to manage the increased complexity and the consequently higher demands for frontline performance (Neu and Brown, 2005). In human resources management, the recommended approach is to hire for behavioural competences, technical expertise, and attitude on one hand, and on the other hand to retain the competencies needed to cope with market complexity. Long-term employees are considered more likely to develop trusted advisor relationships with customers, and also to accumulate the technical expertise needed to successfully handle responsibility for the broad range of issues likely to be encountered in providing complex advanced services. (Ibid.)

Finally, while developing a market-oriented, value-focused organizational mindset and service-minded frontline personnel constitutes a major part of establishing a service culture within an organization, aligning the internal decision-making criteria, performance metrics, and especially incentive systems accordingly is an equally critical undertaking (Neu and Brown, 2005; Shah et al., 2006). Even though the initial push for a cultural transformation typically has to be centrally directed, the desired cultural norms and values will become ingrained in the organization only if reinforced in daily activities through coherent experiences. Conversely, an articulated strategy calling for service-oriented behaviours may have little or no effect, if such behaviours are in practise deterred through product-oriented or otherwise misaligned incentive systems or decision-making practises.

Value network development

With the business environment faced by capital goods manufacturers becoming increasingly complex, the traditional Porterian concept of a sequential and linear value chain may no longer be sufficient for modelling the process of value creation by a firm. Instead of (only) attempting to position themselves optimally along the perceived value chain, firms need to reconfigure, align and manage the entire value-creating system consisting of customers, suppliers, providers of complementary offerings and other business partners, in order to create constellations where value is jointly co-produced by the network actors (Normann and Ramirez, 1993). In the following, value network development is divided into two main areas; customer relationship management and value partner network development.

Studying the business relationship initiation process in service dominant settings, Edvardsson et al. (2008) find that prospective suppliers typically proceed through three stages or 'status levels' before eventually reaching a business agreement (Figure 9). Suppliers finding themselves at the first stage, *non-recognized*, need to create awareness at the potential customer to proceed to the second stage, a *recognized* status. From the recognized status, select firms may move on to *considered* status, should their value proposal be favourably received by the customer. Eventually, a business agreement with

the supplier may follow, which can be considered as the starting point for a business relationship. (Ibid.)

Moving between the stages is moderated by three converter variables and three inhibitor variables. Converter variables enabling firms to move forward in the process are *time* (in particular speed of response and ability to accommodate customer schedules), *trust* to the supplier firm and its interfacing personnel, and the customer perceived value of the *service offering*. Inhibiting variables blocking firms from moving forward or even shifting them backwards in status consist of existing *bonds*, typically to other suppliers, *risk* associated to working with the supplier firm, and the perception generated by the supplier firm *image*. By reinforcing the converter variables, and eliminating or mitigating the inhibitor variables as much as possible, firms can enhance their probabilities for a positive relationship outcome. (Edvardsson et al., 2008)

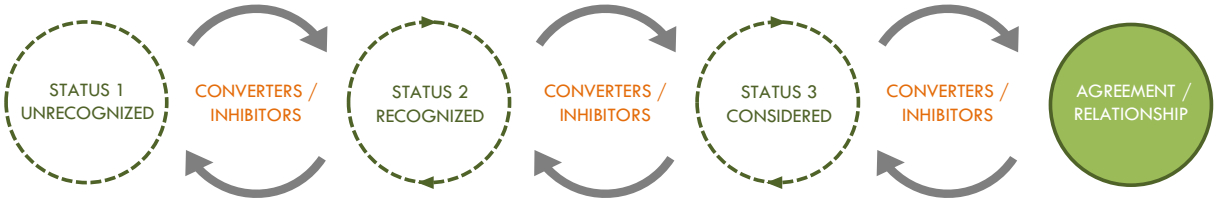

Figure 9. Illustration of the customer relationship initiation process in service dominant settings. (Edvardsson et al., 2008)

Consistent with the service dominant logic (see e.g. Vargo and Lusch, 2004) and the need for higher levels of market orientation, firms need to adopt relational customer engagement approaches optimized for supporting customer value creation processes as well as for acquiring in-depth customer insight. The relationship between the supplier and the customer and the trust built therein can also be considered as a value element in itself (Ravald and Grönroos, 1996). In particular, there are indications that the benefits associated to the customer-supplier relationship, as perceived by the customer, provide stronger potential for differentiation than cost considerations (Ulaga and Eggert, 2006).

Grönroos (2004) suggests that relationships consist of four different levels of interactions. At the lowest level, *acts* are single events such as emails, phone calls, or similar. Consisting of a series of interrelated acts, *episodes* are intermediate-level entities such as e.g. marketing communications, a repeat order, or a warranty claim. Interrelated episodes form longer-term *sequences*, for example the sales phase for a new offering, delivery of a complex equipment project, or the execution of a service contract. The relationship itself then consists of a series of sequences, which may overlap, follow one another directly, or after a period of delay depending on the type of business. The interactions can be planned or unplanned, and initiate from either the supplier or the customer. (Ibid.)

The outcome of each episode has the potential to create added value for the customer, and conversely a negative outcome can also destroy customer perceived value (Grönroos, 2004). For example, the core value of the base offering can be increased by e.g. quick resolution of complaints, or reduced by e.g. lack of needed information or delayed service by the supplier. Especially in service business which by nature consists of a chain of episodes spread over a longer time period, firms should strive to optimize the long-term value for both the supplier firm and the customer at the sequence and relationship level, instead of solely focusing on act or episode level outcomes. To avoid slipping into transactional mode at the episode level, firms should adopt a holistic customer relationship management approach, measuring and taking into account both the cost-to-serve and the potential value creation and capture opportunities over the entire customer lifetime (Payne and Frow, 2005).

As the offerings needed to deliver advanced value propositions become increasingly complex and infused with service elements, all resources and capabilities needed for delivering the value may not be within the reach of a single firm (Gebauer et al., 2013; Kowalkowski et al., 2013). To cope with the growing complexity in customer needs, firms are increasingly relying on partner networks to provide offering elements which are not economically viable or even possible to deliver by the focal firm alone (Hakanen and Jaakkola, 2012; Gebauer et al., 2013).

Gebauer et al. (2013) identify four different network configurations utilized by manufacturing firms to enable provision of service elements in a solution offering. These are vertical after-sales service networks, horizontal outsourcing service networks, vertical life-cycle service networks, and horizontal integration life-cycle service networks; each network model responding to a different type of value proposition. Developing the service network requires deliberate efforts from the focal firm, and needs to be preceded by the development of dynamic and operational capabilities suited for the desired service network type (Gebauer et al., 2013).

Focusing on small and medium-sized enterprises (SMEs), Kowalkowski et al. (2013) identify further nine value network configurations used by smaller firms. The findings of Kowalkowski et al. (2013) indicate that SMEs may need to adopt a broad variety of situation-specific value constellations to compensate for the lack of resources to set up a dedicated intrafirm service network. To succeed in building these tailored configurations, firms need to be willing to adopt an attitude of reciprocal adaptation to align activities and objectives with potential network partners (Ulaga and Reinartz, 2011, Kowalkowski et al., 2013).

As many SMEs need to utilize channel intermediaries to achieve efficiencies in their sales operations, these already existing sales partners could be considered as candidates for service partnership (Gebauer et al., 2010). On the other hand, in some cases distributors may limit access to the installed base and filter the information flowing from the end customers to the manufacturer, in an attempt to gain a better position in sales negotiations, or to reduce the possibility of direct competition from the

manufacturer should the latter decide to approach the customer directly (Gebauer et al., 2010). This potential conflict of interest between the manufacturer and the distributor further underlines the need for a mutually beneficial business model in order for the value constellation to remain stable (Kowalkowski et al., 2013).

3. METHODOLOGY

This chapter outlines the research method and research design used in the study, and presents the rationale behind the methodological choices made. In addition, the chapter evaluates the validity of the study, and discusses the limitations identified in the research.

3.1 Research Method

This study follows a qualitative single-case research approach. According to Eisenhardt (1989), the case study is a research strategy which focuses on understanding the dynamics present within single settings. Moreover, the case study design is generally recognized as a suitable method for conducting exploratory research on complex and wide-ranging real-life phenomena such as business strategy and business transformation (Eriksson and Kovalainen, 2008). As the present study aims to provide deeper insight closely linked to a specific setting, the case study approach can be considered appropriate and best suited for addressing the research objectives.

Stoecker (1999) further divides the case study approach into two sub-approaches; intensive case study research design aims to discover as much as possible on a single case or few cases, and learn how a specific and unique case works, whereas extensive case study design attempts to discover common patterns across a wider array of cases. In a similar manner, Stake (1995) considers case studies either as instrumental or intrinsic; in the former type the case is used as a tool for producing generalizable theories to explain broader phenomena, whereas intrinsic studies focus on understanding a specific case at hand, and put less emphasis on the broader implications which could be extracted from the study.

For the purposes of the present study, considering the context-specific nature of the research problem, the intensive / intrinsic case study research design is a natural choice, leading to a single-case approach with the Case SBU as the unit of analysis.

3.2 Research Design

The research design follows the structured approach suggested by Yin (2003), however with the modification that the research process was not designed to be strictly linear in theory development and data collection/analysis. Instead, the data analysis was allowed to impact theory development by some extent, as recommended by Dubois and Gadde (2002). The research process started by defining the research questions and the corresponding unit of analysis. This was followed by a review of the existing literature, which provided the basis for devising the study propositions, and for constructing

an initial analytical framework. The framework was used to provide structure for data collection, link empirical data into a theoretical context, and provide a starting point for the data analysis.

The first part of the study focuses on the first research question, namely what success factors for deploying service-oriented strategies in the B2B capital goods industry have been identified in existing academic literature. In order to gain an understanding of the broader situation of the focal SBU, and the applicability of extant theory to the selected case, the Case SBU's market environment, market trends, and its experiences in implementing a service strategy approach were evaluated against the propositions developed based on existing theory.

The latter part of the study seeks to answer the second research question, i.e. what strategic actions could be taken to facilitate the service transition, and what are the implications to the prevailing business model in the Case SBU context. As this was designed to be a highly explorative phase, no pre-formulated propositions were developed for this part of the research. Instead, the microfoundational service capabilities framework (Figure 4) developed in the first part of the study was used as the basis for empirical analysis.

Unit of Analysis

The unit of analysis in this study is a focal business unit (SBU) in the case company. To form a complete view of the internal interdependencies of the Case SBU, the study incorporates several empirical units of observation within the case company (corporate level functions, senior management, other relevant business units).

Data Collection

The data needed to address the research questions was primarily gathered by thematic semi-structured interviews within the case company. The choice of the interview technique was influenced by Eriksson and Kovalainen (2008), who suggest that semi-structured interview is considered as optimal data collection method when studying 'what' or 'how' questions. In addition, compared to a structured interview, the semi-structured approach is better suited for exploratory research such as the present study, as it can reveal aspects, themes, and ideas that might not emerge at all in a more constrained setting.

The interviews followed a thematic interview frame (appendix 1), which was designed according to the analytical framework constructed on the basis of the literature review. Interviews were recorded and transcribed using the word-by-word method, providing the interviewee's consent. In order to fine-tune the interview frame, two pilot interviews were held before fully engaging into the data collection process. The purpose of the pilot interviews was to ensure that the structure of the interview is

functional, validate the background assumptions formed during the interview frame preparation phase, and perform iterative adjustments to the interview frame.

Sampling was done via "snowball sampling", in which interviewees are prompted to suggest potential candidates for further interviews. This technique was considered to best capture the entire spectrum of relevant persons within the case company, and provide a robust enough selection mechanism to avoid selection biases and/or omission of potentially important data sources, both of which might potentially occur in pre-planned sampling schemes. The interviews were conducted until it seemed apparent that no new data could be gleaned from further interviews, and the pool of potential interviewees had been depleted.

A total of six interviews were conducted in August – September 2014, with most interviewees being located in the middle and senior management tiers across different functions in the case company. All interviews began with a short introduction of the research topic and context, followed by the thematic interview / discussion. The interviews lasted from 28 to 77 minutes, with an average of 49 minutes per interview. The language of the interviews was Finnish for native Finnish speakers, and English for other interviewees.

Company records such as memos, reports, strategy communications and company internal powerpoint presentations were used to validate and triangulate interview data, and they were able to provide background and context for the interviews. However, textual records did not play a significant role in the collected dataset, as much of the same information emerged from the interviews.

Analysis and Interpretation of the Data

The analysis of the data followed a systematic combining approach, which can be characterized as 'abductive' (Dubois and Gadde, 2002). The analysis and interpretation consisted of an interaction between the empirical findings and theory development, with sensitizing concepts or "preconceptions" from existing theory, constructed in the form of study propositions and the analytical framework, providing a general frame of reference for the analysis and helping to interpret the themes emerging from the analysis.

