

EIJA VAITTINEN

Service Readiness during Manufacturers' Servitization

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Servitization

ACADEMIC DISSERTATION

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ACADEMIC DISSERTATION

Tampere University, Faculty of Engineering and Natural Sciences

Finland

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“When you are a Bear of Very Little Brain, and you Think of Things, you find sometimes that a Thing which seemed very Thingish inside you is quite different when it gets out into the open and has other people looking at it.”

-Winnie the Pooh by A.A. Milne.

PREFACE

Before I started my Master's thesis, I was asked whether I might be interested in continuing as a doctoral student after finishing my Master's degree. I tried not to choke and give a polite refusal although this was the last thing on my mind. However, after doing my Master's degree at the university under the supervision of Professor Miia Martinsuo, I suddenly found myself intrigued with the idea. When the time came to make the decision I was all aboard. That is how the journey leading to this dissertation begun. It was a road full of ups and downs and many many hours of work but now I can happily say it is done. One thing is certain though, I would not have been able to do this without support from all of you around me.

For the financial support that made this possible, I am very grateful for the TUT's doctoral school for the funding they provided, as well as for the Finnish Technology and Innovation Agency (Tekes), Finnish Metals and Engineering Competence Cluster (FIMECC), and all the companies who funded the S4Fleet research program. I am also thankful for the foundations for appreciating my work and providing me funding to enable this research, my research exchange, and some of my conference trips. Therefore, I wish to thank Finnish foundation for economic education, Ella and Georg Ehrnrooth foundation, Walter Ahlström foundation, and Tampere's economic education foundation (Tampereen liikesivistyssäätiö).

My research would not have been possible without cooperation from the case companies and all the participants who were kind enough to take time from their busy schedules for discussing with me. I am also indebted to those who reviewed my articles anonymously and for my pre-examiners Professor Christophe Midler and Professor Jamie Burton: your comments were invaluable for giving me confidence in my work and in helping me to improve it.

Above all, I need to thank my supervisor Professor Miia Martinsuo for her guidance, for setting the standards high and for all the help you have provided. I still wonder how you have been able to find all the time for instructing me in my research, writing, and teaching, and I can only imagine how many mistakes you will correct for me even from this preface. Thank you for being there and for everything that you have done for me during these years!

My thesis was not only about gathering data and reading articles, I also gained a lot of other unforgettable experiences. I wish to thank Associate Professor Roland

Ortt and Professor Vicky Story for hosting me at their universities and for writing with me. You both have taught me a lot about academia, writing and publishing during my visits and after them. I also want to thank Dr. Sanna Nenonen for travelling with me to majority of the conferences and sharing your experience, and writing with me from the very beginning of my journey, among other things, you gave me a great example of what coauthoring can be at its very best!

What would these past five years been without my amazing colleagues? Well, a lot tougher and more boring at least! Therefore, I really wish to thank all my current and past colleagues in our research group CROPS especially Beheshte, Lauri, Matias, Santtu, and Toni, you have been great support at the office but also outside it. In addition to my own research group, my second home at the university has been with the financial engineering people, and I want to thank all of you for being there for me: Kestutis and Margarita, your endless humor has kept me smiling and Milla, I want to thank especially you, with you I always have had someone with whom to share all the good and bad things and thousands of mugs of tea. I also must thank our awesome group of floorball players, especially Juho, Mika, Natalia, Olli, Riku, Teemu, Tero, and Tommi you have kept me sane throughout these years. Whenever the work was getting too tough our Friday afternoon games helped to clear my head for the weekend. I am also grateful for all of you who have worked with me in our department and laboratory and shared your thoughts, laughs, and time with me during coffee breaks, lunches, and all other happenings. You all have been part of creating the good spirit and support that has helped me to survive and get this done!

To manage this job the work and leisure time must be in balance and for that I wish to thank also all of my friends outside the academia. You have helped me with your support and by taking my mind out of my work. All the times going to gym, watching movies, and playing games has helped me get through this.

I am thankful for my family. For my parents who have always supported me and encouraged me to study. For my sister who has given me a great example of what can be achieved when you work hard, and for my brother who has always taken care of me. Finally, I wish to thank Lassi. You have always been there for me, encouraged me, and believed in me, no matter how stressed, hopeless, and difficult I have been. This thesis would not have happened without your support and push. Although there are no words big enough to describe how much you mean to me, you know I love you and that I am so thankful for being able to share my life with you.

Tampere, December 2018
Eija Kaarina Vaitinen

ABSTRACT

Manufacturing companies are broadening their offering with services to differentiate from competitors, gain financial benefits, and get closer to their customers. This transition toward services (i.e., servitization) is not straightforward and can pose several challenges for manufacturers. Customer readiness to adopt services is vital to manufacturers offering services, as customers' perceptions and decisions to start using and continuing the usage of offered services determine service demand. Business customers' awareness about new services requires that manufacturers make the services known and available through internal (manufacturer's own) or external (e.g., dealers and agents) salespeople. Hence, salespeople readiness to adopt services into their active selling portfolios becomes crucial. Some of the key success factors and challenges during servitization are related to customers' and salespeople's changing roles.

Earlier research has explored servitization changes in manufacturing companies and individuals' readiness to adopt new technologies. The previous research is filled with indications of the importance of business customers' and salespeople's need to adapt to become ready to adopt new services. Despite this, service readiness and ways of promoting it at the manufacturers' customer interface are poorly understood. Therefore, this study combines two separate research streams—servitization and innovation adoption—to develop an understanding about service readiness among manufacturers' customer companies and internal and external salespeople. This study intends to help manufacturers activate and enhance demand for their new services.

This research was conducted as four separate studies in a sequential design using interviews with five manufacturers. The findings illustrate that service readiness is a multi-level concept at the individual and organizational levels, influencing the customers' decision to purchase and the salespeople's decisions to sell or market the services. The results demonstrate how the relational and interactive nature of services is reflected in service readiness, in that it is not created in isolation, but rather customers and internal and external salespeople can influence one another's service readiness. Manufacturers should offer their advanced services first to those customers who are more ready and seek to enhance the readiness of the customers and salespeople who are not yet as ready.

This research contributes to two different streams of the literature and has practical implications. It illuminates the specific nature of innovation adoption in business-to-business and service contexts; it also indicates that service readiness precedes service adoption. This research identifies the concept of service readiness, defines and specifies it, and the interactive nature of services is shown to characterize service readiness. The complexity and the two layers (individual and organizational) of service readiness are illustrated in an organizational and inter-organizational context, differentiating it clearly from individual technology readiness. As for the servitization literature, this research provides knowledge from the customer perspective, which has been understudied previously. It depicts the relevance of service readiness as an important component in manufacturers' servitization and highlights the interconnectedness of customer and salespeople service readiness. As for the managers, this research provides valuable insights about the challenges servitization may pose as well as ways to address these issues and thereby promote new service demand.

TIIVISTELMÄ

Teollisuusyritykset laajentavat tarjoomaansa palveluilla esimerkiksi erottautuakseen kilpailijoista, kasvattaakseen liikevaihtoaan ja päästäkseen lähemmäs asiakkaitaan. Tämä muutos eli palvelullistuminen ei ole yksinkertainen prosessi, vaan se voi aiheuttaa teollisuusyritykselle monia haasteita. Palveluita tarjoaville yrityksille elinehto on, että asiakkaat omaksuvat uudet palvelut, sillä asiakkaiden mielipiteet ja päätös käyttää palveluita määrittävät palvelukysynnän. Asiakkaiden tietoisuus uusista palveluista edellyttää palveluista viestimistä, joten myös yrityksen sisäisten myyjien ja jälleenmyyjien (esimerkiksi agentit) täytyy omaksua palvelut aktiiviseen myyntiportfoolioonsa. Yrityksille on tärkeää huomioida asiakkaiden ja myyjien valmius omaksua palveluja, sillä toimijoiden rooleihin liittyvät muutokset ovat välttämättömiä palvelullistumisen onnistumiselle.

Aiempi tutkimus on käsitellyt palvelullistumisessa ensisijaisesti valmistajan sisäisiä muutoksia ja innovaatioiden omaksumisessa lähinnä yksilön valmiutta omaksua teknologioita. Kuitenkin useat tutkimukset antavat viitteitä siitä, että yritysasiakkaiden ja myyjien täytyy palvelullistumisen yhteydessä sopeutua ja saavuttaa tietty valmius ostaa/myydä palveluita, mutta palveluiden omaksumisvalmiutta ja sen edistämistä myyjien ja asiakkaiden keskuudessa ei vielä ymmärretä riittävästi. Siksi tämä tutkimus yhdistää ainutlaatuisella tavalla innovaatioiden omaksumisen ja palvelullistumisen tutkimusalueita luodakseen ymmärrystä palveluiden omaksumisvalmiudesta asiakasyritysten ja myyjien keskuudessa. Tätä kautta tutkimus pyrkii auttamaan teollisuusyrityksiä aktivoimaan ja lisäämään palveluidensa kysyntää.

Tutkimus toteutettiin haastatteluin neljänä erillisenä peräkkäisenä tapaustutkimuksena viidessä yrityksessä. Tulokset osoittavat, että palveluiden omaksumisvalmius on monitasoinen käsite ja sitä on tarkasteltava sekä yksilö- että organisaatiotasolla, jotka vaikuttavat asiakkaiden ostopäätöksiin ja myyjien päätöksiin markkinoida palveluja. Tulokset korostavat palveluiden vuorovaikutteisen luonteen vaikutusta palveluiden omaksumisvalmiuteen, sillä asiakkaiden ja sisäisten ja ulkoisten myyjien palveluiden omaksumisvalmius vaikuttaa muiden toimijoiden valmiuteen. Teollisuusyritysten olisi hyvä kohdentaa uusia edistyneitä palveluita ensin niille asiakkaille, joilla on korkeampi palveluiden omaksumisvalmius, ja pyrkiä kasvattamaan muiden palveluiden omaksumisvalmiutta.

Tämä tutkimus tuo kontribuution kahteen eri tutkimusalueeseen ja käytäntöön. Se paljastaa palveluiden ja organisaatioiden välisen liiketoiminnan erityispiirteet innovaatioiden omaksumisessa ja asemoi palveluiden omaksumisvalmiuden edellytyksenä niiden omaksumiselle. Se tunnistaa, määrittää ja täsmentää palveluiden omaksumisvalmiuden käsitteen ja osoittaa, että palveluiden interaktiivinen luonne heijastuu myös niiden omaksumisvalmiuteen. Tulokset osoittavat palveluiden omaksumisvalmiuden monimutkaisuuden ja monitasaisuuden (yksilön ja organisaation tasolla) erityisesti organisaatioiden ja niiden välisen kanssakäymisen kontekstissa, mikä poikkeaa selkeästi yksilökeskeisestä teknologisesta valmiudesta. Palvelullistumiskirjallisuuteen tämä tutkimus tuo näkemystä asiakkaan näkökulmasta, jota on tähän asti käsitelty riittämättömästi. Se näyttää omaksumisvalmiuden oleellisuuden teollisuusyrityksen palvelullistumiselle ja korostaa asiakkaiden ja myyjien palveluiden omaksumisvalmiuden välisiä sidoksia. Yrityksille tämä tutkimus tuo arvokasta tietoa palvelullistumisen haasteista, mutta myös keinoja niiden voittamiseen ja uusien palvelujen kysynnän lisäämiseen.

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ORIGINAL PUBLICATIONS

- I. Vaittinen, E., & Vuorinen, L. (2015). Factors preventing the servitisation of manufacturing companies. In Martinsuo, M., Perminova-Harikoski, O., & Turunen, T. (eds.). *Strategic Change towards Future Industrial Service Business*, pp. 124–142. Tampere University of Technology.
- II. Vaittinen, E., Martinsuo, M., & Ortt, R. (2018). Business customers' readiness to adopt manufacturer's new services. *Journal of Service Theory and Practice*, 28 (1) 52–78.
- III. Vaittinen, E., & Martinsuo M. (in review). Industrial customers' organizational readiness for new advanced services. Under review in *Journal of Manufacturing Technology Management*.
- IV. Vaittinen, E., & Martinsuo, M. (2018). Ready to sell? Requirements for promoting service selling in a manufacturing firm. In Bigdeli, A., Frandsen, T., Raja, J., & Baines, T. (eds.). *Driving competitiveness through servitization: Proceedings of the Spring Servitization Conference (SSC2018)*, pp. 26–34, 14–16 May 2018, Copenhagen, Denmark.

AUTHOR'S CONTRIBUTION TO THE PUBLICATIONS

In the following the researcher's contributions to the articles above are described.

For the first article, the idea was developed together with the supervisor and coauthor. I conducted and wrote the literature review. I worked with the coauthor to frame and position the paper and in writing the introduction, methods, and discussion sections. I also helped the coauthor formulate the results and develop and verify the analysis framework, and revised the paper after the peer review in collaboration with the coauthor.

For the second article, I carried out the literature review, and collected and analyzed the data and wrote the full draft versions of the paper. I developed the original paper idea with the help of the second author, and the idea of the paper was further developed in collaboration with the third author during the writing and revision process. I also had a leading role in creating the data collection framework and the analysis framework. Ideas and contents for the discussion and conclusion sections were further developed in collaboration with the other authors and

according to the reviewers' feedback. The second and third author improved the paper with their comments and modifications.

For the third article, I collected the customer data, developed the analysis frameworks, and analyzed all the data. The idea of the paper, the introduction, and the literature review were developed jointly with the coauthor. I wrote the draft version of the paper, and the paper was consequently modified by and with the coauthor. The full paper manuscript was finalized and submitted for review, and it is now being revised by the authors.

For the fourth article, I collected half of the data, developed the data collection framework for the external data, and participated in developing the data collection framework for the internal data. I developed the idea for the paper with the help of the coauthor. I developed the analysis framework, analyzed the data, and wrote the paper. The coauthor provided comments and modifications, and the review feedback was considered jointly.

1 INTRODUCTION

1.1 Motivation and background

Manufacturers are increasingly inclined to servitize i.e. add services to their offering to create more value for their customers (Baines et al., 2009a). Servitization has also become a common trend for many manufacturers operating in business-to-business context (Brax, 2005; Kohtamäki et al., 2015; Laine et al., 2012), which is the focus of this study. Servitization can benefit manufacturers in a number of ways. First, it can offer competition-oriented benefits, which aim to differentiate the manufacturer from competitors. Second, it can bring financial benefits, which help increase revenues. Finally, it can offer market-oriented benefits, which involve extending customer relationships (Baines et al., 2009a; Brax, 2005; Fang et al., 2008; Oliva and Kallenberg, 2003; Vandermerwe and Rada, 1988). However, servitization is not a straightforward process. It presents several challenges for manufacturers who seek to transform their businesses, to more service-oriented direction, and many companies fail to achieve the expected results (Kindström, 2010; Kowalkowski et al., 2017b; Kuo et al., 2010; Martinez et al., 2010).

The majority of the servitization literature has focused on studying manufacturing companies' internal challenges, with little attention to customer perspective (Brax and Jonsson, 2009; Nudurupati, 2016; Story et al., 2017). During servitization, manufacturers innovate new services. Including them into their offering demands adaptations. From the manufacturer, servitization requires changes in all areas of the business model (Kindström, 2010). It demands adjusting the organizational culture (Baines and Guang Shi, 2014; Hou and Neely, 2013), selling (Gebauer and Friedli, 2005; Oliva and Kallenberg, 2003; Kindström, 2010), customer relationships, (Martinez et al., 2010; Baines et al., 2009b), capabilities (Baines and Guang Shi, 2014; Kuo et al., 2010), and processes (Martinez et al., 2010).

Although the servitization literature has acknowledged the importance of customers in servitization (e.g., Brax and Jonsson, 2009; Oliva and Kallenberg, 2003;

Story et al., 2017), very few studies have explored their role as adopters or users of manufacturers' services. Customer innovation adoption, that is their initial decision to start using an innovation (Planing, 2014) and eventually acceptance, that is their continued use of an innovation (Planing, 2014), are vital for all companies, mainly because customers' perceptions and decisions to start using and continue the use of offered goods and/or services define demand and, thereby, generate income for companies. This acceptance is not self-evident (Hou and Neely, 2013), and although several authors have noted the importance of customers in manufacturers' servitization processes, few of them have concentrated on customers (Brax and Jonsson, 2009; Kindström, 2010; Martinez et al., 2010; Story et al., 2017). Story et al., (2017) identified that customers need to change their culture to support service use: customers should be ready to outsource, balance the use of internal and external service people, and retain suitable innovation capabilities and service infrastructure (Story et al., 2017). Further, different parts of the customer organization need to interact with the manufacturers' employees (Kindström et al., 2015; Ulaga and Loveland, 2014). These findings show the adjustment and readiness that is demanded from customer company. Thus, more studies from the customers' point of view have been called for (e.g., Baines et al., 2017; Brax and Jonsson, 2009; Nudurupati; 2016; Story et al., 2017).

Many manufacturing companies are seeking to broaden their service offering with new data-enabled services. Many of the data-enabled services are so called advanced services, which are "focused on capability delivered through performance of the product" (Baines and Lightfoot, 2013). However, introducing the advanced services can pose challenges (Story et al., 2017), demanding even more adaptation from the customers. With advanced services, the processes of the manufacturer and the customer may become intertwined (Kowalkowski and Brehmer, 2008), trust between the partners is highlighted (Brax and Jonsson, 2009), new capabilities are needed (Story et al., 2017), and a need for cooperation in multiple levels during sales process becomes important (Kindström et al., 2015).

Exclusive focus on customers may not be adequate, because the manufacturers need to collaborate with other actors involved in the service sales and delivery. The servitization literature has stated that manufacturers' servitization benefits from supportive changes among other stakeholders, an example of which may be cultural changes demanded from the third parties, such as dealers (Kowalkowski et al.,

2017b). Cooperation with the third parties may bring additional value for service (Huttu and Martinsuo, 2015); however, it can also damage the companies' image if the third parties do not have a similar level of performance and quality to that offered by the main manufacturer (Nenonen et al., 2014). Moreover, manufacturers' servitization has been identified to require building new capabilities and forming relationships with the distributors (Aminoff and Hakanen, 2018). Studies on these external salespeople are still rare.

1.2 Research rationale

To enable business customers to adopt manufacturers' new services, they first need to become aware of such services through the manufacturers' distribution channels; these channels include "a given combination of intermediaries who co-operate in the sale of a product" (WTO, 1975 in Buhalis, 2000, p.114). These potential channels are illustrated in Figure 1. The adoption of services within distribution channel is highly relevant for the success of the new service. Manufacturers usually have internal salespeople, but many of them also use dealers or retailers, who form the manufacturers' external salespeople. Successful introduction of services can depend on the internal and external salespeople (Wieske et al., 2008; Lenfle and Midler, 2009), not least because these salespeople (e.g., retailers) play a key role in influencing customer decision-making (Badrinaryanan and Laverie, 2013). Retailer adoption of services is also critical for increasing customer adoption of services (di Benedetto, 1999). Indeed, frontline employees need to adopt services because only that enables success of service innovations (Cadwallader et al., 2010). Thus, there is a clear need to understand manufacturers' internal and external salespeople adoption of new services.

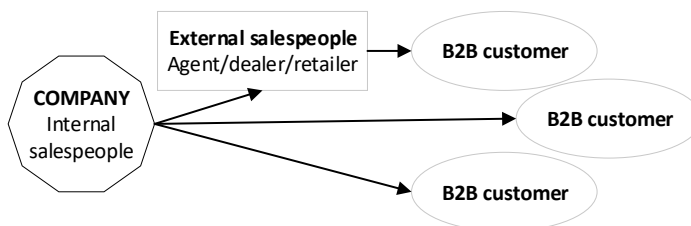


Figure 1. Key actors at the customer interface affected by manufacturers' servitization

The servitization literature has not focused on the customer and salespeople adoption of services. However, innovation adoption has been studied in technology-centric contexts, which can be used as a starting point for developing a theoretical framework for the adoption of service innovations. Figure 2 illustrates this literature combination and position of this study. Innovation adoption has typically been studied related to new technologies and new technology-intensive consumer services using technology-centric models (e.g. models by Rogers, 1983; Fishbein and Ajzen, 1975; Davis, 1986). Following Rogers' (1983) idea that technology-ready customers are more willing to adopt new technologies, Parasuraman (2000) introduced the concept of technology readiness (Parasuraman, 2000; Ranaweera et al., 2008). Technology readiness describes the inclination to embrace and use relevant new technological assets (Vize et al., 2013).

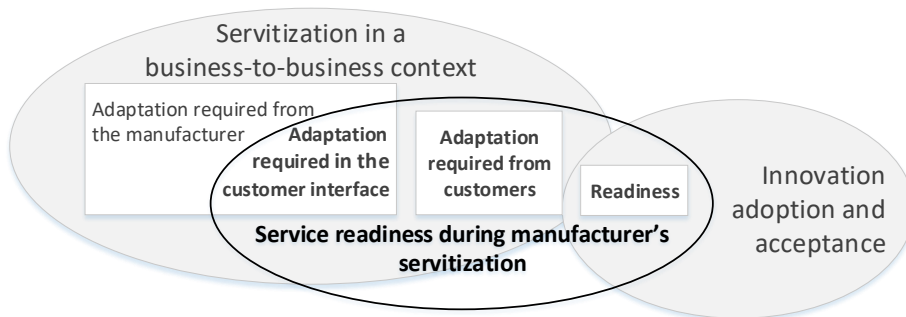


Figure 2. Literature background and the position of this research

The suitability of applying technology adoption models to services and business-to-business settings has been hinted at in previous research. These models have been in use for a long time with a good record of success, although mostly in the consumer context (e.g., Hung and Cheng, 2013; Lin and Chang, 2011; Kallweit et al., 2014; Smith et al., 2014a). Nevertheless, there are some studies on technology readiness and adoption in business-to-business context (Asare et al., 2016; Vize et al., 2013). It is necessary to discuss service adoption separately in business-to-business context mainly because interfirm context can be more complex (Asare et al., 2016). In such situations, purchasers consider more rational criteria and invest more in long-term relationships, and the average value of transactions is also higher (Russo et al., 2016) than in consumer context.

There are also indications that service adoption in both technology-intensive services (Lanseng and Andreassen, 2007; Lin and Chang, 2011; Wang and Lin, 2012) and less technology-intensive services (Rexfelt and Ornäs, 2009) can be explained using these technology-based models. Similarly, innovation adoption by both customers and companies' internal (e.g., Hultink and Atuahene-Gima, 2000; Wieske et al., 2008) and external salespeople (Atuahene-Gima, 1997; Lin and Chang, 2012; Mallat and Tuunainen, 2005) has been explained with technology adoption models. Thus, these technology-based models are expected to serve as a suitable starting point for this study. Many manufacturers are struggling with the new advanced services, especially those enabled by digitalization and the industrial Internet (Donoghue, 2018; Martinsuo, 2016), which are the focus of this study. Thus, the perspective of technology readiness by Parasuraman (2000) seems to be a useful starting point for understanding customer and internal and external salespeople readiness for adopting manufacturers' new advanced services in the context of servitization. Therefore, this research focuses on service readiness, which is derived from technology readiness. In this study, service readiness is defined as customer readiness to take services into use and salespeople readiness to sell services (and, thereby, it differs clearly from employees' willingness to serve customers).

There is a clear gap in the current literature about service readiness of business customers and manufacturers' salespeople. Readiness for new technologies has been described as crucial for customers' perceptions of the service quality (Richey et al., 2007) and retailers' satisfaction with a service (Vize et al., 2013). However, service readiness has not been explored, even though customer acceptance of new services is not self-evident (Hou and Neely, 2013) and the challenges with customers have been found hindering manufacturers' servitization (e.g., Brax and Jonsson, 2009; Martinez et al., 2010; Mont, 2002). Therefore, this research focuses on understanding business customer readiness to adopt manufacturers' services during manufacturers' servitization. This research also extends this focus on understanding service readiness in the distribution channels, as customer service readiness can be enhanced or hindered by the internal and external salespeople in these channels. Salespeople can have a crucial influence on customers (Badrinaryanan and Laverie, 2013; Lenfle and Midler, 2009; Nordfält, 2017), which requires that their role be studied as well.

This research combines the two distinct research areas of servitization and innovation adoption; this allows transferring structures and more tested frameworks

from the other areas of the literature to the servitization literature. Thus, this thesis can be regarded as a response to the concerns raised that the servitization literature largely lacks strong theoretical foundations and extensions to build upon (Kowalkowski et al., 2017a). This thesis can also be a response to calls for studying servitization from the perspective of customers (e.g., Baines et al., 2017; Nudrupati, 2016) and for calls for more research on the adoption of goods-related services (Rexfelt and Ornäs; 2009, Schenkl et al., 2014). From the practical point of view, this study offers the manufacturers struggling with the introduction of new services an understanding of service adoption among their customers and salespeople, and through that, it helps them in increasing demand and enhancing competitiveness of their services. To do this, this research focuses on manufacturers who provide services related to their goods and analyzes readiness for new services among their business customers and internal and external salesforce to gain information from the distribution channels.

1.3 Research objectives and questions

The overall aim of this research is to offer a scientific understanding of service readiness among manufacturers' customer companies and internal and external salespeople with a view to helping manufacturers create and enhance demand for their services. This is done by broadening the readiness framework from the area of technology to services. Thus, it provides the servitization literature with stronger ties to other streams of the literature as well as with new knowledge based on frameworks from other research streams. In addition, this research seeks to offer companies an understanding of customer readiness to adopt manufacturers' new (advanced) services. To enable customer adoption of the new services, it is imperative to encourage manufacturers' distribution channels to adopt the new services. Hence, this study broadens the concept of service readiness to internal and external salespeople.

To achieve the aims of this study, following main research questions relating to manufacturers' customer companies and salespeople service readiness have been framed:

RQ1. What is service readiness, and how does it differ across customers and manufacturers' salespeople?

RQ2. How can manufacturers enhance the service readiness of different actors?

These research questions intend to shed light on the concept of service readiness, and compare how it is viewed by manufacturers' internal and external salespeople and their customers. Second, the research questions seek to identify ways in which manufacturers can use the concept of service readiness and how they can seek to enhance the service readiness of relevant actors or take it into account when launching and selling new services.

This study focuses on manufacturers and their customer companies in business-to-business context and, therefore, it purposefully excludes the consumer business. It uses a qualitative research design to gain an in-depth understanding of service readiness. At the manufacturer, this study also exclusively focuses on salespeople to be able to probe their role in sufficient depth, meaning that people responsible for service delivery and development, for example, have been excluded from this research.

1.4 Research process and dissertation structure

This research was conducted as part of the Service Business Capabilities project in Future Industrial Services research program and as part of Service Solutions for Distributed Fleet research program, both funded by Finnish Technology and Innovation Agency Tekes, companies, and research institutes and coordinated by DIMECC (A Finnish consortium for Digital, Internet, Materials & Engineering Co-Creation). Through these programs, five different case companies offering goods, solutions, or complex systems as well as some services to their industrial customers were identified. All these companies were interested in servitizing their businesses. Most notably, the companies in the research Articles II, III and IV were evolving toward advanced data-based services and were hence interested in their customers' and/or internal and external salespeople's opinions and willingness to use/sell these services.

During the first phase of this research—the Service Business Capabilities project—a basic understanding of servitization as a phenomenon was created in the form of Article I and other works outside the scope of this thesis. The focus was on companies' early phase of servitization and their readiness for service business transformation. Data were collected from two case manufacturers who were

interested in starting to servitize their highly goods-focused businesses. This research clearly showed the importance of service acceptance by customers and salespeople and thus guided the rest of the research.

In the second phase of this research—Service Solutions for Distributed Fleet—there were new case companies that were already active in service business and were moving toward offering more advanced services. Thus, customer service readiness was a relevant theme to them to discover. Customer service readiness was first identified with one case company and their customers (Article II) and further elaborated with a second case company and their customers (Article III). In addition, during this phase, the salespeople’s perspectives on selling new advanced services during servitization were studied (Article IV). This phase gave useful insights about service readiness among the customers and allowed reflections on this phenomenon among the manufacturers’ internal and external salespeople.