3.3 Evaluation of the Study

The classic criteria often utilized for evaluating research are validity, reliability, and generalizability. Validity of research refers to the extent to which the conclusions and outcomes presented by the study accurately represent the studied phenomenon, in other words whether the findings are true and certain. Reliability, in turn, is related to the consistency and repeatability of the findings, that is to say whether another researcher would be able to acquire the same results by replicating the research process. Finally, generalizability is a measure of how well the findings can be used to explain broader phenomena (Eriksson and Kovalainen, 2008).

In an intensive case study research, the generalizability criterion is typically less relevant, as producing generalizable knowledge is often not included in the research objectives. Moreover, the applicability of reliability as an evaluation criterion for qualitative research is a subject of dispute, as for example research using mostly interview and/or observation data may not be easily evaluated using the reliability criterion (Eriksson and Kovalainen, 2008). Therefore validity is used as the main evaluation criterion for this present study.

Yin (2003) further divides validity into three elements. Construct validity concerns "identifying correct operational measures for the concepts being studied", and can be achieved by utilizing multiple sources of data / evidence to corroborate findings, establishing a chain of evidence, and confirming interpretations made from the data from the participants of the study. Internal validity relates to ensuring that the causal links established in the study are valid. External validity is a concept closely linked to generalizability, and as such is less relevant in the present study, as argued above.

The present study strives to achieve solid construct validity by triangulating data between different interviewees. In addition, the chain of evidence is established by a careful explication of the data collection process and the interview frame, and transcription of all interviews from consenting interviewees. However, for purposes of preserving the anonymity of interviewees and confidentiality of the interview data, transcripts were not stored into a case database, as Yin (2003) would recommend.

Limitations

The primary limitation of the study relates to its single-case nature, which limits the generalizability of the findings in a broader context. As suggested by Yin (2003), adding a second independent case into the research process would provide for a more robust design, and enable a higher level of confidence in developing new theory based on the empirical findings. However, the resources available for the present study necessitated focusing on a single case, with possible additional cases being left for future research.

In terms of conducting the research, the empirical units of analysis were all internal to the case company. To improve construct validity, triangulating the findings also against data collected from the external environment would have been beneficial. In addition, collecting data from the external environment might have provided additional insight that could not be acquired from the interviews. In particular, customer surveys could have been used to understand what are the customer organizations' perceptions of the case company's prospective information services offerings, and to determine whether the customer organizations' and the case company's perceptions are currently aligned.

A third possible limitation relates to sampling of the interviewees within the case company. While measures were taken to enable a full view of the unit of analysis and ensure collection of comprehensive data, one cannot rule out the possibility that expanding the pool of interviewees might nevertheless have yielded insight which was not captured in the collected dataset. However, the author believes that the current sampling provides fair breadth and a sufficient level of detail to make informed and justified conclusions at the level of abstraction presented in this study.

4. EMPIRICAL FINDINGS

The following fourth chapter presents the empirical findings of the study. The chapter begins with a description of the case company and the Case SBU, followed by an overview of the external environment faced by the Case SBU, and the market sensing mechanisms presently employed by the Case SBU. Next, the current service-oriented dynamic capabilities in the Case SBU are analysed, and compared to the findings from extant theory. Lastly, the Case SBU's traditional business model is contrasted with the prospective information services business model, with the objective to determine which of the Case SBU's strengths can be leveraged in the new business model, and which new dynamic capabilities may need to be developed.

4.1 Case Company and Case SBU

For confidentiality purposes, only a generic description of the case company can be given. The case company is a technology company with a significant manufacturing base headquartered in Finland, delivering capital goods equipment to customer organizations in the B2B and B2G sectors. The company is among the largest players globally in its specialized domain of expertise, and in the overall Finnish industry context it is considered a middle-sized enterprise. The case company is organized into a matrix with two divisional units; Business Areas A and B. The service operations unit forms a separate quasi-divisional unit, acting as a horizontal function serving both business areas. Sales organization within the business areas is deployed in a geographical/regional structure, with each regional sales team serving multiple different business units through a generalist approach. The organizational structure is outlined in Figure 10 below.

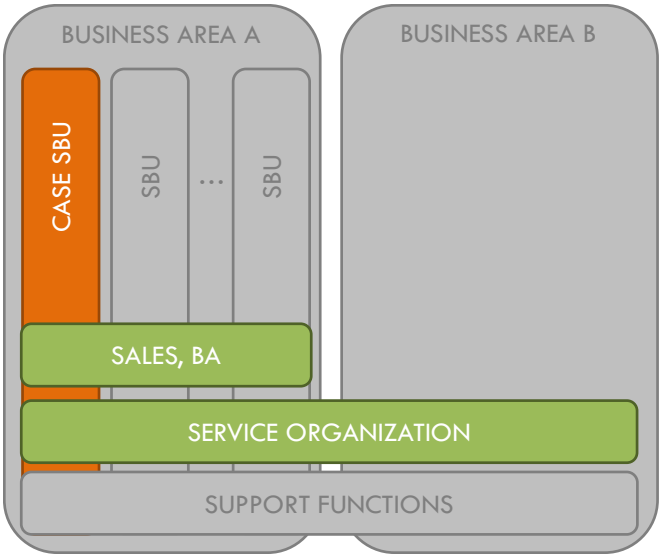

Figure 10. Illustration of the case company organizational structure.

The current organizational structure of the case company fairly closely resembles the customer-focused organizational structure as described by Gebauer and Kowalkowski (2012), with customer-focused SBUs being responsible for shaping the different products and services provided by the case company's back-end units into customer offerings. The customer-focused organizational design has persisted for a long period of time, as the case company transformed its product-based SBUs to correspond with customer segments almost ten years ago. However, in an organizational adjustment made during the recent years, the sales organization was reverted from its customer-focused, specialist mode into a geographical, generalist mode.

While the rationale had originally been to achieve efficiencies through better utilization of the sales network, the downside from the SBUs' point of view is that application understanding and customer business expertise in the sales frontline has diminished. Moreover, executing value-based sales approaches or sales of integrated solution offerings is more difficult due to lack of accumulation of specialized expertise at the salesforce level, requiring more support resources from the SBU itself.

> "We have a salesforce that is responsible across multiple businesses and many offerings within each of those, and there is just a clear difference because of that focus factor… I think that the very fact of being focused on the customer base makes a huge difference in the productivity of the engine in general, because they 'get' the customer; they know how they [customers] operate and how they think, and I think it's hard to do that when you're responsible across three or four different businesses, and then you have the complexity of the whole offering portfolio in a company like ours." (Offering Manager, Case SBU)

Business Area A has traditionally operated with two parallel business models; delivering complete vertically integrated systems/solutions built from system components designed and manufactured in-house, as well as selling the system components separately to various customer organizations and integrator companies. The current articulated strategy of Business Area A is to seek growth through business model innovation, by adding a third distinct business model to complement the traditional approach. At the core of the new emerging business model is to provide the value-adding decision support information generated by the case company's technology directly to the end customer/user as a data service, in essence 'servitizing' the case company's system/solution offering in selected applications.

Case SBU

The Case SBU is located in Business Area A, which consists of five business units organized on the basis of the target customer segment / application area. The Case SBU is the second largest business unit within the business area, with decades of history in operating in the market segment it represents.

The majority of the Case SBU's business consists of system and solution delivery projects, but sales of system components also constitutes a significant part of the Case SBU's total revenue. A typical system/solution delivery project consists of hardware elements, a software platform, and a tailored set of project services such as installation and commissioning support combined with end user training.

As with the other SBUs in the case company, the Case SBU's business is global in nature, and virtually all of its revenue comes from export markets, split fairly evenly across EMEA, APAC, and Americas regions. In terms of market share, the Case SBU is a clear market leader in the niche segment it operates, with estimates of its share reaching as high as 50% of the total market. While it's an excellent position to be in, this presents also a challenge for the future, as growth with the existing offering is difficult to achieve, and would likely require trade-offs in the profitability dimension. On the other hand, there is also pressure to retreat from the lower end offerings, where price is a dominant selection criterion.

> "One challenge especially in this SBU where we already have such a high share of the market is that we almost can only lose share… if the competitive situation changes radically and smaller agile competitors cause price erosion we can lose share… it is harder for us to fight in certain offerings because they are not as attractive financially for us to maintain, and we need to focus segmentation even more." (Regional Market Manager, Case SBU)

The articulated strategy of the case SBU has two main focus areas. The first objective is to improve the profitability of the SBU's core business (i.e. system and solution projects using the traditional business model), and maintain competitiveness of the current system offering in face of increasing competitive pressures. The second strategic thrust relates to building foundations for information services business, which is seen as the engine of future growth for the case SBU, and perhaps even more importantly, a source of improved future profitability.

> "As a general rule the main objective of our SBU is not growth but maintaining profitability, and there are two main directions. One is the continuation of the traditional project business which we see will persist for a long time, and the other relates to development of information services, because we see possibilities for differentiation there. In other words, we need to ensure that the project business continues, is profitable and competitive, and at the same time build a foundation and develop market for information services type solutions." (Director, Case SBU)

> "Our strategy can be summarized as maintaining our current market share in the core business, and achieving profitable growth from new customer segments and new offerings,

> which would be offered more as services or servitized offerings… the strategy is that the growth would come from there and the traditional business would be the bedrock which would remain." (Regional Market Manager, Case SBU)

While the Case SBU is among the largest suppliers within its area of expertise, supplying specialized system equipment, it is however a fairly small player in the overall ecosystem. In the broader industry context, the system offerings provided by the Case SBU form only a small part of the complex overall infrastructure needed in the end customers' operations. Therefore the Case SBU is simultaneously faced by smaller, even more specialized competitors on one hand, and much larger system integrators and prime contractor companies on the other hand.

> "We see a lot of other competitors who focus in one or a couple of areas whereas we focus on kind of an end-to-end value chain… so they might focus very much on a traditional hardware solution or they might focus on this newer trend service oriented solutions… it makes it challenging for us who are concentrating on a very broad portfolio and they focus very heavily on one particular space and try to make a name for themselves that way." (Offering Manager, Case SBU)

> "When we think of overall project deliveries the company is actually fairly small, there is usually someone who is responsible for the [overall infrastructure], it varies a lot but many generalist IT-integrators can take a systems integrator role also in this domain, should they so decide, and we then act as a subsupplier." (Head of Sales, Business Area A)

Additional thing to note is that the smaller competitors are often focusing on supplying hardware components for the system, while the potential threat from integrator companies comes in the form of platform envelopment (see e.g. Eisenmann et al., 2006); a number of the integrator companies are starting to include the functionality provided by the Case SBU's software offering as one element of their broader software platform.

4.2 External Environment and Market Orientation in the Case SBU

The broader industry sector in which the Case SBU operates is facing chronic profitability issues, while the demand for capacity is expected to keep growing. As the infrastructure enabling the industry to function is considered crucial for the overall economy, and typically maintained and operated by the public sector, the link between weak profitability and cost cutting is not as direct as it might be in the private sector, but cost pressures are nevertheless mounting. In addition, as the infrastructure has a direct impact on safety and preventing loss of human life, a certain threshold performance level has to be maintained.

> "Customers' budgets are shrinking, maybe not in investments but operational spend is decreasing while they pursue efficiencies… it's a controversial situation, less funds available to handle increasing volume, that is the direction we're heading towards all the time… Also, one thing that must never be forgotten to mention is safety, safety is always the number one priority." (Director, Case SBU)

> "It's a conservative industry, trends which are commonplace in many other industries are only now becoming visible… regardless that funding often comes from public budgets our customers have a need to improve efficiency, money is not in a limitless supply… there is less and less available all the time and of course everything needs to be done more efficiently and in the long run with less resources." (Head of Sales, Business Area A)

Performance is also monitored closely by regulatory authorities, which, coupled with the paramount need for safety, amplifies the conservativeness of the industry, making it slow to change and adopt new innovations. In short, the Case SBU's customers need to find ways to get by with less, while still meeting regulatory compliance.

> "It's a very slowly changing environment; the safety perspective slows down development. All technology innovations need to be tested very carefully before they are taken into operational use. The market moves slowly but the pressure is there, the trend will continue and innovative solutions will be sought after, both from process and technology perspective." (Director, Case SBU)

The competition is eager to exploit the new paradigm; whereas in the past the highest quality and consequently the least risk to safety often won the day regardless of cost, cost pressures are now forcing customers to balance cost with a reasonable level of performance. At the same time, the competitors have managed to enhance their own offerings to meet or exceed the figurative threshold of minimum performance, and are aggressively disrupting the market from the low-end, continuously

approaching higher tiers of performance. The development closely resembles the commoditization scenarios outlined by e.g. Christensen and Raynor (2003), in which the lower cost offerings enter the market from the low-end, and progressively make their way up through the performance tiers in the market, forcing the incumbent(s) to retreat towards the high-end, or develop completely new means to approach the market.