Article I provides an internal perspective and some basic understanding of servitization as a phenomenon in highly goods-centric businesses in the early phase of servitization. It uses previous research (e.g., Baines et al., 2009a; Martinez et al., 2010; Kuo et al., 2010; Hou and Neely, 2013) and two highly goods-centered manufacturers (MatCo and CompCo) to discuss the challenges that companies may face when servitizing. These two manufacturers intended to increase the role and meaning of services in their businesses, but in the end did not succeed with their servitization efforts. Therefore, this article provides a profound understanding about the servitization efforts at a manufacturer and illustrates the relevance of the ability to sell services and the customer-related challenges in servitization. Further, it also hints toward the importance of manufacturers’ internal service readiness, hence helping in answering the first research question.

Article II applies Parasuraman’s (2000) technology readiness framework to a service context by studying business-to-business customer service readiness and thus providing perspectives from customers. The research studies the customers of a machine manufacturing company (MachCo), which seeks to broaden their service business using new, more advanced services. This study focuses on customers readiness to adopt these new services. This study illustrates the relevance of Parasuraman’s (2000) technology readiness dimensions for services, complemented by an organizational dimension specific to business-to-business context. This article mainly answers the first research question from the customer perspective.

Article III thoroughly investigates the newly identified organizational dimension of service readiness by focusing on the customers of one manufacturer (ManuCo). It offers useful insights from the internal and customers perspective on service readiness. It reveals the components of the organizational dimension of service readiness and the conditions surrounding customer adoption of new services. Further, it illustrates the links between customer service readiness and the challenges in manufacturers' internal customer interfaces when servitizing, identified by Kindström et al. (2015) and Ulaga and Loveland (2014), for example. Thus, the research suggests that there is a need to understand the customer interface from both the internal and the customer perspective to be able to draw a complete picture of readiness in terms of customer readiness to adopt new advanced services and salespeople readiness to sell those services. This article complements the answer to the first research question, mostly from the perspective of the customers but also from an internal perspective and facilitates answering the second research question.

Article IV concentrates on the internal and external salespeople readiness to adopt new services into their active selling portfolio, related to one system manufacturer (SysCo). It illustrates the need for change among salespeople during servitization identified in the literature, including a better understanding of customers, communicating with multiple people at the customer, and gaining profound knowledge and capabilities in selling more intangible value-based offerings (e.g., Kindström et al., 2015; Neu and Brown, 2005; Ulaga and Loveland, 2014). This article also demonstrates the importance of functions other than sales, and creating supportive attitudes and processes throughout the company, to enable proactive service sales. Further, this article introduces the challenges and requirements for enhancing service selling among internal and external salespeople. Article IV mainly answers the first research question using the salespeople perspective and contributes to the second research question. Table 1 illustrates the relationships between the articles and the research questions.

Table 1. Articles and their contributions to answering the research questions

Research questions	Article I	Article II	Article III	Article IV
What is service readiness, and how does it differ across customers and manufacturers' salespeople?	x	x	x	x
How can manufacturers enhance the service readiness of different actors?	/	/	/	x

x: significant, /: moderate contribution

The next chapter provides the theoretical background from the perspective of servitization and innovation adoption. Moreover, it briefly discusses the other relevant literature streams and what they offer about influencing customers and salespeople. Chapter three explains the methodology of the thesis, followed by short descriptions of the methodology of each article. Findings and contributions of the articles are summarized in chapter four. Chapter five discusses service readiness as a complex and interdependent phenomenon at both individual and organizational levels. This chapter also explains the connections between service readiness of customers and that of internal and external salespeople and what this means for the manufacturers who intend to enhance service readiness of different actors. This chapter will conclude by discussing the theoretical and practical implications, validity and reliability, limitations, and directions for further research.

2 THEORETICAL BACKGROUND

2.1 Key terms and concepts

This sub-section focuses on clarifying the terminology, as many of the concepts used in this research have several, and sometimes conflicting, definitions. It seeks to clarify the concepts relating to services and servitization, which are often viewed from a manufacturer's internal perspective. Subsequently, concepts concerning innovation adoption and readiness are discussed. These have often been looked at from the point of view of an individual adopting the innovation even without considering a certain supplier.

2.1.1 Services and servitization

Services are often seen as activities, deeds, and processes—as something that is done to solve a customer's problem or to benefit the customer (Edvardsson et al., 2005; Vargo and Lusch, 2004). This view, however, does not clearly distinguish between customer service and actual service, which involves a defined entity sold (or sometimes given for free) to a customer. This research adopts the approach presented by Edvardsson et al., (2005) seeing services as category of market offerings; it also acknowledges the fact that some researchers view services more widely (i.e., as a point of view or perspective to value creation) (Edvardsson, et al., 2005; Vargo and Lusch, 2004). Thus, this research sees services as activities and processes that are exchanged and meant to benefit customers.

Services have for long been described through four different characteristics: (a) they are inherently relatively intangible (intangibility), (b) they are not standardized (heterogeneity), (c) they are produced and consumed simultaneously (inseparability), and (d) they cannot be stored (perishability) (Zeithaml et al., 1985; Edvardsson et al., 2005; Schmitz et al., 2015). These characteristics are easily understandable in the context of the traditional consumer services, such as haircutting services. However, these characteristics have been criticized (Edvardsson et al., 2005), especially related to industrial services, which is the focus of this study. Following Schmitz et al.'s

(2015) definition, in this thesis industrial services are services offered related to industrial goods or systems for industrial business customers. The above characteristics do not always apply to industrial services, for example, these services can often include some tangible aspects, such as spare parts. As for the electronic training, for example, inseparability and perishability may not hold, and many basic industrial services, such as traditional scheduled inspections, can be rather standardized.

This research acknowledges that services can be very distinct from each other, as highlighted by several authors (e.g., Edvardsson et al., 2005; Neely, 2008), hence the need for clarity as to which services have been studied in the different phases of this research. The majority of this research (i.e., Articles II, III, and IV) focused on data-based services, many of which can be described as advanced services, although some could also be intermediary services. Therefore, clarifying these concepts in relation to services is necessary. Commonly, manufacturers start their service business by offering services that are closely linked to their goods (Oliva and Kallenberg, 2003), such as repairs, spare parts, warranties, and maintenances. These can be considered as basic services (Baines and Lightfoot, 2013). However, lately some companies have begun to offer more advanced services, such as sensor-based services (e.g., e-maintenance) (Aboelmaged, 2014). Advanced services tend to be more long-term and seek to deliver availability, capability, capacity, or performance the customer needs (Baines and Lightfoot, 2013). Advanced services are more complex than intermediary services and can include preventive and performance optimizing services.

This move toward services and toward more advanced services is known as servitization. Servitization has usually been defined as adding services to goods to provide more value for customers (Baines et al., 2009a). It has been seen as a concept very similar to product-service systems and integrated product and service offerings (Meier et al., 2010). However, servitization focuses more specifically on changes involved in expanding service businesses than do the other two concepts. Recently, Kowalkowski et al. (2017b) have attempted to clarify the concept of servitization by describing it as a shift from a goods-centric business model to a service-centric approach, calling for extensive changes within the servitizing company. They define the increasing importance of service business in a company as service infusion, which is part of servitization (Kowalkowski et al., 2017b). Thus, they tend to regard

servitization as a comprehensive and overarching theme compared to the previous definitions. This researcher views this distinction as an important development in the conceptual clarity of servitization but for the purposes of this thesis, the term service infusion is not used; rather, servitization is retained and understood according to an older definition offered by Baines et al. (2009a): adding services to goods to provide more value for customers. This is also aligned with the prevailing goods-dominant logic in the traditional manufacturers' businesses and the ongoing servitization-related transformations.

The service research has also introduced service-dominant logic (Vargo and Lusch, 2004), which highlights the service perspective and sees goods as a vehicle for service provision. This research is firmly grounded on highly goods-centric contexts, where services are viewed as additions to a company's offering. Manufacturers in this research emphasize goods and systems that are sold to their industrial customers. Services are seen as something that supports customers' use of goods and systems and also generates some extra revenues. These manufacturers do not intend to go as far in their servitization as service-dominant logic would expect (Vargo and Lusch, 2004). Accordingly, this research inclines toward goods-dominant logic. It sees services as something that companies offer to support their main businesses, which are clearly goods-centric and can introduce an extra revenue stream alongside benefiting their customers.

2.1.2 Innovation adoption, acceptance, readiness and their relations

New services can be seen as innovations by both manufacturers and customers, and their adoption and acceptance is relevant for the success of the services. Research on innovation adoption has a long history in several research fields, mainly focusing on documenting perspectives of people taking innovations into use. In the marketing domain, adoption and acceptance of innovations have been studied extensively (Planing, 2014). Despite this, conceptual ambiguities persist. For example, adoption and acceptance are often used synonymously (Planing, 2014), but also differing definitions for the terms have been proposed. In the late 20th century, Rogers (1983) defined adoption as a "decision to make full use of an innovation as the best course of action available". Decades on, Planing (2014) compared the terms "adoption" and "acceptance" by stating that adoption describes an individual's decision to use an

innovation, whereas acceptance describes the continued usage of the innovation. This thesis follows Planing’s (2014) definition, whereby adoption precedes acceptance.

Previous research has suggested that acceptance (i.e., continued use of an innovation) is preceded by several interlinking phases. Arts et al. (2011) state that innovation adoption includes the intention of adopting as well as the actual adopting behavior. On the contrary, some studies distinguish between adoption and the intention of adopting, suggesting that intention precedes adoption, which in turn is preceded by interest (Jung et al., 2012; Leonidou and Katsikeas, 1996)—a view followed in this research. Another related term is technology readiness, which concerns one’s inclination to embrace and use relevant new technological assets (Vize et al., 2013). The exact relationship between technology readiness and these other concepts cannot be determined using the current literature, especially given the variations in the way it has been used and in the complementary variables (e.g., Aboelmaged, 2014; Chen and Chen, 2008; Lin and Chang, 2011; Tsiriktsis, 2004).

This research considers readiness as a distinct concept from interest and adoption; it regards it as something that is required to some extent for people to develop interest and willingness to adopt new goods or services. It comprises both the ability and willingness to try new services. It is also important to note that Parasuraman’s (2000) technology readiness should not be confused with technology readiness levels or technology readiness assessment used by NASA to assess maturity of technologies (Mankins, 2009). The relationships between the adoption-related concepts are illustrated in Figure 3.

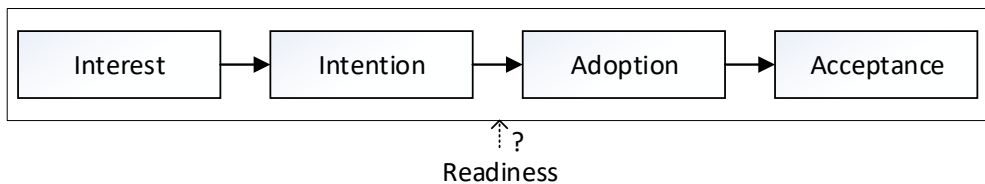


Figure 3. Relationships between innovation adoption concepts (adapted from Article II)

The variety of factors and concepts needed for technology-related innovation adoption has been discussed broadly. The term implementation was first used by Rogers (1983) to describe the activity where an individual “puts an innovation into

use”; he claims that before the implementation stage, the innovation-decision process has been only mental. With services, however, the activities of decision-making and use get blurred, as services themselves encompass intangible processes and activities that “vanish” after use. Service adoption (i.e., the decision to take a service into use) in itself initiates the implementation, which is partially carried out by suppliers (in cooperation with customers). The actual implementation phase of the service, however, does not actually describe customers’ willingness to continue using the service. Instead, for service acceptance, customers actually have to be willing to purchase the service again or on a continued basis to demonstrate their willingness to continue using the service.

Innovation adoption research has been centered on customers’ (i.e., users’) viewpoints for technology-related decision-making and use; it has also generally discussed diffusion in the suppliers’ markets (Rogers, 1983). In case of services, companies always have (at least) two actors involved: the customer and the supplier. In the service context, it is not sufficient to consider customers’ viewpoints only, but rather it is sensible to take note of the suppliers’ perspectives too, since they both interact in services. Therefore, companies need to consider at least two kinds of service readiness as part of service adoption: (a) customer readiness, and (b) (suppliers’) salespeople readiness. Hence, this research considers both customer service readiness (i.e., customer readiness to adopt services) and salespeople service readiness (i.e., salespeople readiness to sell services), which includes both internal and external salespeople.

2.2 Service adoption among customers

Service readiness is a highly relevant concept to all manufacturing companies seeking to servitize. Many manufacturing companies pursue such a goal to increase customer value, gain economic and environmental benefits, differentiate the company from its competitors, or lengthen customer relationships (Artto et al., 2008; Aurich et al., 2010; Baines et al., 2007; Brax, 2005; Oliva and Kallenberg, 2003). However, service readiness as such has not been discussed nor defined in the literature. Therefore, this concept is presented herein from the perspective of service adoption and based on servitization and the innovation adoption literature.

2.2.1 Innovation adoption as a background for service adoption

Many studies have focused on identifying the antecedents of adoption and acceptance of goods, technologies, and technology-intensive services (e.g., Gounaris and Koritos, 2012; Hultink and Atuahene-Gima, 2000; Jang and Noh, 2011; Venkatesh et al., 2003). These studies have analyzed a multitude of different factors related to the characteristics of innovation, its adopters, or markets. Three most common models behind these factors are summarized in Table 2 and described briefly below.

Table 2. Key models of innovation adoption (adapted from Article II)

Key theories in adoption literature	Expected model	Author	Used e.g. by
1. Perceived characteristics of innovation	Innovation adoption driven by relative advantage, observability, compatibility, and trialability and hindered by complexity.	Rogers (1983)	Moore and Benbasat (1991); Plouffe et al. (2001)
2. Theory of reasoned action	Beliefs, attitudes, and intentions direct behavior	Ajzen and Fishbein (1975)	Wunderlich et al. (2013); Bhattacharjee (2000)
Theory of planned behavior	Added perceived behavioral control as a driver to theory of reasoned action	Ajzen (1985)	
3. Technology acceptance model	Perceived ease of use and usefulness drive the attitudes toward technologies, which further drive the behavioral intentions.	Davis (1986)	Chen et al. (2007); Kim et al. (2008)

Rogers (1983) built his framework on the diffusion of innovations by turning from the innovation designer’s perspective toward an understanding of the adopter’s perspective. Rogers’ antecedents have been used, in original or modified forms, by many researchers studying innovation adoption and acceptance (e.g., Moore and Benbasat, 1991; Plouffe et al., 2001). Fishbein and Ajzen’s (1975) theory of reasoned action (TRA) holds that individuals’ actions are driven by beliefs, attitudes, and intentions; it also considers the social pressure directed at individuals, and the model has been widely applied in technology adoption contexts (Gong and Yan, 2004; Venkatesh et al., 2003). It was subsequently developed into a theory of planned behavior (Ajzen, 1985; Lu et al., 2009), acknowledging the extent to which an

individual believes that resources or obstacles exist to help or hinder performance (i.e., perceived behavioral control) (Rexfelt and af Ornäs, 2009). In addition, technology acceptance model (TAM) has been developed based on TRA. TAM presents that customers' use of technology is driven by their attitudes toward technology, which is further driven by perceived usefulness and perceived ease of use (Davis, 1986). Davis' (1986) TAM has been commonly used, particularly in the contexts of technology and technology-intensive services (Chen et al., 2007; Lanseng and Andreassen, 2007; Wang and Lin, 2012).

As can be seen above, the previous innovation adoption research has revolved mostly around adoption and acceptance of technologies and goods; it largely suggests that individuals assess innovations before adopting them primarily using the attributes of the innovation, such as ease of use and usefulness of the innovation, its observability and trialability, as well as social pressure. The adopters' characteristics have also been recognized as relevant to technology adoption (Shih and Fan, 2013). Despite this, very few studies have probed the role of personal traits in innovation adoption (Lin and Chang, 2011).

One stream in the innovation adoption literature deals with the concept of technology readiness, which seeks to understand the adopters' characteristics (Lin and Chang, 2011). Technology readiness by Parasuraman (2000), refined afterward by Parasuraman and Colby (2015), relies on Rogers' (1983) idea that customers who are more technology-ready are more willing to adopt new technologies (Ranaweera et al., 2008). Technology readiness describes the inclination to embrace and use relevant new technological assets (Vize et al., 2013). Thus, the concept of readiness is suitable for covering a situation where the actual adoption of a technology or service is not yet possible or topical, such as advanced services, which are being developed but not yet available in offering. Therefore, technology readiness is the selected theoretical framework used in this research and elaborated below.

Technology readiness was developed to better understand how high-tech goods and services are adopted. Technology readiness consists of four dimensions. Two of these dimensions drive the readiness and these are optimism and innovativeness; the other two dimensions hinder readiness and these include discomfort and insecurity (Parasuraman, 2000). Optimism describes the person seeing the technology in a positive light and believing that it offers benefits such as control, flexibility, and efficiency (Parasuraman, 2000). Thus, optimism seeks to capture attitudes toward

technology. Innovativeness concerns “a tendency to be a technology pioneer and thought leader” (Parasuraman, 2000). Discomfort, a hindering factor, deals with feelings of being incapable to manipulate the technology and thus becoming overwhelmed by it (Yieh et al., 2012). Insecurity, the second hindering factor, deals with distrusting technology and not believing that it can function properly (Parasuraman, 2000). These two latter dimensions seem to share similarities, but Tsikriktsis (2004) has further elaborated the differences between these two concepts, in that insecurity focuses on specific aspects of technology-based transactions, such as trustworthiness (Tsikriktsis, 2004).

The importance and stability of different dimensions vary between studies. For example, innovativeness has been shown to be an important, positive factor for technology readiness and adoption (e.g., Melo Pereira et al., 2015). However, some researchers have found that it does not explain adoption (e.g., Liljander et al., 2006), whereas some other researchers show that innovativeness has a negative effect on technology adoption (Theotokis et al., 2008; Walczuch et al., 2007). This rather general form of innovativeness has for many years been criticized (Engel et al., 1990); instead, a more domain-specific concept of innovativeness has been suggested to be more suitable for explaining technology adoption (Liljander et al., 2006). Similarly, some researchers have found optimism important for technology readiness (Hung and Chen, 2013), whereas others have not found such a relationship (Richey et al., 2007). Some researchers have found insecurity and discomfort important dimensions of technology readiness (Richey et al., 2007; Tsikriktsis, 2004), whereas some others have struggled to even create reliable constructs of these (Liljander et al., 2006; de Melo Pereira et al., 2015).

Technology readiness has mainly focused on individuals and readiness for emerging technologies. It has also been introduced to service context through studies related to technology-intensive services. For example, Lanseng and Andreassen (2007) used technology readiness to discover consumer readiness to adopt healthcare self-service technology. Similar to this example, technology readiness, like a majority of the technology adoption literature (Asare et al., 2016), has focused on evaluating individual adopters (Vize et al., 2013). Some other studies include people’s readiness to adopt Internet protocol television (Son and Han, 2011) and Internet banking (Pires et al., 2011). Some researchers have brought the discussion into the organizational context, while still maintaining individual perspective by studying

employees' readiness to adopt services relating to their work. Walczuch et al. (2007), for example, found that employees' perceptions of the usefulness and ease of use of software were significantly affected by optimism, innovativeness, and insecurity.

Some rare studies have brought the technology readiness concept into business-to-business context. For example, Richey et al. (2007) found that retailers' and manufacturers' perceptions of logistic service quality depended on their technology readiness. Manufacturers with a high technology readiness saw technology as a way to enhance efficiency. In another study on small Irish retailers, Vize et al. (2013) found that technology readiness affected retailers' perceptions of service quality and their satisfaction with website management services. They also identified other important aspects affecting business customers' technology readiness, such as their inexperience, industry trust, and switching costs (Vize et al., 2013). These studies illustrate that technology readiness is a relevant concept in both service and business-to-business contexts and hence a good starting point for this research to study customer readiness for new services. However, this stream lacks a clear focus on business-to-business manufacturers' services, which is often more noticeable in the servitization literature.

2.2.2 Servitization perspective on customer service adoption

The servitization literature has relied heavily on studies reporting manufacturer perspectives, with limited attention to customer perspectives (Brax and Jonsson, 2009). For example, Nudurupati et al. (2016) have noted in their recent literature review that customer perspective would provide an important avenue for servitization studies in the future. Similarly, Baines et al. (2017) have highlighted the need to consider manufacturers as customers using advanced services. Although studies focusing on customer perspective are rare in the servitization literature those exist and there are studies that concentrate on manufacturer perspective with clear implications for customers (e.g. Brax and Johnsson, 2009; Raja et al., 2013; Oliva and Kallenberg, 2003; Story et al., 2017).

Servitization studies have not directly discussed customers' intention of procuring services; however, several studies have acknowledged customers' key role in manufacturers' servitization and the need for customers to adapt their operations (Wise and Baumgartner, 1999; Oliva and Kallenberg, 2003; Story et al., 2017). For

example, Smith et al., (2014b) studying servitization of the UK-based original equipment manufacturer, deemed customer inputs and resources necessary for attaining value from manufacturers' services; they also noticed that the required inputs and resources varied between the services. Similarly, customers' cultures, mindsets, and habits have been found relevant to manufacturers' service promotion and better understanding of one another's businesses is needed (Baines and Lightfoot, 2013; Brax and Jonsson, 2009; Westergren, 2011).

In the context of advanced services, major adaptations may be demanded from customers. Manufacturers' and customers' processes can become more intertwined (Kowalkowski and Brehmer, 2008), a common trust among the actors' is highlighted (Brax and Jonsson, 2009), and effective cooperation is needed in multiple organizational levels during the sales process (Kindström et al., 2015). Moreover, in their recent study among manufacturers, intermediaries, and customers in the business-to-business contexts in the UK, Story et al. (2017) found that, during a manufacturer's servitization, the customers needed to adapt their culture and capabilities. Customers must learn to balance and evaluate what is done internally and what should be outsourced; they also need to adapt their culture and processes to support changes brought about by these decisions (Story et al., 2017). Further, they need to hold onto innovation capabilities to work jointly with the manufacturers in service innovations and be ready to manage their relationships with the manufacturers (Story et al., 2017). Table 3 gives an overview of some of the key factors that the literature has found challenging or enabling customer adoption and use of new, sometimes advanced, services.

As Table 3 shows, the servitization literature has mainly focused on manufacturer perspective; however, they also highlight the role of customers in manufacturers' servitization. Especially in the case of advanced services, customers' interest in new services and readiness to use them may become crucial to the success of these services (Brax and Jonsson, 2009; Westergren, 2011). Based on this recognized importance of customers for manufacturers' servitization, it is surprising that customer readiness and intention of purchasing services from servitizing companies have received scant attention. Thus, there is a demand for studies on customer service readiness and adoption, as they seem to be vital to manufacturers' successful servitization. Nonetheless, to enable customers to become aware of new services and

adopt them, salespeople need to communicate the new services to them, thus, the salespeople service adoption is discussed next.

Table 3. Examples of empirical studies indicating challenges and enablers of customer adoption of services in business-to-business contexts (adapted Article III)

Article	Method and context	Challenges and enablers of customer adoption and use of services
Baines and Lightfoot, 2013	Multiple-case study with four manufacturers successful in servitization	<ul style="list-style-type: none"> • Different cultures and mindsets exist among customers and thus there are different views about what is an acceptable service. • Defining principles and processes to support effective delivery of services/solutions is needed.
Brax and Jonsson, 2009	Comparative two-case study with two manufacturers starting condition-based maintenance	<ul style="list-style-type: none"> • Technical problems • Technicians avoid use of the new systems; software is laborious and expensive • Resources for customer support are lacking • Sales personnel sell the solution only reactively • Lack of tools for managing the maintenance business • Customers' fear of becoming dependent and lack of trust in suppliers' capabilities or intentions
Raja <i>et al.</i> , 2013	Embedded case study with four customers of a manufacturer	<ul style="list-style-type: none"> • Customers require knowledge about the offered solutions • Customers want a supplier who understands their business and helps them to improve their performance • Customer satisfaction needs good relational dynamics and access to help when required. • Delivery, locality, price, and range of offerings are important attributes of value-in-use.
Story <i>et al.</i> , 2017	Interview study with 19 organizations (customers, intermediaries, manufacturers)	<ul style="list-style-type: none"> • With new advanced services, customers need to <ul style="list-style-type: none"> ◦ retain capabilities of co-creating innovation ◦ adapt processes and cultures to support use of new services ◦ manage risks related to close manufacturer relationships ◦ balance internal and outsourced work and retain the needed internal service infrastructures
Wester-gren, 2011	Case study with three industrial customers using a manufacturer's remote monitoring system (RMS)	<ul style="list-style-type: none"> • Value creation for the customer and the supplier is needed. • Importance of mutual understanding and cooperation increases. • New knowledge and skills required for using the RMS and exchanging this knowledge between the firms are needed. • Partner network complexity—different systems for control across firms • Customers risk losing hands-on knowledge and thus control over maintenance processes.

2.3 Service adoption among internal and external salespeople

As noted previously, customer readiness to adopt new services is critical to the success of these services. However, customers have difficulty learning about the new services, let alone acquiring them if salespeople are not able and willing (i.e., ready) to sell them. Thus, it is also crucial to consider salespeople readiness to adopt new services into their active selling portfolios of both internal salespeople (manufacturers' own salesforce) and, when available, external salespeople (e.g., retailers, dealers, and agents).

2.3.1 Adoption of innovations among salespeople

Although salespeople's readiness to adopt services into their active selling portfolios is necessary, innovation adoption studies have mainly focused on individuals (e.g., Chen et al., 2007; Jang and Noh, 2011; Lanseng and Andreassen, 2007; Zolait, 2010); these studies have also offered a somewhat simplified situation where service adoption of only one layer of actors (i.e., consumers as the potential users of innovations) is of interest. However, customers must first get to know the services, and the manufacturers' internal salespeople are required to facilitate this. Only a few studies have illustrated the need for the multiple groups to adopt technologies or innovations (e.g., Plouffe et al., 2001). For example, Hultink and Atuahene-Gima (2000) observed that the adoption of new goods by salespeople has a positive effect on their selling performance. Further, it has been suggested that, for service innovation to become successful, frontline employees must adopt it and commit to marketing it (Cadwallader et al., 2010; Hultink and Atuahene-Gima, 2000). Thus, salesforce adoption of the innovation is critical to customer adoption (di Benedetto, 1999).

Often the situation is more complex, as there can be several actors involved in service distribution to actual service users. In addition to internal salespeople, many manufacturers use different external salespeople, such as retailers, to distribute their goods and services. Retailers are becoming increasingly powerful (Hultink et al., 1999), and they have an ability to decisively influence customers' decisions (Badrinaryanan and Laverie, 2013; Nordfält, 2017). Thus, when external salespeople (e.g., retailers) are involved in promoting or selling a service, they need to be convinced of the service's attractiveness (Lenfle and Midler, 2009), bearing in mind

that the success of manufacturers' services or goods depends on retailer adoption of those (Kaufman et al., 2006). Nonetheless, retailer innovation adoption is not self-evident; instead, retailers may favor the existing offering over the new goods or services (Wieske et al., 2008). In such circumstances, it is not enough to consider customer innovation acceptance alone, but rather the whole distribution channel needs to be considered, simply because if salespeople do not accept the service, they will not market it. Therefore, salespeople should be considered the first "customers" to whom an innovation needs to be sold (Atuahene-Gima, 1997); in addition, a more holistic view than just that of customers is needed to grasp the overall readiness to adopt services.