> "Cost consciousness has increased among customers, perhaps in the customers' purchasing organizations they're also trying to find the 'golden mean'; the current market environment doesn't work so that whoever develops the best solution would dominate the market… this will be a major challenge for the company, many of us have the mindset that we want to build the best solution with the best quality, but the equation that at the same time we'd need to be very price competitive is not easy in that context." (Regional Market Manager, Case SBU)

> "Competition will increase as solutions commoditize; it's one trend which increases competition and therefore cost pressures… for standardized offerings there starts to be more competitors and the players who have been in the market previously move towards specialization or integration, upwards in the value chain… escaping where the price competition starts to be so fierce that they cannot hang on with their cost structures." (Director, Case SBU)

The findings also correlate with the conclusions of Matthyssens and Vandenbempt (2008), who outline two primary de-commoditization paths; either through business process integration, such as e.g. providing more advanced service concepts and outsourcing solutions for customer business process optimization; or through technical application integration, customizing the technical solution to optimize the customer's technical process. Interestingly, both of the primary alternatives had been identified by the Case SBU, with the business side suggesting service concept -based approaches, while the offering side focused on technical integration. The third option identified by Matthyssens and Vandenbempt (2008), advancing simultaneously on both paths through delivering complete turnkey solutions, was not considered feasible in the Case SBU's market environment.

> "Innovative future actors can either survive through differentiating by price, that is cost structures, or alternatively build solutions which help the end customer to significantly improve efficiency and reduce operational expenses." (Director, Case SBU)

> "In order to succeed I think we have to be ahead in this curve of transformation, stay on top of how the market's changing, and making sure that we're kind of leading that change, the interconnectivity… integration, networking, intercommunication, being able to get all

> of the information to play together instead of siloed island systems where they don't communicate very well." (Offering Manager, Case SBU)

On the technology side, one industry-specific element in the market environment was identified, as there may be a potential technology disruption in the horizon, triggered by the regulatory authority. The regulatory body may forcibly accelerate technical integration by requiring consolidation of the currently independent system offerings within the ecosystem into one integrated entity, which would strongly favour system integrators, and might push smaller system providers such as the Case SBU down the value chain, effectively reverting them back to the role of a system component / subsystem supplier.

> "From [the Case SBU's] point of view there is a risk that the software which represents a sizeable part of our current system, its share might even decrease and we may stagnate in our traditional business… if we lose the software side it could easily mean that we lose a third of our revenue, and in practise it would mean that we wouldn't be able to provide any services as we would only be a hardware supplier." (Regional Market Manager, Case SBU)

> "More and more what I see is that customers tend to go for procurements covering not only one particular upgrade or modernization project, but more of a systemic approach [including several different systems]. No single manufacturer can fulfill that scope of work, so more and more we are pushed to cooperation with other partners." (Sales Manager, Business Area A)

As service offerings are typically provided directly to the end customer, they are seen as one potential way to bypass the integration chain, and maintain the connection with the end customer even in the worst-case scenario. Nevertheless, this would only apply to certain specialized application areas within the Case SBU's market environment, for which focused value-added service offerings can be developed.

> "When we consider information services we can be well positioned in the value chain because we can directly concretize the value to the customer, in that sense our situation in these selected application areas is fairly good. The information we provide will be used to support decision-making, which is a good situation for us." (Regional Market Manager, Case SBU)

In the future, price competition is expected to further intensify, and the players who do not wish to transform their activity system to (solely) play the cost leadership game need to focus on customer-

oriented, value-focused solutions, which enable the customer organizations to improve the efficiency of their processes, and thereby reduce operational spend. In addition, critical success factors in the changing market environment are considered to include close customer relationships, customer-focused business model innovation, as well as broad market reach and market presence.

Taken altogether, the market environment resembles fairly closely the first generic type as outlined by Gebauer (2008), with perhaps the exception that competitive intensity in services is not yet equally fierce as it is for system offerings, as the development and deployment of service offerings in the market in general seems to be lagging. One reason behind this is likely that the safety-critical nature of the industry necessitates that customers must by definition assign top priority to the proper functioning of the product. As a result, many customer organizations employ an in-house maintenance function, which services the various systems constituting the customer's overall infrastructure.

The other parameters seem to be in line with Gebauer's (2008) typology; competitive intensity of the product is high and still increasing, market growth is fairly limited, and price sensitivity of customers is increasing fast. Moreover, most customers still prefer to acquire equipment through an initial capex investment. Customers' preference for optimizing efficiency and effectiveness of the product in their operating processes has not yet fully manifested, but based on the empirical findings there seems to be powerful drivers pushing towards that direction, even though the development is slowed down by the industry's natural inertia. The preference for collaborative innovation for customer's operating processes is assumed to be low at this point of the development cycle of the industry.

Market orientation in the Case SBU

The importance of market orientation in general is widely recognized in the Case SBU, and efforts are made to stay aware of the external environment, especially related to customer needs. However, at the time being the Case SBU doesn't have in place systematic processes for gathering market information, analysing the data for insights, or disseminating the findings within the case company organization. As a result, the current market intelligence mechanism relies on gradual, serendipitous accumulation of information through personal interactions between the Case SBU, customer representatives, and case company frontline personnel.

> "A lot of discussions with the customers in general, but it's probably a little informal in the way we do it, we do it one on one when we get the opportunities. There isn't a streamlined formal process to gather that information. Going to events, conferences might be one way to get a good broad cross-section - have a lot of discussions with customers - but I don't think we're as formalized in gathering that feedback." (Offering Manager, Case SBU)

> "It's fairly informal, not very systematically gathered [market information]… there's definitely room for improvement, in gathering the information and in the whole process." (Director, Case SBU)

The risk with the current approach may be that the 'metabolic rate' of market information can be relatively slow, and it may be difficult to assemble a comprehensive picture of the external environment from the potentially fragmented pieces of information residing in a number of individuals. Moreover, the lack of a formal value research mechanism may risk impairing the Case SBU's understanding of customer value perception profiles, as generalizing the value profiles of a few well understood key customers across the broader market may not be sufficient to accurately capture the granular differences between individual customers, or sub-tiers of customer groups within the market.

While the customer orientation mindset of the Case SBU can be considered fairly high, the second component of market orientation, the competitor orientation dimension, is perhaps not equally pronounced.

> "At the moment we don't have a structured way to gather for example competitor information, we do it annually in conjunction with the business strategy process, review the market and sum up what we have learned during the year, but for example competitor analysis could be done even more systematically. We do gather information and we have it in databases and so on, but we don't have mechanisms which would systematically collect e.g. competitor information and utilize it in product development, for example." (Head of Sales, Business Area A)

The Case SBU is definitely aware of the competition, but it may be that the technical and organizational capabilities of competitors tend to be disregarded or overlooked, and competitive analysis is consequently reduced to focus on the price/cost dimension only. However, based on the interviews it would nevertheless appear that a number of competitors are actively pursuing various non-price-based strategic competitive moves, in addition to the low cost / medium performance approach most acutely perceived by the Case SBU. These include for example platform expansion through horizontal integration, novel ecosystem and value network formation, and high degrees of customer-specific tailoring.

Enhancing market orientation could be beneficial for the Case SBU, especially in the areas of competitor orientation, systematic analysis, and focused utilization of the market information in the Case SBU's internal processes. Improving these areas would enable the Case SBU to accelerate its

market sensing and sense-making processes, as well as the dissemination of the market information to the other organizational stakeholders of the Case SBU.

4.3 Service Business in the Case SBU

As can be expected, the Case SBU's current service offering portfolio is focused on the product-oriented transactional services needed in the delivery of its capital goods equipment, consisting of e.g. documentation, installation/commissioning, product-oriented training, helpdesk, spare parts and repairs, and product upgrades, which Oliva and Kallenberg (2003) classify as *basic installed base services,* and Mathieu (2001) as SSP services. The case company has also built some capabilities for providing certain relationship-based, product-oriented *maintenance services* (Oliva and Kallenberg, 2003), such as preventive maintenance, spare parts logistics services, and full maintenance contracts, although these are not commonly included in the Case SBU's capital equipment deals to customers outside North America. The current customer strategy or supplier role of the Case SBU closely resembles the equipment/material supplier role as described by Helander and Möller (2008).

The information service offering the Case SBU is planning to roll out makes a significant departure from its traditional offering, both in the nature of the value proposition and in the capabilities required from the case company. The information services value proposition is based on the premise that the customer can directly purchase the end product or the outcome produced by the system equipment; in this case information which can be used by the customer organizations to streamline their operational processes, and enable more informed operational decision-making. It should be noted however that the purpose is not to servitize the traditional equipment offering, instead the new information services concept is based on a more advanced analytics product, serving a different purpose from the traditional system equipment.

> "Traditionally how it goes is that a firm first sells equipment, and there needs to be certain services attached; repairs, support services and so on, and at some point it comes up that there could be a business opportunity in adding more product-oriented services such as maintenance contracts - we will skip this phase entirely. For multiple reasons, we will go directly to owning, operating and maintaining the systems ourselves, and sell to the customer the information they need in their own business and operations." (Director, Case SBU)

> "The most interesting route would be to seek new niches where we can deliver a focused, specialized [information] service to a customer group to which it would create radical added value, in the best case even change the way how the industry currently operates." (Head of Performance Services, Case Company)

The new service offering represents a SSC type service (Mathieu, 2001), in which the service provided supports the customer's action. The offering can be delivered as a stand-alone service, and is not necessarily linked to the traditional equipment offering, even though it could provide added differentiation to the traditional offering as well. However, creating the information in the first place does require system infrastructure, which would lead to further classify it as a *process support service* (PSS) type hybrid offering, as described by Ulaga and Reinartz (2011). Moreover, as the information needs to be provided continuously instead of e.g. a one-off consultancy effort, the capabilities required from the case company are similar to those of asset efficiency services (AES) offering (Ulaga and Reinartz, 2011), even though the AES value proposition is only indirectly visible to the customer.

To support this type of offering, the Case SBU and the case company need to develop capabilities for owning and operating equipment at customer sites, and for intervening quickly in case of system malfunction. In essence, the internal capabilities needed to deliver the information service closely resemble those required from an outsourcing services provider, with the exception that for the Case SBU's offering the price dimension is not expected to be a crucial factor, unlike what would be the case with a traditional cost-saving and efficiency-seeking outsourcing value proposition.

> "I believe that from the company's point of view it's not reasonable to provide outsourcing services just for the sake of it, if we run the system for a customer only because it's a little cheaper than with another provider we soon end up in places which are not our core competence, and it's a little disheartening to only be able to compete on price. That is why the added value dimension is particularly important." (Head of Performance Services, Case Company)

Building the field service operations capability is seen as one of the main challenges with expanding the information services offering, as the case company doesn't currently have a global service network to cost-effectively operate system infrastructure at potential customer sites, few exceptions notwithstanding. Moreover, the business volume or the value captured from the planned offering in a single country or region might not be sufficient to support setting up a dedicated service center, at least initially.

The dilemma then faced by the Case SBU is whether to proactively build up service infrastructure to capture potential customers and possibly operate at a very thin margin or even at loss until the volume hopefully expands, or focus only on cases large enough to support profitable operation from the onset. While the latter approach is less risky from an operational point of view, it may slow down market entry, potentially enabling competitors to catch up and neutralize the technological advantage currently enjoyed by the Case SBU.

> "In the end maybe the biggest challenge is that even though we are among the largest players in this field, the reach of our service network is fairly limited, and it's not financially straightforward to expand. When we look at a business opportunity we often end up in the situation that we cannot resource it sufficiently from the service business' point of view, and we have to go with a partnering approach. It's difficult to achieve the critical mass to be able to conduct the service operations as we would like. (Head of Sales, Business Area A)

While the case company wouldn't be classified as a small or medium-sized enterprise (SME) based on the typically applied criteria (e.g. turnover, number of employees), it seems to be facing a situation not unlike the SMEs studied by Kowalkowski et al. (2013). In this respect, following the conclusions of Kowalkowski et al. (2013), it can be assumed that a certain degree of partnering and building of new value constellations to support the service infusion may be needed, at least in the initial stages of setting up the service operation.