Salespeople innovation adoption seems to have similarities and differences when compared to the traditional customer innovation adoption. The studies on internal (e.g., Ahearne et al., 2009; Hultink and Atuahene-Gima, 2000) and external (e.g., Kaufman et al., 2006; Lin and Chang, 2012) salespeople innovation adoption have considered many factors similar to the studies on customer innovation adoption. Similar factors include the goods' advantages (Kaufman et al., 2006; Lin and Chang, 2012) and their compatibility with current practices (Plouffe et al., 2001). Characteristics specific to salespeople also exist. Salespeople consider how selling the service benefits them and how much extra work it creates. For example, salespeople may avoid focusing on new goods because selling them may need more effort and energy (Ahearne et al., 2009). Further, salespeople use their own name and trustworthiness when recommending a service to their customers. Thus, salespeople need to understand how their customers perceive the service and consider how the service can be useful to their customers (Wieske et al., 2008). When a service recommended by a salesperson has problems in its delivery, customers often blame the salesperson (Koppitsch et al., 2013). Salespeople ought to market the services to their customers, and for example, with advanced services also teach their customers how to use the services (Lenfle and Midler, 2009). Therefore, salespeople need to learn about the services and it takes time and requires information, and often there may be shortage of time (Rackham, 1998). So, irrespective of how useful salespeople perceive the services to be, if they do not get enough information and feel that they can demonstrate the service results to others, they are likely to face challenges in marketing and selling the services to their customers.

Factors specific to internal and external salespeople innovation adoption have also been identified. In the internal context, Hultink and Atuahene-Gima (2000) found that internal marketing is important for salespeople's selling performance of new goods, whereas training is not necessarily beneficial, and thus they suggest that its content should be carefully considered. On the other hand, Anderson and Robertson (1995) discovered that training can be very useful for increasing salespeople's adoption of in-house brands. In situations where external salespeople are located between service customers and service providers, retailer service acceptance becomes vital, but it can also differ from traditional customer acceptance (Lin and Chang, 2012). Plouffe et al. (2001) found that retailers are highly interested in the innovations ability to add to their bottom line. For the external salespeople, the retailer-manufacturer relationships (Lin and Chang 2012; Kaufman et al., 2006; Shaikh and Gandhi, 2016) have been found relevant. The external salespeople (e.g., retailers) often have established relationships and lines of communication with the manufacturers providing services, which might play a useful role in deciding to sell the suppliers' services (Lin and Chang, 2012).

Studies on technology readiness have paid little attention to salespeople. Very few studies have discussed retailer technology readiness (e.g., Richey et al., 2007; Vize et al., 2013), and even Vize et al. (2013) have viewed retailers as business customers of web solution service providers. Richey et al. (2008) found that technology readiness helps retailers benefit from the use of technology in retailer-supplier relationships. A year earlier, Richey et al. (2007) had noted that technology readiness could affect retailers' view of the quality of a logistic service; they added that, for retailers with high technology readiness, technology was a way to respond effectively to their customers' needs and something that enabled better innovativeness. Therefore, the innovation adoption literature still lacks a clear understanding of salespeople readiness to adopt technologies let alone services. The next section looks at the servitization literature, focusing on manufacturers' salespeople.

2.3.2 Servitization perspective on salespeople service adoption

The servitization literature has discussed extensively the adaptations servitization demands from manufacturers and especially their salespeople (e.g., Kindström et al., 2015; Kuo et al., 2010; Martinez et al., 2010; Oliva and Kallenberg, 2003; Sakao et

al., 2009; Ulaga and Loveland, 2014). Further, the new information technologies have enabled manufacturers to offer new services and have better connectedness to their customers (Brax and Jonsson, 2009; Coreynen et al., 2017; Grubic, 2014; Kowalkowski and Brehmer, 2008; Porter and Heppelmann, 2014). Advanced services also cause changes into processes, systems, and technologies of manufacturers (Baines and Lightfoot, 2013) as well as into their required skills and capabilities (Baines et al., 2011, 2013; Oliva and Kallenberg, 2003; Story et al., 2017). Discussions about the adaptations demanded by servitization are mostly from the perspective of internal salespeople, and thus they are first discussed below in more detail.

Customer relations and communication are important for servitizing companies; even completely new business relationships may be required (Edvardsson et al., 2008). For example, Tuli et al. (2007) focused on solution-selling and -purchasing companies from several industries and emphasized the need to move from transaction-based exchanges to more relationship-oriented customer relations to enable providing more effective and profitable solutions during servitization (see also Oliva and Kallenberg, 2003). Further, Martinez et al. (2010) have stated that, even though customer value of the service is clear to the manufacturer, customers may not recognize it. Thus, manufacturers' employees should be able to convince customers about the value of the service (Penttinen and Palmer, 2007), which may be a challenging task needing some creativity (Kindström, 2010). Thus, there is a need for new ways of creating customer value and marketing (Grönroos, 2008, 2011; Grönroos and Ravald, 2011; Vargo and Lusch, 2004). In addition to changes in how and about what salespeople communicate with customers, they might also have to change with whom they discuss. Salespeople need to interact with representatives of customers on several organizational positions.

The need to interact with a wide variety of people in customer organization demands a broad understanding of customers' businesses (Kindström et al., 2015; Martinez et al., 2010; Ulaga and Loveland, 2014); indeed, successful servitization requires increased understanding of customer interfaces (Raddats and Easingwood, 2010; Storbacka, 2011). Studies have highlighted the need to understand customers' problems (Edvardsson et al., 2008) and their individual expectations and evaluations of services to enable successful service provision and provide more unique value (Baines et al., 2007; Brax and Jonsson, 2009; Sandström et al., 2008). Tuli et al. (2007)

have even highlighted customers' lack of understanding of their own service expectations. The need for this understanding is stressed because different business models used by different customers may demand distinct designs and processes (Brax and Jonsson, 2009). Customers may also have ill-defined service specifications, which call for even more proactive approach and deeper understanding on the part of manufacturers' salespeople (Ulaga and Loveland, 2014).

Widespread changes in organizations are also needed to support salespeople's adaptation to servitization and service selling. One evident demand is a clear, well-packaged service offering that is easy to sell (e.g., Groß et al., 2017; Raja et al., 2013). In addition, a culture that supports and values services need to be developed, as a strong manufacturing culture may hinder servitization (Baines and Guang Shi, 2014; Brax, 2005; Hou and Neely, 2013; Mont, 2002; Martinez et al., 2010). There is a need to create pride and trust about the company's services, similar to those that already exist about their goods (Sakao et al., 2009). Further, the internal processes need to be aligned to support goods and service design and delivery (Martinez et al., 2010). These changes may demand new capabilities and the selection of the right people to carry out these tasks (Kuo et al., 2010; Baines et al., 2009a; Baines and Lightfoot, 2013).

The attention external salespeople have received in the current servitization literature has been limited. Few studies covered the subject of third parties in manufacturers' servitization (e.g., Aminoff and Hakanen, 2018; Baines et al., 2011; Burton et al., 2016; Huttu and Martinsuo, 2015; Nenonen et al., 2014). Manufacturers' servitization is said to benefit from supportive changes from third parties (e.g., suppliers) (Baines et al., 2011); cooperation with third parties may provide added value for services (Huttu and Martinsuo, 2015). However, utilizing third parties may also pose risks. Nenonen et al. (2014), for example, observed that the use of third parties may jeopardize companies' images if the third parties do not adhere to the same standards as the companies themselves. In addition, Kowalkowski (2017b), suggests that manufacturers' reliance on dealers, for example, may imply cultural changes for these actors in the manufacturers' wider networks. Aminoff and Hakanen (2018) studied manufacturer-distributor relationships during manufacturers' servitization and found that distributors needed new capabilities and that services should be co-created in the distribution networks so that customers' value and experiences will be in line with manufacturers' expectations. Thus, there

are clear indications about the relevance of external salespeople in manufacturers' servitization; however, studies and sound theoretical foundations on this subject are still limited. Table 4 summarizes the key servitization literature dealing with salespeople's adaptation to services.

Table 4. Examples of empirical studies giving indications of salespeople adoption of new services in servitization and business-to-business contexts

Article	Method and context	Challenges and enablers of customer adoption and use of (advanced) services
Aminoff and Hakanen (2018)	Single case study of a manufacturer and its distributors	<ul style="list-style-type: none"> • Manufacturer's servitization requires from distributors new capabilities related to solution sales, services, and co-creation. • Manufacturer's servitization requires new relational ties and knowledge flow (to manufacturers and end customers) from the distributor.
Groß et al. (2017)	Exploratory interview study with ICT managers	<ul style="list-style-type: none"> • Need for value-based selling, knowledge about customers, and technical knowledge • Need to productize services, work as a team in selling, and create a compensation system for service sales
Kindström et al. (2015)	Exploratory multiple case study with three industrial companies	<ul style="list-style-type: none"> • Servitization implies changes in the organisation, roles, and competences of salespeople. • Need to understand customers better, understand and argue for the value of something intangible, and change the selling approach to fit the services
Martinez et al., (2010)	Exploratory single-case study of a manufacturer and its two suppliers	<ul style="list-style-type: none"> • Challenges in servitization relating to five categories: embedded product-service culture, delivery of integrated offering, internal processes and capabilities, strategic alignment, and supplier relations. • For example, number of customer touch-point increases, more understanding of customers is needed, responses to customers must be rapid, and employees need education about the culture of the organization and delivery of integrated offerings.
Raja et al., (2013)	Embedded case study with four customers of a manufacturer	<ul style="list-style-type: none"> • Salesperson needs knowledge about offering, understanding of customers' businesses, and help to improve their performance. • Salesperson needs to be able to create comprehensive solutions for customers and negotiate to include other suppliers' goods into their solutions. • Dynamic customer-supplier relations are important.
Ulag and Loveland (2014)	Interview/focus group study with manufacturers' managers	<ul style="list-style-type: none"> • Salespeople need to understand customers' businesses and have the ability to manage complex networks of relationships. • Salespeople need to proactively manage customers' expectations. • Salespeople need to be able to use value selling.

This concludes the parts covering different perspectives on service readiness according to the current literature. Hence, a synthesis proposing preliminary concepts for service readiness is needed, which is presented below.

2.4 A tentative concept of service readiness

Research, albeit still limited, stresses the importance of service readiness. Servitization and business-to-business manufacturing contexts emphasize the importance of service readiness and highlight the challenges, as it is a new area of research where even the technology readiness framework is yet to be tested. This chapter presents preliminary ideas about what service readiness is and how it is formed for different actors. A modified definition of service readiness is modified from Vize et al.'s (2013) definition of technology readiness in organizational contexts. Thus, service readiness is the inclination to embrace and use/sell new services, which is consistent with Article II. Thus, it comprises both the ability and willingness for customers to use and for salespeople to sell new services.

Parasuraman's (2000) dimensions of technology readiness offer a useful starting point for conceptualizing the tentative concept of customer service readiness; these dimensions appear to be transferrable to service context due to their general nature and relevance for technology-intensive services (e.g., e-learning) (de Melo Pereira et al., 2015). These dimensions, however, require new definitions because the studied phenomenon is no longer technology readiness but service readiness. Further, the general innovation concept has been widely criticized (Engel et al., 1990) and domain-specific innovativeness has been proposed as a more suitable factor for explaining innovation adoption (Liljander et al., 2006). Thus, a more domain-specific definition of innovativeness is presented herein. In addition, the aforementioned dimensions have been adapted to service context from Parasuraman's (2000) and other earlier works in the organizational context (Richey et al., 2007; Vize et al., 2013). These definitions are consistent with Article II:

- o Optimism is a positive view of the service and a belief that the service offers people increased flexibility and efficiency or other benefits in the workplace.
- o Innovativeness is a person's tendency to be a pioneer and a thought leader in the development and use of services in the work context.

- o Discomfort describes a perceived lack of control over the service or the task completed by the service and a feeling of being overwhelmed by it.
- o Insecurity represents the distrust of services, skepticism about their ability to work properly, and worry over the security of their information.

These dimensions are a useful starting point for probing customer service readiness. However, the servitization literature emphasizes that business customers must adapt several aspects of their capabilities, processes, and cultures (e.g., Story et al., 2017) to benefit from manufacturers' new advanced services which manufacturers have been developing during their servitization. Therefore, there is a need to see openly what kind of implications these required changes in customer organization may have for the service readiness concept.

From salespeople perspective, service readiness may be different. Salespeople do not take into use these services, but they recommend them to their customers. This recommendation entails responsibility, as customers may often blame salespeople when there are problems with the service delivery (Koppitsch, et al., 2013). Thus, it is not surprising if salespeople refuse to recommend a new service when they do not have sufficient knowledge and experience about it, especially when they commit considerable time to building and fostering relationships with their customers. Similarly, salespeople are likely to consider their sales targets and rewards as well as their skills and the effort they make to learn how to sell the services effectively (Ahearne et al., 2009). Therefore, salespeople's considerations and starting points are different from those of customers' and thus their service readiness may also differ remarkably.

The servitization literature suggests several major adaptation points, which can affect salespeople's work and require new skills from them. These adaptation points are also likely to influence salespeople's willingness and ability—and hence readiness—to sell new services. First, salespeople need to understand and be able to define customer service needs (e.g., Kindström et al., 2015; Ulaga and Loveland, 2014). Second, they also need to develop a better understanding of customers' businesses and processes to be able to adapt services to their needs (e.g., Kindström et al., 2015; Neu and Brown, 2005). Third, manufacturers' need to consider service offering and package services into easy-to-sell bundles, that salespeople will need to learn to sell more based on value rather than properties (e.g., Groß et al., 2017;

Kindström et al., 2015; Raja et al., 2013). Fourth, the importance of relational dynamics is increased and capabilities to manage networks are needed as better customer communication is required and more communication is needed also internally (e.g., Raja et al., 2013; Ulaga and Loveland, 2014).

The innovation adoption literature gives useful insights into the role of external salespeople. This literature stresses the need to consider external salespeople's relationships with the servitizing manufacturers (Lin and Chang, 2012; Kaufman et al., 2006; Shaikh and Gandhi, 2016) and the need to consider how external salespeople can benefit from selling these services (Plouffe et al., 2001). Therefore, the six factors below will serve as a starting point for salespeople service readiness, the last two factors are expected to be specifically relevant to external salespeople. The salespeople service readiness factors are summarized as follows:

- o Understanding and defining service needs (e.g., Kindström et al., 2015; Ulaga and Loveland, 2014).
- o Understanding customers' businesses and processes to adapt services to their needs (e.g., Kindström et al., 2015; Neu and Brown, 2005).
- o Service offering and packaging (e.g., Groß et al., 2017; Raja et al., 2013).
- o Relational dynamics, increased customer communication (e.g., Raja et al., 2013; Ulaga and Loveland, 2014).
- o External salespeople's relationships with servitizing manufacturers (Lin and Chang, 2012; Kaufman et al., 2006; Shaikh and Gandhi, 2016).
- o Benefits of selling these services to external salespeople (Plouffe et al., 2001).