Case Company and Case SBU service strategy

The case company in general doesn't have an articulated service strategy, and the service approach follows the business strategies determined at business area and business unit level. Consequently, the company does not pursue a deliberate overarching service transition strategy, but strives to expand the service business and service revenue through a focused thrust of information services offerings targeted to certain market segments and application areas. The role of the information services in the overall strategy could be seen as threefold: solidifying customer relationships by adding a relational element to complement the traditional transactional project business; contributing to building high levels of trust with customer organizations; and providing a high added value offering to support differentiation from competitors, subsequently enabling higher margins than what would be possible with the equipment business alone.

> "The key is in building a partnership with the customer, reaching a level of trust where the customer counts on us, is possibly even willing to do joint development with us. Then when we have the trust we are perceived as a preferred supplier for all kinds of offerings." (Head of Performance Services, Case Company)

The above resonates well with both Grönroos (2004) and Edvardsson et al. (2008), as the relational component can in itself be expected to improve the value customers perceive in the supplier relationship and in the supplier itself. Moreover, by enhancing the converter variables of trust and service offering, minimizing the inhibitor variables of risk and supplier image, and reinforcing the bonds inhibitor variable against competitor entry, the case company may be able to prevent slipping

'backwards' in the customer's consideration scheme during the otherwise potentially dormant periods between project deliveries.

Following the case company approach on the business unit level, the Case SBU does not have a deliberate articulated strategy for service business as such. However, expanding the information services business plays an important role in the Case SBU strategy, and counts among its most important strategic objectives. Instead of a predetermined strategic plan, the Case SBU has opted for an emergent strategy approach to preserve agility on the nascent market.

> "We have naturally made plans on how to reach the objectives that we have set in the strategy, but these are living documents. It depends on how things get going, if we find out that something doesn't work we'll change our approach." (Regional Market Manager, Case SBU)

In terms of Fischer et al. (2010), the Case SBU is pursuing an exploratory service strategy, and targeting an adjacent value chain at the customer organizations (Sawhney et al., 2004). The exploratory approach is by nature proactive and market-driving, and characterized by Fischer et al. (2010) as a "radical jump towards new strategic stage". Fischer et al. (2010) find the service-oriented performance improvement attributed to an exploratory strategy to be as high as from below 20% of service revenue to over 40% in approximately five years. However, exploration is also a more risky strategy which requires more developed dynamic capabilities from the firm, including the capability to redefine and re-shape the value network in which the firm operates.

As demonstrated by Fang et al. (2008), the critical mass after which the service business starts to have a positive impact on firm value is approximately 30% from the firm's total revenue. At the time being the Case SBU's service business volume remains clearly below the threshold, but both the articulated service revenue targets and the chosen radical service expansion strategy seem to indicate that the Case SBU is poised for making a serious attempt to cross the threshold and achieve critical mass.

> "Roughly 15% of revenue comes from services, and about 5-7% from information services. Target in five to ten years is that about a third from revenue would come from information services, but in terms of gross margin as much as 50%. So the profitability impact is even larger than the revenue impact." (Director, Case SBU)

> "If we think of the type of business we are in, at least about half of the revenue should come from services." (Head of Sales, Business Area A)

> "It's maybe 15% of what we do today, hopefully it will be 30-40%, but it probably takes several years with our customer base. But that would be the idea that we try to build more of that mix." (Offering Manager, Case SBU)

The Case SBU's chosen service expansion route is towards SSC services, which Eggert et al. (2011) find attractive when product innovation activity is low, and the core product provides little opportunities for differentiation. Moreover, pursuing expansion towards the more complex SSC services is likely to require investments and resources which are less likely to be available in case the firm can gain significant advantages from allocating the resources to product innovation. As the increasing commoditization in the Case SBU's market environment is expected to lead to diminishing returns from product innovation activities, the Case SBU's chosen approach seems to be in line with the findings of Eggert et al. (2011).

Comparing the service elements in the Case SBU's strategy to the strategy-environment configurations identified by Gebauer (2008), the Case SBU's strategy most closely resembles a type 2 strategy approach, with a low emphasis on cost leadership, high emphasis on product and service differentiation, and high emphasis on the new process-oriented information services. While there is not a particular focus on after-sales services in general, it is acknowledged that the offering has to be maintained at a competitive level, resulting in an intermediate level of emphasis. Targeted R&D services or operational outsourcing services are not considered interesting for the Case SBU.

In a sense, it could be seen that the Case SBU is attempting to shape parts of the market by creating a type 2 external environment niche through its information services offering, and reducing the competitive intensity and price sensitivity within the niche. As also pointed out by Fischer et al. (2010), this type of approach is proactive and market-driving (Jaworski et al., 2000), striving to deliver value beyond customer articulated needs, and to reshape the market structure and/or market behaviour of customers and other market players.

However, as underlined by the Case SBU representatives, the traditional equipment business is expected to remain the Case SBU's main source of revenue for years to come, and a service strategy aligned to the corresponding type 3 environment (Gebauer et al., 2008) would require a completely different approach. Consequently, the challenge for the Case SBU in the long term might be in whether it is able to run two different strategies and maintain two sets of capabilities at the same time.

Taken altogether, the empirical findings provide strong support for Proposition 1. Service-based differentiation has been chosen as the case company's main growth strategy, and is also emphasized by Case SBU's individual business managers as the answer to the commoditizing traditional market. Moreover, the Case SBU's rough target levels for service business in the long term, as indicated by

case company representatives, correspond well with the levels expected based on earlier reports (Fang et al., 2008).

Service development

Similarly to many manufacturing- and technology-oriented firms, the case company doesn't have a separate new service development (NSD) process. New services are primarily developed in conjunction with new product offerings, and from the perspective of supporting and enhancing the core product.

> "Our main guideline is the product creation process, which directs our development efforts, and describes how we evaluate business cases, how we make decisions on development initiatives, and so forth. It more or less covers all of our development activities. […] Services are reviewed at the same time, meaning that if we are launching a new product we evaluate what services are needed to support, and how we make money out of those. But our equipment background does still show; it's still fairly equipment-oriented." (Head of Performance Services, Case Company)

The current offering development mindset prevailing in the case company in general resembles the equipment/material supplier profile as outlined by Helander and Möller (2008), in that during the new offering development stage services are primarily considered as an obligatory add-on, and subordinate to the core product. However, as pointed out by Drejer (2004), a manufacturing-based and technology-oriented innovation process may be too limited for services, and may not enable a firm to focus sufficiently on the unique aspects in which services differ from products - such as e.g. higher need for market and customer feedback during the development process, and considerations related to the service delivery phase (Kindström and Kowalkowski, 2009).

Moreover, as services development typically has less need for initial investment compared to product development (e.g. manufacturing capacity, prototype development, etc.), the decision metrics designed for product development may not function as intended for evaluating opportunities for new service offerings (Kindström and Kowalkowski, 2009). The challenge has been identified also at the Case SBU, as stand-alone service offerings have a hard time proceeding in the case company's stage-gate offering development process.

> "There's the internal challenge that as we have been a manufacturing organization for a long time, our decision mechanisms and management accounting systems are optimized to support manufacturing, meaning that it's difficult to build a business case for information services in a way which would make sense internally; we have a certain way to calculate

> business cases in the company, and using those metrics it [information services offering] doesn't look so attractive." (Director, Case SBU)

This also links back to the findings of Eggert et al. (2011), who predict that allocating resources for SSC services development does not positively impact firm value and/or will be difficult to justify when product innovation activity is high. As the case company in general does pursue a significant level of product-based innovation, creating a separate service development process might, resources permitting, enable those SBUs in the case company currently targeting SSC service expansion to better pursue both product- and service-oriented development at the same time.

In either case, case company representatives expect that technology innovation will remain among the main drivers of competitiveness also in the future, whether it's in the form of products, or as the enabler of new service offerings. While the focus of development may shift towards e.g. software or analytics capabilities from the hardware which has been the highest priority in the past, having a solid technology platform and a competitive product offering is considered as a prerequisite for the advanced service offerings. As reported by Salonen (2011), this sentiment matches also the experiences of other capital goods equipment manufacturers.

> "In a way the equipment is the foundation for everything, also in information services […] it all starts from having capable equipment which can be trusted on, that's the cornerstone on top of which we can build everything else." (Head of Performance Services, Case Company)

Even though a formal service development process does not exist in the case company, the Case SBU has conducted independent service development efforts through lead customer engagement and piloting. These market sensing activities have provided insight into potential service opportunities, but considering that there can be important differences even between individual Case SBU customers, some uncertainty remains on whether a service concept developed together with one key customer or a small number of key customers can be replicated to a broader customer base.

> "It [the service concept] is built with one lead customer, also the technical concept, but especially on the information services side it's vital to review the value creation mechanism with multiple customers." (Director, Case SBU)

> "The risk is naturally that if we have one active and vocal customer asserting that this is an important issue, but we cannot be certain whether it applies also to other customers, then we may end up developing something needlessly, but most of the time it's natural that

> when a customer indicates that something is important for them there are also other customers with a similar need." (Regional Market Manager, Case SBU)

In this situation, the Case SBU might benefit from implementing a lightweight but formalized framework for new service concept idea generation and preliminary concept design, including also formal, systematic value research using common research methods, as suggested by Storbacka (2011). Building on the identified and validated value creation and value capture potential, the other main elements of the prospective business model (at least profit formula, differentiation, and key resources) can then be evaluated in terms of feasibility and attractiveness. A key benefit in this approach would be the possibility to rapidly iterate the tentative service concept based on concrete input from the customers, leveraging the value research platform.

Organization

The service organization is currently set up as an independent function within the case company, and a single sales force is utilized to sell the products and services of all SBUs within case company Business Area A. The Case SBU is responsible for managing the products and services offering within its customer segment / application area. Customer engagement follows a two-tier approach, in which the geographically organized sales force is supported by a customer segment and application area - oriented market management function placed within the SBUs. While the SBUs appear to be built to correspond with the 'front-end' or solution units as described by Galbraith (2002) and Miller et al. (2002), the customer frontline is nevertheless served by a generalist sales organization.

According to Auguste et al. (2006), this type of organizational structure is best suited for SSP type services designed to enhance the core product, while pursuing services as an independent growth platform would benefit from a separate sales force, or at least having assigned service specialists within the single sales force. The Case SBU representatives echo a similar sentiment in questioning whether a single sales force is able to allocate sufficient attention to developing deep expertise in the customer business and building a market for the nascent service offering, while under pressure from the other SBUs to achieve high levels of short-term revenue, which in practise directs the sales organization towards higher-value equipment sales.

> "What seems to be the fact is that if we want to succeed in selling these new offerings it has to be focused […] we cannot train it to everybody, we need to have a small team who would understand the domain so well that they can justify the value creation mechanism to the customer, and in this way bring added value to the sales process." (Regional Market Manager, Case SBU)

> "I don't think that we would ever bring this to the entire sales organization, it has to be specialized, tiger teams, or however you want to call it; especially the sales of information services will eventually need to separate as its own unit so that they can focus on it." (Director, Case SBU)

All in all, while the geographically organized sales force can provide reach/cost efficiencies on the case company level, it may be less suitable for value-based customer engagement which requires deep customer business understanding. As a result, it appears that the customer-facing front-end has become somewhat blurred, as the Case SBU doesn't have enough resources to take on a full customer-facing role on a global scale, and the sales organization doesn't have sufficiently specialized capabilities to handle the more demanding customer engagements.

To enable successful selling of the information service offerings the front-end would likely need to be refocused; either by reinforcing the resourcing of customer-facing roles within the Case SBU, or increasing specialization in the sales organization to enable faster knowledge accumulation. As the former route is likely to eventually lead to a weak sales organization with low added value (Gebauer and Kowalkowski, 2012), the latter option might be more beneficial for the case company in the long run.

With the case company's management system in general, the current trend seems to be towards fairly centralized decision-making, combined with relatively process- and control-oriented governance mechanisms (see e.g. Walton, 1985). However, as noted by Neu and Brown (2005), when operating in a complex environment such as e.g. the provision of SSC services, a more decentralized decision-making approach may be more suitable. Ideally, the employees in frontline roles both in sales and in service delivery would have the needed capabilities to be able to evaluate the situation and act independently, and also have the authority to make decisions pertaining to their area of expertise. Delegating decision-making authority to frontline personnel and frontline management would also contribute towards generating an 'employee-pull' effect, as opposed to a 'managerial-push' approach (Gebauer et al., 2005).

One fairly radical approach outlined by Adamson et al. (2013) divides the traditional sales-delivery organization into "market teams" consisting of a sales/business professional, a solution/technology expert, and a delivery-oriented project manager. These teams are then given full deal authority and P&L responsibility to pursue business in their assigned territory, and are measured against their ability to deliver profitable growth. While this approach might not be directly applicable to the Case SBU, some of the elements could perhaps be considered for adoption, for example in deploying virtual market teams with shared market-based objectives and a corresponding incentive system.

Value network

After an equipment project delivered by the Case SBU is completed at a customer site, the lifetime of the system can be ten years or more, during which time the revenue from the installed base consists mostly of SSP services provided on a transactional basis. The Case SBU has a long history of successfully conducting project business in this fashion, which, combined with the traditional equipment orientation, may have contributed to a slightly transactional mindset within the unit. On the other hand, the nature of the Case SBU's customer base is such that the number of potential customers is fairly limited, and as they largely consist of government organizations, most of them are well known to the Case SBU. The concentration of the customer base would provide a good starting point for a more relational end-to-end customer relationship management approach, enabling higher levels of customer orientation and relationship-based value-add.

> "The traditional approach is clearly transactional; larger system upgrades may take place every ten years, and in between we sell some spare parts. On the services side we do have some transactional services as well, but as said it's more on the product-related services side, it's fairly reactive. When it comes to longer-term [customer relationship] development the focus is on the information services." (Director, Case SBU)

The case company's formal customer relationship management approach is focused on project sales, and adapted for monitoring and managing the opportunity pipeline, instead of individual customer relationships. In essence, customer relationships are managed through the relationship initiation phase (Edvardsson et al., 2008), but after an agreement is reached and the delivery organization takes the lead in the project, visibility to the relationship from within the sales organization is often lost.

At the time being the case company's CRM system is not set up to provide customer-specific financial metrics such as past revenue or profitability per customer, after-sales cost-to-serve, or projected future revenue / gross margin based on the visible opportunity pipeline. In a sense, it could be seen that the case company's CRM approach is more tactical than strategic, following the definition presented by Payne and Frow (2005). As there are presently no means for visualizing or quantifying the expected value of a customer relationship, or formal mechanisms for managing the customer relationship as a whole, decision-making concerning the customer tends to be fairly episode-based (Grönroos, 2004), with other functions' priorities and objectives often overriding customer relationship considerations.

For a broader approach, more emphasis could be put on optimizing customer lifetime value, and integrating an end-to-end view of the customer relationship over the firm's processes (sales, delivery, after-sales). This would enable coherent decision-making at all customer touchpoints, regardless of which organizational unit is interacting with the customer. It would also reduce inadvertent sub-optimization on act or episode level, ultimately leading to higher relationship value perceived by the

customer, as suggested by Grönroos (2004). The approach is likewise consistent with the view of Tuli et al. (2007), who argue that from the customers' perspective, a solution-type product-service offering is perceived as a continuous process of requirements definition and fulfillment.

In particular, attention should be paid to maximizing the effect of the converter variables *trust* and *time* of response, and minimizing the potential impact of the inhibitors *risk* and supplier *image* (Edvardsson et al., 2008). In the long run this can be achieved effectively and consistently only if the customer perceives a coherent response from all parts of the organization, and throughout the entire sales-delivery-service chain.

For the Case SBU's new information services offering, fine-tuning the customer relationship approach further could be especially beneficial, as customer organizations for the new service offering are often different from the traditional customers, and typically operate on a global or regional scale, spanning multiple sales territories or sales regions within the case company. During the relationship initiation and services piloting stage, delivering a coherent customer experience is also naturally of critical importance, as a low perceived relationship value-add would likely lead to disengagement by the customer organization.

Finally, combined with an increased emphasis and systematic approach to market and customer orientation, end-to-end management of customer relationships could also play a major role in enabling more and better intelligence to be generated on the individual customers' value preferences and possible new value creation opportunities. The information gathered in the course of operational activities would potentially provide a useful input to the value research process.

As identified earlier, a significant value network -related challenge faced by the Case SBU in moving towards the provision of information services is developing the capability to own and operate equipment at customer sites, without intrafirm service presence in the country or region. While setting up a local service organization could be considered in some cases, for the most part partnering and/or other network approaches are expected to be needed.

A relatively large share of the Case SBU's sales is conducted via its extensive representative and distributor network. As many of the distributor partners also possess technical and service capabilities, leveraging the distributor network also for service activities could be an effective approach, as suggested by Gebauer et al. (2010). In this mode a part of the revenue from the information services would be diverted to the local distributor in exchange for maintenance services, in essence trading off service revenue for profitability (compared to the Case SBU performing the service activities itself).

> "I'm using mainly partners who are also case company representatives, and who have been selected very carefully so that we have without exception only partners who are qualified for local installation services […] we could really leave that responsibility [local service]

> to them without having to fear for quality-related issues." (Sales Manager, Business Area A)

However, as sales of the information services is expected to require a depth of knowledge not available to most distributors, the sales role of the distributor would diminish, which may induce resistance with some distributors. Moreover, as the information services business model is designed to enable a closer relationship between the Case SBU and the end customer, the business model proposed to the distributors should be attractive enough to encourage facilitating direct access to the end customer.

While leveraging the distributor network for service provision may be a suitable solution in some cases, distributors are not present in all potential markets, and may not always possess sufficient technical competences. In order to design a business model with broader applicability, the Case SBU may need to develop the capability to flexibly adopt and operate multiple parallel value constellation models. Consistent with the findings of Kowalkowski et al. (2013), there probably is not one "best" value constellation which would be suitable for all situations.

Of the alternatives identified by Kowalkowski et al. (2013), the Case SBU might consider evaluating possibilities for competence co-location or competence acquisition. In the former case, a Case SBU service representative could be based in e.g. customer or distributor premises, providing a more cost-efficient approach compared to setting up a fully independent intrafirm service center. The latter case would be a more direct approach to acquire, in part or in whole, a local service firm with the needed capabilities and a sufficient level of existing business to be financially self-sustaining. Finally, in the most straightforward case, the needed maintenance services could of course be purchased from a subsupplier service partner, in case a suitable candidate would be available.

Conclusions from the Case SBU

Taken altogether, the observed empirical findings on the Case SBU's experiences provide support also for Proposition 2. Of the dynamic capability elements identified in Proposition 2, there is strong explicit support for the increased need of dynamic capabilities related to market orientation, as well as for those focusing on service-focused offering development, development of a service-oriented culture, and value network reconfiguration. There are also indications of the importance of developing dynamic capabilities in the area of organizational alignment, though less pronounced and in part more implicit than explicitly stated. One possible explanation for this is that since the capabilities for structuring the organization and staffing it appropriately are needed also in the traditional business, these capabilities are considered to exist already presently.

Finally, the Case SBU and the case company hadn't felt a need to devise specific service strategies. However, if strategy formation is considered as the design and selection of business models appropriate for the circumstances at hand, as suggested by Casadesus-Masanell and Ricart (2010), instead of the development of a 'pre-determined high-level plan of action' - as perhaps is the prevailing perception within the Case SBU - there is virtually by definition also a need for advanced dynamic capabilities for devising service-oriented business models suitable for the firm's internal and external environment.

Based on the above, it can be concluded that Proposition 2 holds, and that it outlines the antecedent dynamic capabilities needed in the service transition and the implementation of a service-oriented business model.

4.4 Case SBU Business Model Analysis

The following section concludes the empirical findings by comparing and contrasting the Case SBU's traditional business model with the prospective information services business model, through the lens of the business model framework constructed in section 2.3. The main differences between the two business models are presented, to evaluate which of the manufacturing organizations' strengths can be leveraged in the new business model, and which capabilities need to be developed in order to successfully deploy the information services business model.

Traditional project-based business model

Value Proposition | In the Case SBU's safety-focused and project-based market environment, the value proposition has traditionally focused on best quality, superior reliability, and the long experience of the Case SBU, translating into the least risk for the customer organization and its decision-makers. This approach has been effective for a long period of time, but as reported by the Case SBU representatives, over the recent years a number of lower-cost competitors have been able to reach a sufficient level of quality and demonstrate credibility through references, while at the same time pushing prices down aggressively.

The Case SBU's value quantification efforts have been directed towards an "insurance logic" type approach, based on estimation of probabilities, cost of risk, and cost of downtime for the overall infrastructure the Case SBU's offering is a part of. However, as the benefit would materialize only if a fairly low-probability chain of events would take place, there is no immediate value (such as e.g. cost savings or improved productivity) to be gained in selecting the Case SBU's offering over the competitors; especially as the competitors tend to present a similar line of argumentation or at least claim parity with the Case SBU.

Moreover, as many of the quantification parameters are difficult to estimate with a reasonable level of certainty, budget-strained customers are hesitant to buy into the Case SBU's value argumentation, opting instead for the more assured cost savings achieved through reduction of the initial purchase cost. This finding is in line with Anderson et al. (2006), who emphasize the need to develop an ability to demonstrate value in order to avoid the appearance of unsubstantiated value assertion.

Profit Formula | The Case SBU's project proposals are priced with a combination of market-based and cost-plus logics, with a considerable number of the customer organizations applying a formal tender process in supplier selection. In the internal pricing process, the Case SBU typically sets a certain target margin range or a minimum acceptable margin level, from which deviations are made on a case-by-case basis depending on the strategic significance of the project, the competitive situation, and the level of the existing order book.

As for the cost side, the Case SBU is likely to benefit from a degree of economies of scale due to its commanding market share and in-house manufacturing. On the other hand, it also receives a fairly significant allocation of corporate overhead, leading to the sentiment among Case SBU representatives that its overall cost level is likely higher than that of competitors. In addition, most of the case company's project delivery and field service resources are based in its headquarters in Finland, and consequently the cost level of field operations is fairly high when compared to local providers, especially in markets outside Europe and North America.

Key Processes and Activities | The key processes for running the traditional business model are those traditionally associated with manufacturing organizations in the technology and capital goods industry; product and technology R&D process, project marketing process, project sales and delivery process, and manufacturing process.

Due to the project-based nature of Case SBU's business, the decision-making criteria regarding business opportunities are for the most part transactional, and focus on project margin and project risk assessment. Relational considerations are taken into account to some extent, but not formally included in the decision-making process.

Key Resources | Corresponding with the identified key processes, the key resources for the traditional business consist in part of the case company's considerable R&D, intellectual property and manufacturing assets, but also of market-based assets such as its brand equity, distributor network, long-term customer relationships, and its installed base. In particular, brand is a major asset for the Case SBU and the case company in general, reflecting its long, successful history and its position as the gold standard in its field.

Value Network | In addition to direct customer relationships, which naturally are the highest priority in the Case SBU's value network, channel partners also form a crucial element in the network. While an exact figure is not available, a significant part of the Case SBU's business is conducted through representatives and distributors. As noted earlier, while the strong role of distributors has undisputable benefits, it may also entail possible disadvantages (Gebauer et al., 2010). These however seem to be less prominent in the Case SBU's project business.

The present value network is built for a vertically integrated mode of operation, with the Case SBU operating the complete value chain from manufacturing to delivery and installation for its preferred scope. Broadening the scope horizontally to integration activities had not been in the Case SBU's interest, and consequently its value network has traditionally not included many system-level complementor suppliers.

Differentiation | The case company's and the Case SBU's differentiation approach has traditionally been based on superior product quality and performance, delivered by its high-powered R&D engine. However, in a development similar to that described by Christensen and Raynor (2003) and Matthyssens and Vandenbempt (2008), it appears that the performance of "good-enough" offerings has reached a critical threshold, diminishing the differentiation advantage available from further performance increases, and shifting the basis of competition to other factors. Currently perhaps the most powerful remaining differentiating element is the case company's brand, which still carries significant quality associations. However, the Case SBU's market position is becoming increasingly vulnerable to price-based disruption, and new differentiating vectors are being sought after.

Information services business model

Value Proposition | A fundamental difference in the nature of the value proposition in the information services business model is the shift from 'preventive', in a sense theoretical benefits to concrete cost savings. The value creation mechanism inherent in the new offering has the potential to generate quantifiable savings in the customers' process virtually immediately when the information provided by the service is taken into use. Consistent with e.g. Vargo and Lusch (2004) and Anderson et al. (2006), service-oriented and value-focused offerings have the potential for significantly more powerful value propositions, providing that the underlying value creation mechanisms are carefully researched and constructed (offering development), and can consequently be credibly demonstrated to customers (sales and marketing).

Nevertheless, it should be emphasized that as pointed out by the case company representatives, the core technology competences and future technology innovations will in many cases continue to play a major role in enabling competitive value propositions, regardless of the chosen business model.