It is important to note that, given the limited research and information from salespeople perspective on service readiness, the factors above are only tentative and not stable enough to be called "dimensions." Therefore, it is necessary to delve into the extant empirical data to identify more relevant factors.

Figure 4 illustrates the preliminary literature-based views on customer and salespeople service readiness as reported above and presents also the possibility for some yet unknown dimensions as illustrated by the question marks. These perspectives derive from the literature that is not directly relevant to this context: it covers technology readiness rather than service readiness. In addition, in service context, studies have not been meant for discovering readiness; the servitization literature has mainly reported manufacturers' changes during servitization. Thus,

there is a need to study these elements closely and search for other potential influencing factors, as these are only tentative. Now that there is a preliminary understanding of what service readiness is, we can next examine what the literature recommends about its enhancement.

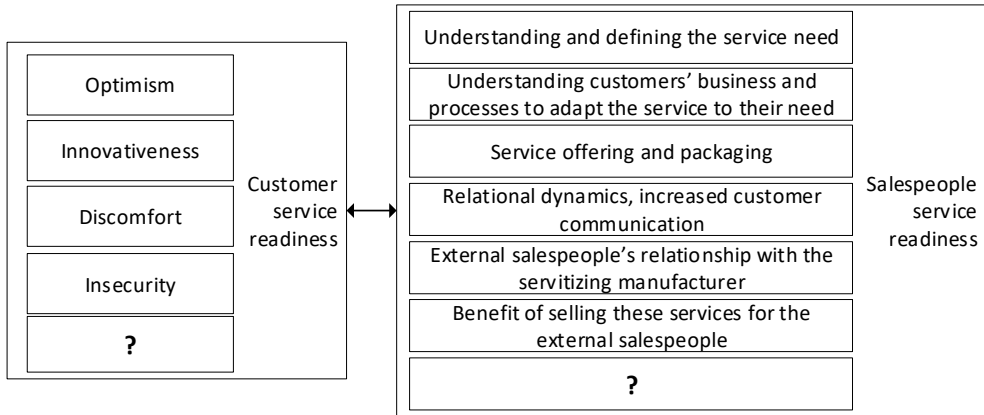


Figure 4. Preliminary literature-based view to customer and salespeople service readiness

2.5 Enhancing service readiness among manufacturers' customers and salespeople

Different studies focusing on the antecedents of service adoption and acceptance have touched upon the means to enhance service acceptance (Frambach, 1993). Deeter-Schmelz et al. (2001) studied the acceptance of online purchasing in customer organizations and introduced customers' understandings of the benefits, security concerns, customers' habits, information and training, and suppliers' incentives as antecedents of acceptance (Deeter-Schmelz et al., 2001). Similarly, studying organizational adoption of e-marketplaces, Yu and Tao (2009) found that the perceived usefulness of the system and subjective norms influence decisions to take an e-marketplace into use. Various researchers have concluded that suppliers have an important role in enhancing customer adoption and acceptance of innovations (e.g., through incentives) (Deeter-Schmelz et al., 2001; Gatignon and Robertson, 1989). Suppliers can use incentives, such as key customer discounts and trial periods, to decrease customers' risks of adopting a new service (Frambach, 1993; Gatignon and Robertson, 1989). Suppliers also need to educate customers about the

benefits, use, and convenience of the system and provide enough information to support the buyers' acceptance of the system (Deeter-Schmelz et al., 2001; Gatignon and Robertson, 1989).

Even though some studies have touched upon enhancing customer service adoption and acceptance, profound research is still scarce, especially in business-to-business setting. Even in the traditional innovation acceptance and diffusion literature, research on suppliers' roles is uncommon (Deeter-Schmelz et al., 2001), and even rarer on salespeople. Therefore, this section looks at how different streams of the literature have investigated ways to influence customers or salespeople with a view to reflecting how service readiness can be enhanced.

2.5.1 Service innovation and new service development perspective

Service innovation and the new service development literature is one relevant stream of the literature studying customer involvement and co-creation. The service innovation literature has largely focused on the development of new services and discussions about the role of customers mostly revolve around co-creation with customers (e.g., Alam, 2006; Alam and Perry, 2002; de Brentani, 2001; Mustak, et al., 2013) rather than considering customers' intentions of purchasing services in the end. Despite this, it offers useful hints as to how customers can be influenced.

The attention of co-creation discussions has largely been on how to co-create services, solutions, or goods successfully and on the theoretical foundations of co-creation (Galvagno and Dalli, 2014). These discussions have emphasized how suppliers can use the information from their customers, but have considered less how suppliers can pass on information and educate their customers. Still, some authors have identified the need to educate customers (Johns and Storey, 1998) and discussed the effects of co-creation on customer experience. Some authors have even criticized co-creation as a way to exploit and manipulate customers, albeit mostly in consumer context (Cova et al., 2011). Thus, the co-creation literature clearly advocates the idea that, through co-creation, companies are not only creating better solutions to their customers but also shaping their customers' choices and opinions about the created solutions, although this is not always discussed explicitly.

Recent literature has drawn attention to the fact that the customer involvement literature has not adequately discussed the manner in which customer involvement

is carried out, not even in the more widely covered context of new product development (La Rocca et al., 2016). Despite this, customer involvement is held to mean more than mere knowledge sharing (La Rocca et al., 2016). In their study into the co-creation of a new solution in an engineering company and certain customer's involvement in it, La Rocca et al. (2016) found that customer involvement grows from somewhat simple and voluntary work in the beginning of the development project to more complex, continuous, and open-ended joint actions, involving different individuals.

This literature also illustrates an assumption that good customer experience leads to customer loyalty and to future purchases or other benefits. Many authors emphasize the importance of co-creation and customer involvement that can result in good customer experience (Galvagno and Dalli, 2014). Hakanen and Jaakkola (2012) conducted a multiple case study to understand co-creation of solutions in a business network. They found that co-creation, even among supplier firms, affects customer experience (Hakanen and Jaakkola, 2012). Thus, the innovation and co-creation literature clearly suggests that, by involving and engaging customers in solution design and by taking good care of customer experience, customers can be influenced and their interest in future cooperation and solution purchases can be enhanced.

As for salespeople, the literature mainly suggests that involving salespeople in development is good, especially this helps new service development by applying their knowledge. However, some authors have suggested that salespeople's involvement may increase their motivation for selling new goods or services (e.g., de Jong and Vermeulen, 2003). Similarly, drawing on the literature, Johnes and Storey (1998) have noted that salespeople's involvement in new service development may increase the chance of successful implementation and employees' better treatment of their customers.

2.5.2 Marketing and service sales perspectives

Another area illustrating how customers can be affected is the marketing and sales literature. The general marketing literature has discussed marketing communication mix, for example, which includes ways to build brand equity and boost sales (Kotler and Keller, 2012). Kotler and Keller (2012) divide these into seven categories:

advertising, sales promotion, events and experiences, public relations and publicity, direct and indirect marketing, word-of-mouth marketing, and personal selling. Although they largely focus on consumers, this categorization can clearly be extended to business-to-business companies, where perhaps personal selling is prominent, but also fairs, annual reports, and reference cases are important ways to convey information.

This general marketing literature like large part of e.g. relationship selling literature is focused mainly on consumer context. This literature has discussed customer education as a way to encourage customers to work as part of service delivery and to increase their ability to work with supplier firms' processes; it has also promoted customer participation as a way to improve relationships and increase loyalty (Eisingerich and Bell, 2006). Authors have also emphasized salesperson's role as a customer's problem-solver, diagnostician, or counselor in both business-to-business (Sharma et al., 2008) and consumer contexts (Crosby et al., 1990). In business-to-business high-technology goods context, Sharma et al. (2008) have highlighted the need for salespeople to move from being persuasion agents to being information agents, when moving toward selling high technology goods and services. They have also suggested that salespeople can even help customers in customers R & D, especially in high-tech companies (Sharma et al., 2008).

In their study based on observing phone calls between customer representatives and business customers, Salomonson et al. (2012) have noted the importance of salespeople's communication skills, as salespeople play a key role in transferring knowledge to customers. Similarly, in his multiple case study covering several industries, Wouters (2004) has stressed the importance of sharing know-how and information in relationships where high levels of customer service are needed. In addition, he regards regular meetings between customer and supplier teams to discuss short- and long-term issues as necessary (Wouters, 2004). These notions illustrate the importance of customer trust and respect for salespeople, but also imply that salespeople can have a significant influence over their customers, possibilities to provide information to them.

In addition, to direct communication, the sales literature, similar to the general marketing literature, mentions customer knowledge search through systems provided by suppliers as an important source of information (e.g., Salomonson et al., 2012). Customers should not be seen as passive information receivers only, but

they rather need to actively integrate organizational resources for their value creation (Salomonson et al., 2012).

From the perspective of influencing salespeople, Sharma et al. (2008) have emphasized the need for internal marketing, as salespeople need to obtain information from different parts of the company, which needs to be available to them. Further, it has been stated that solution-selling places new demands on salespeople (Sharma et al., 2008), and thus adaptation is required from them, and they need to be supported through training and information, for example.

2.5.3 Service purchasing perspective

The service purchasing literature is one logical reference point when considering how manufacturers can enhance customer service readiness, especially given the fact that major challenges for organizations in selling services have been attributed to the interactive nature of services (van der Valk and Rozemeijer, 2009). The majority of the interaction-related service operation research has focused on consumers rather than business customers (McLaughlin et al., 1991 in van der Valk and Wynstra, 2014). Despite this, there are still relevant studies in business-to-business context.

One aspect recognized in the service purchasing literature is the increased need for long-term relationships between manufacturers and customers, especially when a service that is complex or close to the customers' core competences is in question (Lindberg and Nordin, 2008). This literature has also discussed the required communications in different phases, including specifying and designing services, fine-tuning daily activities, requesting for additional service elements when needed, and feedback on and evaluations of services (Lindberg and Nordin, 2008; van der Valk, 2008; van der Valk and Wynstra, 2014).

In their review paper, Kugyte and Silburyte (2005) have raised the possibility and need for suppliers to define problems and offer advice to customers. In their study on differences between purchasing goods and services among Dutch purchasing managers, Van der Valk and Rozemeijer (2009) have suggested that suppliers need to educate customers, for example, about what can be achieved within certain budgets and time frames. They have emphasized the importance of specifying service and noted that this can facilitate a shared understanding between suppliers and customers, and provide ideas about relating to attitudes, behaviors, cultures, and

processes (Van der Valk and Rozemeijer, 2009). In addition, service purchasing research also acknowledges the need for customers to adapt to supplying companies' processes (Keaveney, 1995). In short, this literature highlights the importance of communicating and creating joint understanding.

2.5.4 Customer relationship management perspective

Customer relationship management, a literature stream based on relationship marketing (Chen and Popovich, 2003), offers insights into influencing customers. Chen and Popovich (2003) explicitly discuss the benefits of good relationships with customers and customer relationship management, which many other authors have just implicitly expected to exist. In their conceptual paper, they note that effective and efficient customer relationship management can lead to customer satisfaction and retention (Chen and Popovich, 2003). In addition, they highlight that customer relationship management provides plenty of information about customers and their habits and preferences, which creates opportunities for cross- and up-selling as well as targeting certain segments and individual customers (Chen and Popovich, 2003).

This literature emphasizes direct contact with customers, the importance of understanding customers, and the value of being customer centric (Chen and Popovich, 2003; Gebert et al., 2003). Although customer data have traditionally been viewed from the perspective of how it can support manufacturer (Saarijärvi et al., 2014), it has been acknowledged that one relevant type of customer information is information for customers in addition to information from and about customers (Gebert et al., 2003). This literature also highlights the need to disseminate the collected customer information. For example, Gebert et al. (2003) remark that, as for information for customers, there is a need to balance between precision and comprehensibility of the message.

The customer relationship management literature has some implications for influencing salespeople. Chen and Popovich (2003) have raised the importance of top management support in creating customer-centricity and in solving disputes between different departments, while adopting a customer relationship management approach. They also discuss the need for a smooth flow of data between different departments and front and back offices (Chen and Popovich, 2003).

2.5.5 Channel management and agency theory perspectives

Related to salespeople, studies based on agency theory and general channel management offer insights into how salespeople can be influenced or encouraged to act according to principals' (in the context of this study manufacturers') needs. One clear focus of these streams of the literature has been on contractual and monetary considerations, affecting agent/channel partner behaviors as to whether to use commission or salary and other incentives, such as bonuses and discounts (Bergen et al., 1992; Bucklin 1973; Frazier, 1999). It is necessary to plan the contracts with both principals' objectives and agents' personal goals and decision processes in mind (Bergen et al., 1992).

This literature also assumes that manufacturers have more power in their relationships and can exercise control over agents (Aulakh and Gencturk, 2000; Bergen et al., 1992). Control has received considerable attention in the literature. In their conceptual article, Bergen et al. (1992) have recognized outcomes, processes, and social controls as ways to guide agents' work. Control has also been divided into authoritative, contractual, and normative. Authoritative control advocates the use of power to control other parties; contractual control is based on contracts offered by one party or jointly negotiated; normative control covers the shared principles and norms that may guide actors' work (Weitz and Jap, 1995). In practice, however, manufacturers are not always more powerful, nor is it always the case that agents sell only one manufacturer's goods (Bergen et al., 1992), rendering authoritative control less likely. Some authors have even criticized the use of the term "control system" in the channel context (e.g., Frazier, 1999). However, persuasion can still be seen as one way of control, and this is relevant regardless of power relationships or contractual terms and conditions in which channel partners operate.