Profit Formula | The information services business model will bring major changes to all elements of the profit formula. The pricing for the new offering should be based on the value created for the customer (Hinterhuber, 2004), and determined through e.g. value quantification workshops conducted jointly with the customer prior to entering into an agreement (Terho et al., 2012). Alternatively, a more radical option would be to experiment with profit-sharing type pricing schemes, with the price determined during the course of the service provision as a pre-determined share of the validated and realized cost savings. In either case, the revenue model will likely shift from large one-off revenue peaks to a stream of recurring payments, flattening the high revenue fluctuation typical to project business.

On the cost side, building up the infrastructure needed to provide the service at a given site necessitates an upfront investment, after which a running cost to maintain the infrastructure will be incurred. However, after the infrastructure has been set up, the scalability of the service is excellent, and the marginal cost of providing the service to additional customers is very low. With this type of cost structure, the best overall result is likely achieved through optimization of capacity utilization over a longer period of time, instead of focusing on single-contract gross margin or short-term profitability. The scalability also complements well a value-based pricing approach, as customer organizations will benefit from the service to varying degrees, depending e.g. on the volume of their operations at a given site. The low marginal cost would enable serving also the less-benefiting customers profitably, providing that there is at least one higher-value customer justifying the initial investment.

Key Processes and Activities | While most of the traditional key processes will remain important also for the new business model, some degree of modification and adjustment of priorities is needed to align processes with a service-logic operating mode. In addition, a number of new processes and activities would need to be established.

Supporting both offering development and sales of new offerings, a new value research process would lay the foundation for new innovation and value-based customer engagement. Consisting of both formal research and analysis (e.g. in-depth customer interviews, surveys and statistical analysis, installed base data analysis), and input from operational activities (e.g. personal interactions with customer representatives, feedback from frontline personnel), the value research process would form the core of the Case SBU's market sensing and sense-making activities.

To enable effective service sales and service delivery, a revitalized, comprehensive customer relationship management process would take the place of the traditional project sales and delivery process. In addition to providing an end-to-end view to customer interactions, the renewed relationship management process would introduce as new activities the measurement and validation of the value

created for the customer, as well as systematic knowledge generation to support the value research process.

The technology R&D process as such would remain unchanged. It would be complemented by a separate service development process, enabling fluent commercialization and servitization of the technology innovations which are considered to be delivered most effectively in a service mode. Finally, a new process would be needed for operating and maintaining the global service infrastructure, likely including also a partner management dimension.

Following the longer-term, relational approach to customer engagement, the business-related decision-making criteria would likely shift to value-based metrics, e.g. in terms of optimizing the value received by the supplier and by the customer over the customer expected lifetime. This approach, as suggested by Payne and Frow (2005), would enable a more strategic management of customer relationships, and also resonate well with service-dominant logic and relationship marketing principles.

Moreover, as the level of uncertainty and risk involved in the typically performance- or outcome-based information service agreements is higher than in traditional project deliveries, the development of reliable execution risk assessment and mitigation capabilities and incorporating them in the decision-making mechanism is critical (Ulaga and Reinartz, 2011). While the process of developing the capability is expected to entail learning costs, it may be to some extent unavoidable, as other means of reducing uncertainty such as e.g. risk buffering through price cushions may render the business model non-feasible.

Key Resources | The additional resources needed to successfully execute the key processes include service production assets such as data centers, data processing and analytics capabilities, infrastructure assets at the service sites, and the financial assets to accommodate these on the firm's balance sheet. In addition, as described by Neu and Brown (2005), the significance of frontline personnel is augmented in the service-based operating mode. Capable and resourceful personnel with good technical capabilities and a service-oriented mindset are instrumental in successfully proposing and delivering the services offering. Finally, the need for R&D assets and the brand asset will remain, and they will continue to provide a source of competitive advantage also in the service-based business model.

Value Network | In the traditional business model, the value network largely consists of channel partners, integrator customers, and end customers. When moving to the service-oriented business model, large parts of the value network may need to be rebuilt. For the information services offerings, the customer organizations are typically different from those in the traditional business, and proposing the offering through channel intermediaries may be problematic. One implication in expanding the value network to new customer organizations is that the Case SBU will likely need specialized sales

resources in order to rapidly develop a sufficient level of understanding of the new customers' business logic within the sales organization.

In addition, operating the service infrastructure at customer sites requires local maintenance partners or an intrafirm service network, neither of which exists in the traditional value constellation. To some extent, current sales channel intermediaries can assume the role of maintenance partners, enabling a relatively fast expansion of the service business value network. However, for many areas alternative options will have to be sought. Alternatives could include for example subcontracting for the needed capabilities, joint venturing, or even full acquisition of potential service partners.

At the time being, suppliers of complementary technologies do not appear to be necessary in the immediate future, but with possible expansion of the information services portfolio in the future, and taking into account the consolidation of the industry towards more and more complex integrated offerings, the Case SBU might benefit from exploring the market space for potential complementing technologies and suppliers, and developing the mindset for building network value propositions.

Differentiation | As the starting point of the service-oriented business model is enabling the creation of unique value through the service offering, the model potentially has strong built-in differentiation at the value proposition level. This of course requires careful research into and comprehensive understanding of the value creation mechanism, as well as the alternatives available for the customer, but if executed correctly the differentiation will be based on superior, quantifiable value created for the customer.

On the operational level, seeing as the production of the service requires a certain amount of equipment infrastructure at customer sites, the first mover may be able to create an entry barrier by locking in the highest-value customers early on, and preventing latecomers from achieving a reasonable return from a competing infrastructure investment. Moreover, the required upfront investment and the financial assets it necessitates may deter smaller competitors already in itself.

Finally, as the value of the service increases with the number of sites where the service is available, there may also be a certain extent of network externalities present favouring the first mover. In case the first mover is able to build a broad coverage relatively rapidly, competitors may find it difficult to attract customers with a lesser coverage value proposition.

Business model comparison and implications

The main elements of the two business models are summarized in the below Table 5. In general, based on the observations from the Case SBU, the manufacturing organization's strengths in technology and market-based assets can potentially translate well to the service-based business model. However, adjustments are needed to align existing processes with the service-oriented operating logic, and to

gain the most leverage from the current capabilities in the new business model. In addition, a fairly extensive reconfiguration of the value network is expected to be needed, consistent with the findings of Fischer et al. (2010).

Table 5. Comparison summary of key elements in the traditional and information services business models.

Business Model Element	Case SBU Traditional Business Model	Case SBU Information Services Business Model
Value Proposition	Best quality, most reliable, least risk	Unique, quantifiable value through customer process enhancement
Profit Formula	Market-based and cost-plus pricing, high degree of variable costs	Value-based pricing, largely fixed cost level but highly scalable 'production infrastructure'
Key Processes and Activities	Project marketing process, project sales and delivery process, product and technology R&D process	Customer relationship management process, value research process, service development process, service delivery process, global infrastructure maintenance process
Key Resources	R&D assets, manufacturing assets, market-based assets, brand asset	Customer-facing human resource assets, R&D assets, service production assets, infrastructure assets, financial assets, brand asset
Value Network	Customer relationship portfolio, channel partner network, few complementary suppliers	Customer relationship portfolio, infrastructure maintenance partner network
Differentiation	Technology-based, heavily brand-dependent	Tangible quantified value created, service system network effects

For the case company and the Case SBU, one of its major advantages compared to smaller competitors is its wide reach and excellent market access through its internal sales network. However, in its current configuration the sales network is a shared resource which tends to optimize the input/output ratio of revenue and gross margin to cost of sales, favouring the higher-value equipment sales. The question faced by the Case SBU is how to leverage the sales organization for information services sales, which at least in the beginning do not 'naturally prioritize' in the sales channel.

Forcing prioritization by using financial incentives or other means might enable more resource allocation to information services sales, but on the other hand it could also result in a loss of focus for the core business - which nevertheless will form the basis of the Case SBU's revenue and day-to-day business for the foreseeable future. Moreover, as the same sales channel is shared by multiple business units, incentive prioritization might lead into internal conflicts over 'hoarding' the sales channel, producing unwanted tensions between the business units as well as between the sales organization and the business units. Following the recommendations of Auguste et al. (2006), a separate service sales organization or a separate dedicated sales team which could be strategically prioritized by the Case

SBU might be the best solution, at least in the initial stages of deploying the service-based business model.

Another advantage from the case company's broad market access and presence in most major markets relates to the customer intimacy it is able to develop with its customers. In order to leverage this advantage in the information services business, the Case SBU needs to be able to consistently generate customer and competitor intelligence which can be translated into superior value propositions. Consequently, there is a need for a process to initiate, facilitate, and speed up the 'digestion' of market information, and link the information to the development of new value-based information services offerings. Once established, the value research process embedded within the customer relationship management process can form a virtuous cycle generating more service ideas, enabling a deeper, higher-value service relationship with the customer, and leading to an even better customer intimacy. The cycle is illustrated in Figure 11.

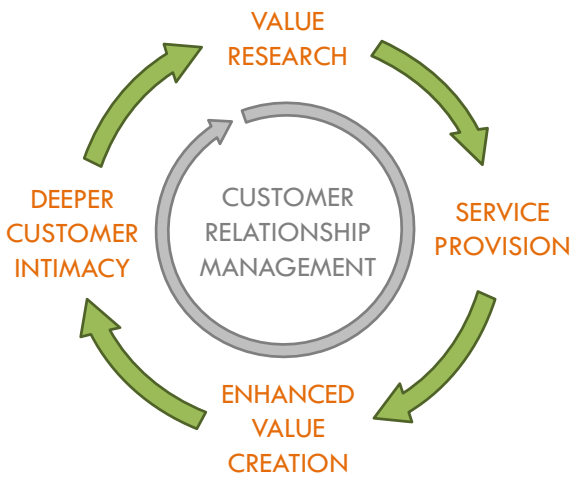

Figure 11. Virtuous cycle of value-based and service-oriented customer engagement.

The most significant adjustment, however, will likely need to take place at the level of mindsets, as the prospective new business model will require adapting to different value proposition logics, profit formulas, and differentiation mechanisms. In practise, this means not only increasing the level of market orientation and customer understanding within the organization, but also revising the Case SBU's – and to some extent also the case company's – decision-making criteria, internal priorities, and performance metrics to support relational, value-focused customer engagement. As the overwhelming majority of the case company's and even the Case SBU's operations will continue to consist of the traditional, project-based, and often transactionally oriented business, mustering support for the transformation and sustaining its momentum under constant pressure from the norms of the traditional business will require strong leadership and relentless focus.

5. DISCUSSION AND CONCLUSIONS

This fifth and final chapter concludes the study by summarizing the findings and the results of the research, presenting recommendations for the Case SBU, and outlining the general level managerial implications suggested by the findings. In addition, the potential implications to academic theory are discussed. The chapter closes by proposing avenues for further research.

The research problem for this study was twofold. The first research question related to the critical success factors for deploying service-oriented strategies in technology-intensive B2B capital goods industry. Through confirming study Proposition 1, it was established that the case company's and the Case SBU's external environment and strategic intent exhibit the characteristics reported in earlier service transition research, and thus extant theory can be reasonably applied in the Case SBU environment.

Based on existing theory, Proposition 2 was devised as the hypothesis for answering the first research question. As the empirical findings provide support for Proposition 2, the answer to the first research question can be formulated as follows:

> Implementing a service-oriented transition strategy requires the firm to develop service-oriented dynamic capabilities in the areas of enhancing and maintaining market orientation (sensing capabilities); developing service strategies, service-oriented business models, and value-focused service offerings (seizing capabilities); as well as aligning its organizational structure, human resources and corporate culture, and reshaping the firm's value network (reconfiguring capabilities).

A more detailed description of the microfoundations these dynamic capabilities are built on, and the success factors pertaining to each area can be found in Table 3 on page 14.

The second research question focused on exploring strategic actions to facilitate the transition towards information services offerings, and determining the implications of the transition to the Case SBU's prevailing manufacturing-oriented business model. Based on the empirical findings from the Case SBU, a number of differences between the planned information services business model and the traditional business model were identified, indicating the need for significant adjustments during the transition. A summary of the identified characteristics and key elements of each business model can be found in Table 5 on page 66.

Implications for strategy implementation in the Case SBU context and the recommended strategic actions are discussed in more detail in the following section. In addition, the theory-based

implementation framework illustrated in Figure 5 on page 19 outlines the identified key issues on a general level, and directs attention to the most crucial aspects of the implementation process.

5.1 Recommendations for the Case SBU

The following recommendations outline the suggested priorities for Case SBU capability development, aimed at building microfoundations for the dynamic capabilities required in value-based and service-oriented mode of operation, such as the prospective information services business targeted by the Case SBU. The recommendations are summarized in Figure 12.

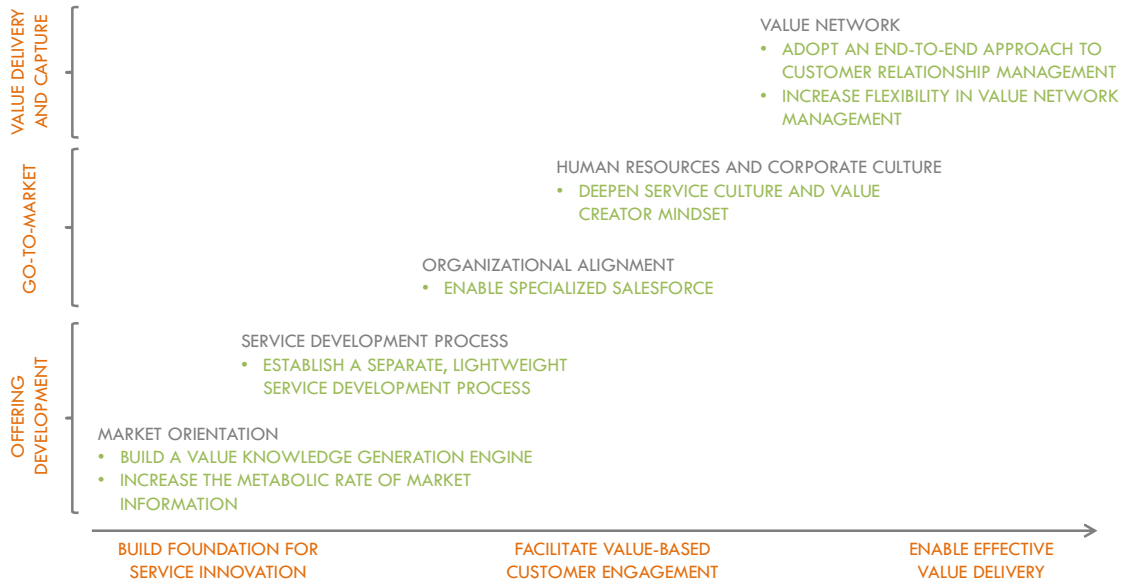

Figure 12. Summary of recommendations for the Case SBU.

Market Orientation | Combining formal value research with a more systematic approach to competitor analysis and dissemination of market information would most likely enable the Case SBU to increase its market orientation further. The following two initiatives are suggested as priorities to lay the foundation for value innovation and value-based customer engagement.

Build a Value Knowledge Generation Engine

More than anything, value-based customer engagement is grounded in superior knowledge. Harnessing and institutionalizing the generation and dissemination of that knowledge constitutes a core dynamic capability for value focused and service-oriented organizations, and is a key enabler in the creation of value-based offerings. Moreover, in addition to enabling new offering development, measuring and validating the value created through the firm's offerings is a crucial element in value-

based customer engagement, with the information generated through value research benefiting also the customer relationship management process.

The traditional wisdom in solution business literature typically considers that the complex nature of value-based customer engagement requires significant changes in the sales organization, replacing existing sales personnel with others capable of this more demanding task. However, the author argues that this approach is in fact a costly treatment of the symptom, and fails to remedy the root cause of inadequate value research and lack of value knowledge in the offering development phase. With an appropriate value research process in place, value proposition development, identification of the value creation mechanisms, and preliminary value quantification will all take place already in the early stages of offering development, as part of the prospective offering viability analysis (Storbacka, 2011). Sales phase activities will then consist of communicating and demonstrating the value instead of needing to invent it, enabling a much larger portion of the existing salesforce to successfully undergo the transition.

In practise the value research process could consist of formal research methods such as e.g. focused value interviews in conjunction with annual customer satisfaction surveys, organizing user group meetings and collecting structured feedback, setting up periodic quantitative customer surveys, conducted online and followed by appropriate statistical analysis, and regular analysis of the value potential in competing/alternative solutions. Data and insights acquired from the research activities could be complemented by gathering and storing all relevant data and input received from customer interactions during operational activities. The latter dataset could include e.g. the integration of transactional satisfaction surveys (from projects and reactive service activities), conducting periodic surveys to customer facing personnel, and introducing follow-up customer satisfaction and value assessment surveys conducted in for example 6 or 12 months after a transactional project delivery.

Increase the Metabolic Rate of Market Information

In addition to generating market information and value knowledge, a mechanism for processing the information and disseminating it to all stakeholders is needed. The current model relying on free accumulation tends to be relatively slow, vulnerable to rapid changes in the market environment, and not particularly effective in picking up weak signals or 'fringe' developments until they are fully manifested in the market.

Following the findings of Brown and Eisenhardt (1997), a continuous, sequenced change and innovation process constantly linking present development efforts with possible future paths yields higher performance outcomes than the more reactive, event-paced approach adapting to changes in the marketplace, or rigidly locking into one envisioned future state. However, in order to effectively

utilize the knowledge and market information acquired through sensing activities, the information needs to be continuously processed and disseminated within the organization.

The first step towards accelerating the processing of market information could be starting to collect all value research and market data into one repository, and making the repository available to all stakeholders, including at least sales, service and project delivery frontline personnel, offering development, and business management. The structure and the use procedures of the repository should be carefully planned beforehand to ensure that the data is entered appropriately and maintained in a serviceable format, avoiding cluttering and deterioration of data quality over time. In practise, it may be necessary to appoint an owner for the data repository within the organization to ensure continuous development and maintenance of the repository and the data contained within.

Next, a periodic analysis of the data should be conducted to distill insights and reveal potential trends or significant developments in the market and competitive environment. The analysis would be intertwined with the value research process, complementing the customer-focused data with competitor and market information. Moreover, value research and market information analysis should be run as a continuous process with revisions conducted periodically, instead of discrete one-off efforts which have the tendency to expire after a period of time.

The outputs from the analysis would be used as inputs for offering development and business planning. To get started, a rudimentary approach could be as simple as prompting service concept ideas from the frontline staff on a business model template format, establishing an 'idea funnel' of potential service concepts. The ideas would then be submitted to a quarterly review process, in which the concepts are evaluated using predetermined criteria, and the best ones passed on to the service development process for further refinement and evaluation. In order to energize ideation, reasonably substantial incentives for the concept ideas that eventually end up as commercialized service offerings would be recommended. For example, a small percentage share of the first year profits of the service (or similar, adjusted as appropriate) might be considered, coupling the incentive model directly to the commercial success and profitability of the offering.

Resources permitting, the 'crowdsourced' analysis could later on be reinforced by a formal market intelligence role with full focus on data collection and analysis, maintaining the data repository, and ensuring that all relevant data emerging in operational activities is entered into the repository for future processing.

Service Development Process | In an organization with a long manufacturing tradition, offering development is focused on products, consisting of tangible equipment and increasingly also software. However, processes and decision metrics optimized for resource-intensive and costly product and software development may not be fully able to consider and appreciate the unique characteristics of

service, such as the need for iterative development based on customer and market feedback, considerations related to service delivery, and a different financial structure. Separating service development from product development might provide the Case SBU with more flexibility in refining new service concepts, while reducing unnecessary effort in satisfying the requirements of the heavy product development process.

Establish a Separate, Lightweight Service Development Process

The nature of product development is typically linear and decisions often irreversible, or at the very least incur substantial additional costs to revise. Service development on the other hand tends to be iterative and circular, and decisions are (for the most part) relatively easily adjusted based on feedback from the market (Kindström and Kowalkowski, 2009). Subjecting service development to a product development process - where each decision may represent significant amounts of investment - can result in excessive amounts of effort as service developers produce all the information and analyses necessary for product development stage-gates, only to find out that the metrics designed for a different type of business do not support resourcing the business case further in the development pipeline.

The objective of the separate service development process would be to process the 'idea funnel' of service opportunities by rapidly assessing service concept ideas and value creation possibilities flowing from the value research process. As early stage service concept development is not equally resource consuming as product development, the process can be more lightweight, potentially consisting only of business model assessment to determine the viability of new service concepts. In addition, the decision metrics of the separate service development process can be fine-tuned to correspond better with the different requirements, operating principles and financial frameworks of service business.

The assessment of individual service concepts in terms of the overall business model framework would constitute the core element of the early stage of the service development process. Taking as input the data from the value research process and internal feedback, the first pass could focus only on value proposition, profit formula, differentiation, and the required key resources. The concept ideas passing this initial viability evaluation would be passed on to further development, including further refining the details of the prospective service concept, and eventually searching potential customer organizations for piloting.

Finally, it should also be noted that as recommended by Kindström and Kowalkowski (2009) and Ulaga and Reinartz (2011), when separating service development from product development it is nevertheless important to maintain a two-way linkage with the product development process to

facilitate the development of effective "hybrid offerings", i.e. designing the product offerings with potential service applications in mind, and vice versa.

Organizational Alignment | The case company's current organization fairly closely corresponds with a customer-focused, service-oriented organization model (Gebauer and Kowalkowski, 2012). However, adjusting the sales organization by increasing the specialization of the frontline sales personnel might be beneficial in enabling faster accumulation of customer business understanding at the salesforce level, increasing the rate and quality of customer and market information generated by the sales organization, and facilitating value-based customer engagement.

Enable Specialized Salesforce

Even though value-based customer engagement consists of much more than 'only' sales activities – which are perhaps best characterized as the tip of the iceberg - the salesforce does nevertheless play a crucial role in conveying the value message to customer organizations, and bringing back new value knowledge to the home organization. The case company's current generalist sales organization does perhaps not support the Case SBU's prospective information services business model in the best possible manner, as the sales personnel are by definition not specialists in the customers' business in any particular application area, nor is the frequency of sales projects in any given domain high enough to enable accumulation of application-specific knowledge over time.

A short-term solution could be creating a globally operating sub-team within the sales organization or in the Case SBU, with a mandate to focus solely on the sales of information services. This approach would enable maintaining the bulk of the salesforce intact, while providing the designated information services sales team the opportunity to get up to speed relatively quickly. Moreover, as many potential customer organizations for the information services offering are not existing customers of the Case SBU, the personnel assigned to the information services sales team could be selected among the sales personnel possessing the behavioural characteristics suitable for new customer acquisition. In this setup the role of the geographical sales organization would consist of facilitating customer interaction, and managing the day-to-day relationship maintenance tasks with customer organizations.

However, the question remains whether the entire sales organization of the case company would benefit from increased specialization and development of the knowledge and capabilities needed in value-based customer engagement, or if it is more efficient to maintain a geographical sales organization tasked with maintaining the day-to-day relationship with customer organizations, complemented by a smaller number of globally operating specialists supporting regional sales in the more demanding customer engagements.

Based on the identified trend towards increased service-orientation and value focus across the entire industry, the author would argue that in general, a specialized salesforce will emerge as the dominant setup due to its better performance in a value-focused setting. Similar indications are being reported also in existing literature, as evidenced by e.g. Homburg et al. (2000) and Gebauer and Kowalkowski (2012). Regardless, a definite conclusion in the case company and Case SBU context would require a more comprehensive analysis, integrating also the perspectives of the other SBUs currently sharing the same sales organization.

Human Resources and Corporate Culture | Along with the structural and process alignment, a cultural adjustment is needed in transitioning to a service-oriented business model. Service provision is by nature a more relational, longer-term endeavour with an operating logic differing from the Case SBU's traditional project business, necessitating different mindsets, performance metrics, and decision-making criteria. (Neu and Brown, 2005)

Deepen Service Culture and Value Creator Mindset

The concepts of market orientation, service dominant logic and customer centricity have much in common in that each emphasizes developing a deep understanding of the customer, and delivering valuable outcomes based on that knowledge, as opposed to focusing on tangible products and their characteristics. As with developing market orientation, a lasting cultural transformation cannot be achieved through programmatic means only, and a market-back type approach (Narver et al., 1998) will be needed to establish a feedback loop with customer organizations and concretize the real-world impact of the new behaviours (Gebhardt et al., 2006).

In terms of the Case SBU, one step towards developing a more deeply service-oriented culture could be a shift of mindset from managing project opportunities to managing customer relationships. While both perspectives are naturally already present, and both will be needed also in the future, a stronger emphasis on the relationship aspect might be beneficial to underline the relational, long-term nature of service business, and to bring customer-specific value creation into focus. The cultural shift should be supported by adopting a relationship view of customers, as outlined in the following section. Moreover, it's crucial that the SBU's performance metrics and decision-making criteria are aligned with the desired service-oriented values, or otherwise mixed signals may suppress the cultural transformation.

Value Network | Transitioning to a service-oriented business model is expected to necessitate a major reconfiguration of the value network (Fischer et al., 2010). This is the situation also for the Case SBU, which will need to develop new links to customer organizations, and build a service delivery network either internally or through external service partners. Moreover, the Case SBU would benefit from

expanding its customer relationship management approach, and adopting an end-to-end view of customer relationships.