The agency literature highlights the importance of exchanging information and understanding responsibilities, constraints, performance, and strengths of the other party in creating functional relationships (Merritt and Newell, 2001). Similarly, the general channel management literature stresses the importance of how supplier's personnel communicate with intermediaries (Webb, 2002). The agency literature has also discussed evaluations of both principals and agents as important ways to influence relationships, as this can lead to open feedback and enable corrective measures when necessary (Merritt and Newell, 2001). In their study on computer technology service and solution providers, Pelsler et al. (2015) introduced channel

partner programs as one way to influence channel partners, as their foundations rest on benefits of knowledge and rewards. These can invoke gratitude, leading to benefits such as trust and sales performance (Pelser et al., 2015). However, these programs need to be implemented with care, as channel members may assume that manufacturers have ulterior motives, which can invoke feelings of indebtedness, undermining the effects of the programs (Pelser et al., 2015). In addition, aspects such as manufacturers' salespeople, support offered by manufacturers, and training have been described as key for agent-principal relationships (Merritt and Newell, 2001); these are aspects that allow exchanging information and influencing agents. The literature has also extended these effects to internal salespeople (Aulakh and Gencturk, 2000; Bergen et al., 1992).

In addition to salespeople, this literature offers insights about influencing customers. It has introduced signaling and there, for example, advertising and warranties as ways to convey messages about the goods' high quality (Bergen et al., 1992).

2.5.6 Summary of factors influencing customers and salespeople from different perspectives

The above-mentioned streams of the literature illustrate how customers and salespeople can be influenced. Many streams highlight the importance of communication, the manner in which it is carried out, and cooperation between customers and salespeople. Education and training as well as various monetary incentives, such as discounts or bonuses, concerning salespeople and customers have been discussed. Moreover, fluent exchange of information between different actors has frequently been mentioned in many literature streams. Table 5 summarizes the different ways to influence customers and salespeople mentioned in this chapter.

Table 5. Examples of ways to influence customers and internal and external salespeople gathered from the different streams of the literature

	Customers	Salespeople
Monetary and contractual aspects	Providing monetary incentives (e.g., discounts and trial periods)	Providing contractual & monetary incentives (discounts, bonuses, salary vs. commission)
Information provision	Educating customers (e.g., about benefits, use, options)	Providing salespeople with support and training
	Providing information (direct contact, systems customers can use)	Ensuring fluent data flow
	Communicating and how it is done	Communicating and how it is done
Relationship management with customers and external salespeople and support for them	Having long-term relationships	Offering channel partner programs
	Having evaluations and feedback	Having evaluations and feedback
	Involving and engaging in new service development	Involving and engaging in new service development
	Cherishing customer experience	
	Salespeople acting as a trusted problem-solver or helping in customer R & D	
Advertising and selling	Having regular meetings during projects	
	Cross- and up-selling	
	Signaling (e.g., advertisement and warranties)	
Support for internal salespeople	Using sales promotion, publicity, word of mouth, direct/indirect marketing	
		Providing top-management support (e.g., in solving conflicts)
		Using internal marketing

There is a variety of ways to influence customers and salespeople. These perspectives offer useful indications about how customers and salespeople can be influenced, and how their service readiness might be enhanced. There is no previous research on influencing customer and salespeople service readiness; this is a new domain where we do not yet know how different methods will work. For example, enhancing service readiness might not essentially stem from long-term relationships or from cherishing customer experience. Still, as previously discussed, customer and salespeople service readiness will play an important role in creating demand for a service. Therefore, there is a clear need to study service readiness and reflect on it using the current views on influencing customers and salespeople.

3 METHODOLOGY

3.1 Research design

This research used qualitative approach and exploratory design, mainly because of the limited studies on service readiness. The qualitative, exploratory case study research is especially suitable in situations where the aim is to provide new, holistic understandings about phenomena in real-life contexts; it is also useful in cases where the earlier literature is rare and enquiries concern answering “how” questions, which are exploratory in nature (Creswell, 2009; Yin, 2009). Further, the unclear boundaries between the context in companies and the phenomena of readiness for service adoption guide toward the use of case studies (Yin, 2009). For Article I, the cases covered are early in their servitization, whereas earlier research has usually focused on companies that are in more advanced stages of servitization. For Articles II, III and IV, the reasons for choosing exploratory, qualitative approach are similar. The studies on why customers, retailers and salespeople choose to adopt new services have been very limited. The focus has previously been on technologies and mostly from the perspective of individuals, with limited information from business-to-business context (Aboelmaged, 2014; Asare, 2016; Richey, 2007; Vize, 2013). Thus, there was no clear base on which to build more confirmatively or deductively.

The research was conducted using embedded single case studies and multiple case studies. Representative servitizing manufacturers were selected as case companies for single case studies, as typical or representative cases are encouraged for single cases, as those may prove to be informative also for other average cases (Yin, 2009). Hence, typical cases (Miles and Huberman, 1994) were selected for the single case studies. Further, the companies were part of larger research programs, where they could select their research interests from a variety of themes; the companies themselves expressed their interest in the studied phenomenon, making them fruitful and cooperative partners in this study. The first study was implemented as a multiple case study, because this can decrease problems related to case specific characteristics and increase generalizability (Yin, 2009). For this study, two typical case companies operating in construction industry were selected to provide comparable results.

The unit of observation for the research was individuals, whereas the unit of analysis is somewhat different in all the papers. All of the articles focus on process related to service-related innovation adoption, acknowledging both salespeople's and customers' perspectives. Each article provides a unique point of view on service adoption and investigates the indications about service readiness from its own perspective. Article I focuses on factors challenging manufacturers' servitization within the manufacturing firms. Articles II and III look at business customer service readiness and adoption, and Article III complements this by using the perspective of the manufacturers' salespeople. Article IV examines salespeople service readiness and adoption from the perspective of external sales organizations and within the manufacturers' sales organization. It is important to note that this research seeks to look at innovation adoption process from the perspective of both customers and salespeople.

This research was implemented with a sequential approach. A sequential approach has traditionally been seen as a mixed-methods approach, combining quantitative and qualitative methods sequentially to help explain or interpret the results of the first phase (Creswell, 2009). In this research, the sequential approach was applied to the qualitative methods, with separate case studies following each other. This was deemed necessary, as there was a clear need to incrementally deepen service readiness understanding. It allowed learning from the results of the earlier studies to enable better planning of the subsequent studies with a view to gaining more profound and relevant knowledge and creating a more holistic understanding of the concept. The first study was used as a starting point for obtaining information and highlighting the challenges in manufacturers' servitization. Thus, the second study, leading to Article II, was planned to better understand customer readiness to adopt new services. This study revealed the new organizational dimension of service readiness, and accordingly, Article III was modified to more specifically address that. Alongside the third study, the fourth study and Article IV was implemented to learn about salespeople perspective.

The research took steps to ensure that ethics were considered appropriately. At the company level, confidentiality agreements were made and publication policies were agreed between the university and the companies concerning the entire projects. All companies volunteered for the specific studies in this thesis through their contact person. The detailed research purpose and approach was discussed with

the contact person, and a short research description was developed together, to inform interviewees about the study. The case companies were anonymized for publications, and so were their exact location, their customers, and external salespeople. Companies' contact persons were requested to give feedback at different stages of the research and to review publication drafts. A permission for publishing the research articles was attained from the contact persons to verify the results and to assure that also they were satisfied with the level of anonymity in the articles.

When data are acquired through interviews, the respectful and caring treatment of participants is required (Pearson et al., 2015). In this study all the participants were made well aware what the study was about and they were asked to participate voluntarily and, therefore, their informed consent (Ryen, 2004) was acquired. In addition, they were treated with respect during all communications, and confidentiality was maintained (Ryen, 2004). Already in the beginning of analysis, the individuals were given code names (e.g. I1, I2 etc.) to remove all the names from the interviews as early as possible. The participants were not connected to their comments in any reporting and quotations were modified so that, for example, dialect would not help to identify a certain individual. The researchers adhered to truth at all stages, which is a key aspect in ethical research and helps to attain the trustworthiness (Bassey, 1999). The interview data was stored according to university policies.

3.2 Research context

The research involved the five case companies from one country in Northern Europe. Many business-to-business manufacturers in matured economies are considering servitization to avoid commodity trap and pressure from countries with lower production costs (Opresnik and Taisch, 2015). With competition for prices of goods getting more intense, the companies in countries where production costs are higher need to seek some other ways to differentiate themselves (Roos, 2016). Therefore, new services and servitization are common considerations for these manufacturing companies. These companies that have earlier been mostly known for their goods and systems are now inclining toward services and seeking ways to transform their long traditions as manufacturers to support more demanding

services. This also calls for adaptation from their customers who have often perceived these companies as systems or goods providers and may have performed many of the tasks themselves or with other suppliers. Therefore, this research concentrated on customer and salespeople service readiness; it collected data from customers and internal and external (i.e., dealers and agents) salespeople of companies to help manufacturers enhance the adoption of their new services.

The case companies in this research are somewhat large, successful companies, as shown in Table 6. The companies in Article I were raw material and component manufacturers, with very little service offering. For Articles II, III, and IV more advanced companies with more complex equipment, machine, and system offerings were selected. These companies also had the intention of moving toward more advanced services, largely due to the trend for the Internet of Things (IoT) or industrial Internet and the new data-based services, which are now enabled. Cyberattacks are a common worry for managers in large companies, seen by many as a question of “when” and not “if” (Pervilä, 2018). The adoption of IoT-based services is still hindered by the security threats posed by the IoT (Ives et al., 2016), discouraging customers from sharing data about their (secret) production processes and practices (Gitzel et al., 2016).

Table 6. Information about the case companies

Company	Article	Customer industry	Size	Phase of servitization	Main offering	Criteria used for selecting the case
Mat Co	I	Construction	Large	Beginning, mostly basic services	Raw materials, systems, and solutions	Company intending to begin servitization
Comp Co	I	Construction	Large	Beginning, mostly basic services	Components	Company intending to begin servitization
Mach Co	II	Wood processing	Large	Moving to advanced data-based services	Machines for production processes	Representative servitizing manufacturer, moving to advanced services
Manu Co	III	Process industries	Large	Moving to advanced data-based services	Systems and solutions	Representative servitizing manufacturer, moving to advanced services
Sys Co	IV	Several manufacturing industries	Large	Moving to advanced data-based services	Complex systems for production processes	Representative servitizing manufacturer, moving to advanced services, sales internal and external

The companies in this research use both hybrid and direct sales methods, but none of them rely solely on external salespeople. Direct sales involve using internal salespeople for selling directly to customers, and in hybrid sales method, goods and services are sold directly by internal salespeople but also through intermediaries (i.e., external salespeople). External salespeople can include retailers, dealers, or agents. Different kinds of challenges may exist in services reaching customers when using these different delivery channels. Figure 5 illustrates the different sales configurations used in the case companies of this research as well as which actors were covered in each study.

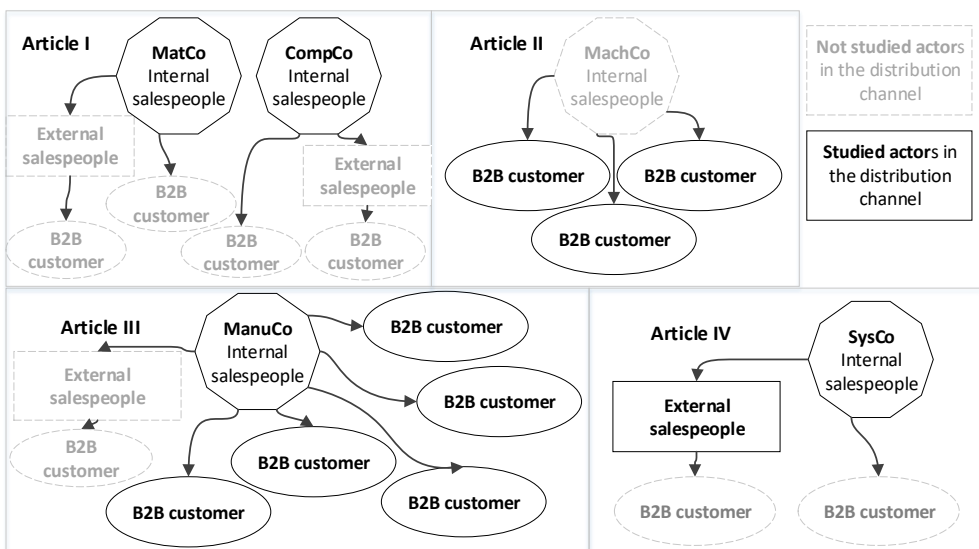


Figure 5. Sales configurations and studied actors at the case manufacturers

3.3 Data collection and analysis

The interviews were seen as an appropriate method as interviews are a good way to provide information directly about the studied phenomenon, and have been noted to be an essential source of case study information (Yin, 2009). All 78 interviews were semi-structured, which allowed capturing the interviewees perceptions and opinions on a complex but selected issue as well as enabled the possibility to probe for more details when necessary (Barriball and While, 1994).

Targeted companies and interviewees were selected purposefully (Creswell, 2009). For Article I, the interviews were carried out inside the case company, and for Articles II, III, and IV, customers or external sales organizations of the manufacturers were selected for the interviews. The customers selected were large and important customers of the manufacturer and, similarly, the external salespeople selected were key dealers and agents. Thus, the chosen customers and external salespeople were perceived to be more “extreme” than “typical” (Yin, 2009). These actors have an important role in determining whether the case companies’ new services and goods will be adopted. As key customers, they can generate a large demand and guide smaller customer companies; a similar logic can be envisaged for the crucial dealers and agents. The interviewees were also selected purposively to obtain the perspectives of people who were highly relevant to the research (Creswell, 2009). Thus, for example, it was made sure that the selected customer interviewees were active in their facility in new service purchase decisions as well as actively involved in dealing with the case company in question.