Adopt an End-to-End Approach to Customer Relationship Management

Value-based customer engagement is a relational process, and the customer relationship management approach should be adapted to match the changing nature of customer relationships. While the traditional project business also stands to benefit from an end-to-end view of customer relationships, it could be considered almost as a pure necessity for a service-oriented business model. The principle of the suggested end-to-end customer relationship management approach is illustrated in Figure 13.

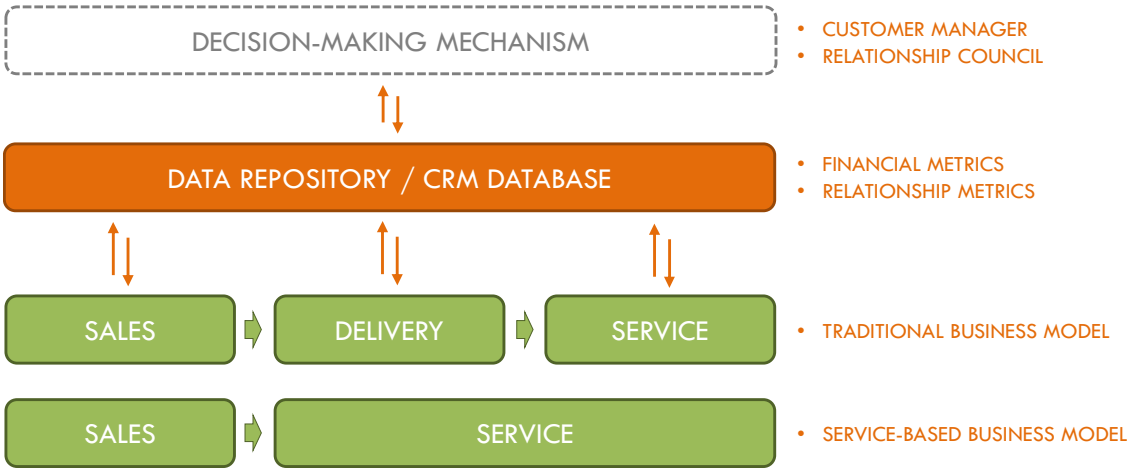

Figure 13. Illustration of the suggested end-to-end customer relationship management approach.

The starting point for management of customer relationships would be the data repository used also for value research, enabling systematic knowledge generation and accumulation. Information from all customer interactions would be gathered to the data repository, which would be accessible to all parties involved in the customer relationship.

In addition, the customer information system should be able to provide comprehensive financial and relationship metrics at an individual customer level, to support and enhance decision-making concerning the customer relationship. The financial metrics should include at least past revenue and profitability, projected revenue and profitability based on visible opportunities, and after-sales cost-to-serve (mainly for project business customers). This rough customer lifetime value approximation would be complemented by relationship metrics, consisting of at least the value created through service operations, and a subjective customer-side relationship satisfaction index, measured and tracked through the value research process. (Homburg et al., 2000; Gummesson, 2004)

Decision-making affecting the customer relationship should be coherent at all customer touchpoints across all of the firm's customer-facing processes, from sales to service delivery. All relationship-affecting decisions should be coordinated through a pre-determined decision-making mechanism, which could in normal situations consist of a single customer manager or relationship responsible. For high-value customers or decisions with far-reaching implications, an escalation could be made to a relationship council consisting of senior managers. It should be noted however that the decision-making process should be designed to be quick, efficient and largely automated within the CRM IT system, in order to avoid adding a layer of productivity-decreasing administrative work.

The objective of the decision-making mechanism is to enable optimization of the long-term relationship-level value for both the customer and the supplier, instead of falling prey to short-term, episode-level sub-optimization. Combined with the market orientation and service culture initiatives, the expanded view on customer relationship management completes the self-reinforcing triangle of value-focused and service-oriented market operations.

Increase Flexibility in Value Network Management

As discussed in the previous chapter, a one size value network or value constellation model is not likely to fit all in the nascent information services market, and the Case SBU will need to be prepared to adapt to survive against its smaller, more agile competitors. What's more, establishing a foothold in the information services business will entail higher levels of uncertainty than what is the norm in project business, suggesting a fairly steep learning curve with the associated learning costs during the early stages of value network formation (Ulaga and Reinartz, 2011).

The main challenge of the Case SBU is how to set up a service network able to maintain and operate the infrastructure assets needed at customer sites. The choice of the optimal approach is highly case-specific, depending on the value creation potential at a given site and the available options, but possible alternatives could include (in increasing order of complexity and uncertainty but not necessarily increasing cost) e.g. subcontracting the services from an existing service company, training sales channel partners to double as service partners, co-locating service personnel in customer or local channel partner facilities, setting up an intrafirm service center, acquiring in part or fully an existing service company with sufficient existing service business to support the fixed cost, or establishing a joint venture together with supplier(s) of complementary offerings facing the same dilemma. From the radical end of the spectrum, the case company might even entertain the idea of encouraging its mobility-seeking personnel to establish independent service companies abroad, in conjunction with long-term service agreements with relatively secure future prospects.

In order to establish a reasonable baseline cost level for the business model viability analysis, an option which can be executed with a fairly high certainty at any site and at a reasonably low cost

should be selected as the baseline. While the initial experiences seem to indicate that the value creation potential inherent in the first information service concepts may not be high enough to support setting up an intrafirm service network, this may change if complementary service concepts can be developed and deployed to increase the total value potential available from leveraging the same the service network assets.

Regardless, for the time being it would appear that an intrafirm service center is likely not a reasonable baseline option. As basing the business model viability analysis on the availability of external service partners also seems like a risky proposition, co-location of service personnel might be the best compromise, combining the low risk level in utilizing intrafirm personnel with the potentially reduced facility and overhead costs. However, the caveat is naturally the willingness of customers or local channel partners to accommodate this arrangement, which would need to be determined individually for each customer during the value research process.

5.2 Managerial Implications

As with intensive case studies in general, attempting to produce a generalizable theory or framework is not the main aim of this study. Nevertheless, as many industrial high-tech firms currently find themselves in a situation similar to the case company, and the general transformation challenges are at least to some extent comparable across companies, with reasonable moderation the higher level findings and general level managerial implications can be applied outside the context of this study as well.

Based on the findings of this study, managers should be aware of the capability gaps and development areas often encountered by a manufacturing company when deploying a service-oriented business model. Moreover, the study suggests that development of capabilities should take place sequentially, starting with the foundational dynamic capabilities in market orientation and value research. The platform for systematic, institutionalized generation of value knowledge is instrumental in moving forward, and attempts to build further capabilities without the foundation in place are likely to falter.

Furthermore, as reported also by other scholars, the importance of the mindset change dimension in the transition cannot be overstated, and this constitutes the second foundational issue in implementation. The cultural adjustment has to permeate the entire organization, not only the customer-facing functions - though they are naturally of particular significance - and also has to be reflected in the organization's norms, decision-making logics, and performance metrics.

Thirdly, to align the management of the customer relationship portfolio with the relational nature of service business, managers should implement systems enabling and facilitating an end-to-end view of customer relationships, combined with coordinated decision-making across all customer-facing

functions. To support decision-making, both financial and relationship-based metrics from individual customer organizations should be available for the decision makers.

Finally, the findings of the study indicate that manufacturing firms aspiring to develop service-oriented offerings and business models would benefit from deploying a service development process separate from the product development process. Even if the service development process is implemented only as a lightweight mechanism to evaluate and refine potential service concepts before they are plugged into the 'primary' offering development pipeline, it would potentially provide an agile method for collecting and pre-screening a relatively large number of potential service concept ideas in a systematic and fairly cost-effective manner. Moreover, the existence of such a process or mechanism would provide a relatively straightforward method for tapping into the (service) innovation potentially generated as a side product of operational activities, and outside the formal offering development function, by e.g. frontline staff or within local business units.

5.3 Theoretical Implications

In terms of academic research, the study lends further support to existing theory in confirming Propositions 1 and 2 in the case company context. Moreover, the study presents a framework on the dynamic capabilities expected to be needed in the transition from a manufacturing-oriented to a service-oriented business model, and the microfoundations underlying those capabilities. Finally, a general framework for the key issues encountered when implementing a service-oriented business model in manufacturing organizations was also developed in the course of the study.

As pointed out by Baines et al. (2009), existing research provides little guidance to the implementation of the service transition, nor are there tools to help in the implementation. This study contributes to the gap by reporting the key implementation issues from the perspective of the Case SBU, thereby increasing the available knowledge and improving understanding on the subject. The implementation framework illustrated in Figure 5 tentatively outlines the key focus areas for implementation, with a more detailed description on the key priorities and suggested actions following in section 5.2. However, further research would naturally be needed in order to confirm the applicability of the findings in a more general context.

In addition, the study contests the traditional wisdom in solution business and value-based selling literature by arguing that rather than possible shortcomings in the sales organization, the lack of adequate value research and commercialization activities in the offering development phase is a more likely root cause for unsatisfactory value-based customer engagement. While a certain degree of adjustment in the frontline personnel across all customer-facing functions is likely to be necessary, as pointed out also by Neu and Brown (2005), developing the appropriate background processes for

value research, offering development and commercialization will enable shifting the bulk of the transformation burden to dedicated functions, instead of leaving value quantification to be sorted out at the frontline.

5.4 Suggestions for Future Research

To develop the framework further, research on additional cases to confirm or refute the findings would be needed. In addition, as all the potential elements involved in the transition process and implementation of a service-oriented business model may not have been present at the Case SBU, and therefore not captured in the research, there is room to refine and improve the tentative framework presented in this study.

Furthermore, following the initially identified research gap in lack of guidance and tools for servitization, a considerable amount of work remains in developing concrete and detailed managerial tools and guidelines for developing dynamic capabilities in the focus areas identified in this study. In particular, the development of tools and frameworks for conducting value research and reconfiguring the value network would be especially valuable.

On a more theoretical level, another interesting avenue for research relates to the role of value research and value knowledge generation in the service transition, namely whether it can be centralized and institutionalized, as suggested in this study, or whether it should take place dynamically in operational interactions with customer organizations, as often suggested in solution business literature. This question could carry significance also in the broader scheme of service transition research, as the corresponding managerial actions between these two alternatives vary significantly.

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APPENDICES

Appendix 1: Interview outline

Interviewee Background

1. Could you briefly describe what is your position in the company, and what responsibilities does it entail?

Industry / Market Environment

1. Can you tell me about your industry and how it is currently performing?
2. What kind of trends are now emerging within the industry / in the market?
3. How about in the longer-term, how do you think the industry will develop?
4. What do you consider to be the critical success factors in this industry now and in the future? Are they different?
5. What type of market sensing and market information sense-making processes are used?

Strategy

1. Could you outline what are the major strategic objectives and/or initiatives your business (unit) is currently pursuing?
2. Which would you consider as the main competitive advantages of your business unit? How about disadvantages?
3. How do you see the role of service offering in your offering portfolio? Do you have a separate service strategy? How much of your revenue currently comes from service? What is the target level in the future? (Increase/steady/decrease)

Service Offering and Service Development

1. What type of service offerings do you currently have in your portfolio? Which of these can be considered information services offerings?
2. Are new offerings planned for the future? How many of these can be considered information services?
3. How are service offerings developed in your business unit?
4. If a formal process is used, could you describe the process?
5. How are customers involved in the development process? Is e.g. formal value research conducted?

Business Model for Services

1. What type of business model(s) is/are currently used for the services offering? (especially revenue model, earnings logic and sales channels / sales approach) How are they performing?
2. Could you describe the customer engagement approach your business is currently using? Transactional vs. relational? Technology & features vs. outcomes & value?

3. Which business model(s) are competitors using? Have they been able to come up with innovative approaches?
4. What do you consider as the foremost challenges for the services business in your business unit?

Service Offering Delivery

1. How are services currently delivered? Is there a difference between traditional services and information services?
2. How is the service organization set up from your point of view? Would you agree that a service orientation and service culture prevails throughout the organization?
3. How does the current value network in the industry look like, and what is your business' role in the value network?
4. Does the current model perform as desired, or are there needs for development?

Snowball Sampling

1. Could you name other persons in the organization who you think I should interview on this topic?

Appendix 2: List of interviewees

1. Regional Market Manager, Case SBU 26.8.2014
2. Director / Head of Business Unit, Case SBU 29.8.2014
3. Head of Sales, Case Company Business Area A 2.9.2014
4. Sales Manager, Case Company Business Area A 10.9.2014
5. Offering Manager, Case SBU 11.9.2014
6. Head of Performance Services, Case Company Services Division 19.9.2014