All the interviews were recorded, transcribed, and content analyzed. Content analysis has been used among researchers with different techniques and, therefore, some clarification about its use in this thesis is required. For example, Carley (1993) has described content analysis to be focused on counting the frequency in which certain words or groups of words appear in the text, which is not the view adopted in this thesis. Instead, this thesis uses the approach of qualitative content analysis (Hsieh and Shannon, 2005) which is about the subjective interpretation of the content of the text through systematic coding and identification of themes (Hsieh and Shannon, 2005). Therefore, it shares similarities with thematic analysis which is used to describe the identification of themes from the text and seeking to understand the meaning of the codes within their context (Joffe and Yardley, 2004). These similarities include, for example the aim of the analysis and the use of themes (Vaismoradi et al., 2016). Qualitative content analysis and thematic analysis both have been used to describe multiple types of analysis but those terms have also been used interchangeably (Vaismoradi et al., 2016). Given the fuzziness in use of these terms, in order to be clear about the method in this thesis it sticks to one source and its understanding of content analysis. Therefore, in the following the analysis method used follows the qualitative content analysis as described by Hsieh and Shannon (2005).

Content analysis was done because of its flexibility as a method that goes beyond a mere counting of words and enables classifying the text into manageable number of groups, in which the excerpts convey similar meanings (Hsieh and Shannon, 2005). The research used conventional and directed content analysis (Hsieh and Shannon, 2005), although it mostly drew on the conventional method, as the existing literature on the phenomenon was limited. Correspondingly, the data analysis mostly used inductive approach. Inductive approach has been noted to be suitable for exploratory projects, as it helps in not being too constrained by existing theoretical views, thus allowing identification of meanings in the data and understanding the context and participants' perceptions (Saunders et al., 2009). The use of theoretical foundations can cause bias, in that research may tend to find more supportive than non-supportive evidence (Hsieh and Shannon, 2005).

The transcribed interviews were read and parts were labeled, followed by more abstract categories created and further refined (Miles and Huberman, 1994). Therefore, after the familiarization stage, the analysis proceeded to forming a thematic framework by identifying the key issues and concepts to be used when further examining the data. After this, the framework was applied to all the relevant data for that study, process also known as indexing (Ritchie and Spencer, 1994) or giving codes for features, instances, issues and themes (Miles and Huberman, 1994). After this, a complete picture of the data was built up by considering the preliminary research questions and the coded data. Relevant codes were combined to themes to allow better identification of patterns in the data and mapping and interpreting the data (Ritchie and Spencer, 1994). Especially relevant means for the systematic detection process in this research has been mapping the range and nature of the phenomena and the provision of explanations (Ritchie and Spencer, 1994) as the key objective was to understand the concept of service readiness and reasons for service adoption.

However, the use of theoretical guidance in analysis can also be useful as it allows studying and extending the existing theories (Hsieh and Shannon, 2005). Thus, when appropriate theories existed to form a starting point, a directed content analysis and deductive approach were followed. This covers the main analysis for Article II and a smaller part of the analysis for Article III. For example in Article II, the data was coded according to the Parasuraman's (2000) technology readiness dimensions. For this task, the content analysis took also a counting approach described for example

by Carley (1993): the quotations related to each readiness dimension were counted to help form an understanding about the overall service readiness of the interviewees.

Table 7 summarizes data collection and analysis methods used in this research and in the related papers. After the table, data collection and analysis for each paper is briefly described. More detailed descriptions about the data, cases, and their selections are available in the articles.

Table 7. Research methodology, data collection, and data analysis used in the research

Article	Data collection	Info about data	Data analysis
I: Servitization	Two interview rounds: MatCo: 6 + 9 and CompCo: 7 + 9 interviews	Avg. length: MatCo: 55 min (40–65) and CompCo: 44 min (30–70)	Inductive approach Content analysis
II: B2B customer	14 interviewees from 3 customer companies of MachCo	Avg. length 37 min (24–58)	Inductive and deductive approaches Content analysis
III: B2B organizational readiness	Internally 7 interviews with both R & D and sales, 9 customer interviews with 5 customers	Avg. length 59 min (42–92)	Mostly inductive approach Content analysis
IV: B2B salespeople	8 interviews with external and 9 interviews with internal salespeople	Interviewees from multiple countries; Avg. length 62 min (37–100)	Inductive approach Content analysis

The first study (Article I) aimed at providing understanding about the challenges companies face when starting to add services to their offering in the early stages of servitization. The interviews in the two case companies covered the companies' current services, the participants' roles in them, their readiness for change toward servitization, relations with the customers, and their networks. The second round focused on illuminating the perceived service-related changes during the three years or when those were lacking, the challenges that had prevented servitization and the interviewees' views on the future of the services. Interviewees were selected from manufacturing, inventory, sales and marketing, and procurement departments; some held managerial positions. During the first phase of analysis, it was noticed that the

servitization challenges identified from the literature did not fully cover the challenges faced by the companies. Thus, the challenges were coded inductively using the themes arising from the data. The identified themes challenging servitization in its early phases were managerial commitment, production maturity, ability to sell services, constant changes and attitudes toward these changes, and macroeconomic and industrial environment.

For *the second study* (Article II), the customer interviews were conducted to learn about customer readiness to adopt new services among MachCo's customers. The interview outline included themes arising from the earlier technology or service adoption literature and other topics. It covered the factors affecting service adoption and the customers' service-related make-or-buy and supplier selection decisions, as well as suppliers' means of enhancing service adoption, including example services, problem areas in production, ideas for new services, and needs for outsourcing. Interviewees were, for example, maintenance managers, production managers, factory directors, and a vice president of production and operations. The data were analyzed in two parts. The first part was deductive and covered the dimensions of service readiness, identified in the earlier technology-focused literature (Parasuraman, 2000). These dimensions were further complemented by the inductively identified dimension of organizational culture and habits. The second part of the coding was inductive, and it focused on identifying the factors that the interviewees considered when contemplating the adoption of a new service.

The third study (Article III) sought to better understand the organizational dimension of service readiness and conditions surrounding it. The interview outlines for internal data from R & D and sales dealt, for example, with ManuCo's current service offerings, customers' expectations and their roles in service delivery, and data-enabled services and their challenges. The customer interview outline used some themes similar to Article II. It covered customers' current service use, the interviewees' experiences and opinions about ManuCo's services, their needs for knowledge and new services, their opinions about ManuCo's example services, their firms' new service adoption processes, and the issues affecting new service adoption decisions. The interviewees included the maintenance managers, technical managers, section managers, and purchasers. First part of the analysis was done deductively using the challenges identified in the literature on servitization challenges in customer interface. These challenges were related to service offering and packaging,

the need to understand customer needs and define those needs, and the need to understand customers' businesses and processes to facilitate adapting services to needs. In the second part of the analysis, the customer interviews were inductively analyzed. The general conditions surrounding service adoption were identified (i.e., varying service adoption processes, decision-makers, and decision-making criteria). Further, the components of the organizational dimension of service readiness were identified (i.e., service context, supplier relations, and organizational culture and habits).

The fourth study (Article IV) aimed at offering an overall view on the effect of servitization and service adoption in the distribution channel. For the internal SysCo study, salespeople and few service managers who also participated in service selling were interviewed. Among external salespeople, 14 individuals participated in eight interviews with six dealers and two agents. The interviews covered the salespersons' own work, their current service selling, their opinions on the manufacturer's services, aspects hindering and facilitating service selling, and requirements for more active service selling. As for the external salespeople, their company's offerings, relationships with the manufacturer, and some example services were discussed. The coding was done inductively from the data. The first round of coding focused on identifying the themes important for salespeople's interest in selling the manufacturer's services. The data were further analyzed to identify challenges in the current service sales and requirements for enabling more active service selling for the internal and external salespeople. The results were compared and contrasted between internal and external salespeople. In the end, five common themes were identified as requirements for the manufacturer to develop salespeople readiness to sell services: customers, knowledge and offering, service quality, organizational culture and practices, and relationships (between the manufacturers and the external sales representatives).

4 FINDINGS

4.1 Servitization and its challenges for manufacturers

Article I aimed at understanding the factors hindering companies' servitization in the early phases of servitization process. To do this, it focused on two cases and made two rounds of interviews, as described above. For this thesis, it sought to gain insights about the main context and phenomena central to this thesis: servitization.

4.1.1 4.1.1 The situation at the beginning of and the progress of servitization

The beginning states were somewhat similar in both MatCo and CompCo. Both companies were goods-focused and most of the services they provided were tightly linked to their goods, and could even be perceived as being features of the goods (e.g., customizing the surfacing or modifying the shape of the goods). Although both companies offered also some actual services, those were occasional and had a limited role in the companies. In both companies, a clear service-related vision was visible.

The second round of the interviews showed that neither of the companies had progressed in their servitization. It could even be argued that CompCo had taken a few steps backwards, as they had chosen to leave out of their production the more customized goods, which were the most commonly offered thing they saw as services. Instead, they decided to focus on basic goods. Thus, MatCo and CompCo provided two excellent cases for discovering the challenges hindering servitization.

4.1.2 4.1.2 Factors challenging servitization in the companies

Both cases illustrated the importance of managerial commitment to change. In MatCo, the interviewees expressed willingness at the business unit (BU) level to improve their service offering; however, they saw that the required support from the managers was lacking. Similarly, they thought that there was no push from the managers to start focusing on the services. In CompCo, servitization change had not taken place; however, several other changes had occurred, and the interviewees

highlighted the importance of managerial commitment to the success of these changes.

Part of the changes implemented in CompCo were made to solve problems relating to production maturity. The limited maturity of the production was clearly seen as hindering the company's servitization. There were challenges in, for example, quality, production capacity, and planning, and it was seen that these pressing challenges must be addressed before servitization could take place. In MatCo, the issue of maturity was not challenging servitization as in CompCo; however, some interviewees saw production investments as a prerequisite for servitization.

The third challenging area was the ability to sell services in the companies. In MatCo, sales interviewees highlighted the difficulties involved in knowing the whole range of goods and services; they also noted the need to understand the customers' problems and seek solutions, rather than just selling specific goods or services. In CompCo, selling had taken a turn toward the use of catalogues, where both salespeople and customers could easily see which services could be paired with which goods. This was done to ease service selling. This illustrates the goods-centric culture in CompCo and the goods-like nature of the services offered in CompCo.

The fourth challenge was the emerging constant changes in the companies and the attitudes toward the changes. In both cases, many changes had been happening lately. However, the attitudes toward these changes differed. In MatCo, many interviewees were tired of the constant changes coming from the company and of the fact that the company very rarely accepted any BU ideas. In CompCo, however, interviewees were more positive toward the implemented changes. Most of them originated from the BU and had the support of the management.

The fifth challenge was the general macroeconomic and industrial environment. At the time of the research, a financial crisis was affecting the whole Western world, and as a consequence, the financial difficulties featured prominently in many of the interviews. Perceptions in both companies were very similar. On the one hand, the interviewees stated that the weak financial situation should encourage the customers to focus more on their core businesses and outsource more. On the other hand, the weak financial situation forced the customers to struggle with purchasing, leading to considerable pressure on the case companies to cut prices. The nature of the goods seemed to limit some service opportunities, as many interviewees considered their goods to be so simple that new services supporting them were not likely. Thus, the

characteristics of the industry seem to challenge servitization, as well. However, some interviewees were able to identify new services, indicating that the problems posed by the industry characteristics are solvable, although they may slow down servitization. Figure 6 presents the factors that hinder servitization, identified both in the literature and in the case studies in Article I. More specific information on the literature and the case study is available in Article I.

Factors from the literature	Factors identified in the study
Organizational culture	Macro-economic and industrial environment
Structure and strategy of organization	Production maturity
Supply network	Constant changes
Customer relationships	Managerial commitment
Solution selling, design & delivery	Ability to sell services

Figure 6. Factors hindering servitization, identified in the literature and in the study (modified based on Article I)

This study identified both similar and differing factors compared to servitization literature. The main differences lie in the importance of the general change factors, such as managerial commitment and constant changes, which have been highlighted in the earlier change management studies (Whelan-Berry and Somerville, 2010; Klarner and Raisch, 2013). The servitization literature has covered these only very rarely or not at all (e.g., Gebauer and Friedli, 2005). The second major difference from earlier studies is the importance of production maturity, which is likely a feature of companies early in their servitization journeys. The weak financial situation has been identified as a suitable environment for increasing servitization (Kohtamäki et al., 2013; Neely et al., 2011; Turunen and Neely, 2012). However, this study illustrated the disadvantages of financial difficulties, as customers have less resources to purchase services. The challenges in service selling have been discussed in the earlier literature (e.g., Groß et al. 2017; Kindström et al. 2015; Ulaga and Loveland, 2014); this study also introduces service selling as a challenge for companies that are just beginning their servitization journey.

4.1.3 Contribution of Article I

This study complements the earlier literature on servitization challenges by focusing on companies in their early stages of servitization with limited progress. By doing this the article improves our understanding about the different factors hindering, or even preventing, servitization and brings factors identified from change management to help understand challenges in servitization. This study stresses the importance of customers, from the external point of view and salespeople, from the internal point of view as crucial actors in the manufacturer's customer interface during servitization. Further, this article illustrates the importance of top management support and maturity of functions based on which the new services will be built on, thus shedding light on the manufacturer's internal service readiness.

4.2 Business customer readiness to adopt new services from a servitizing manufacturer

Article II aimed at offering insights about business customer readiness to adopt new services and complementing the previous consumer-centric and technology-oriented studies concerning innovation adoption. It sought to provide information for the manufacturers as to what aspects they should consider when introducing new services.

4.2.1 Business customer readiness to adopt new services

The study showed that the dimensions from the technology readiness literature (Parasuraman, 2000), that is optimism, innovativeness, discomfort, and insecurity, were also relevant to service readiness. In addition, the research identified new dimension specific to the organizational context, namely organizational culture and habits; these were repeated and would not neatly fit the existing dimensions. Table 8 shows customer service readiness dimensions, their definitions, and their features in the researched customer companies.

Table 8. Customer service readiness and how it was experienced in customer companies (adapted from Article II)

Service readiness	Definition	Interviewees' experiences	
<i>Individual readiness</i>	Optimism	A positive view of the service and a belief that the service offers people increased flexibility and efficiency or other benefits in the workplace.	Content of many services was seen as good, but not all wish to buy a service from an external service provider.
	Innovativeness	A person's tendency to be a pioneer and a thought leader in the development and use of services in the work context.	Weakly demonstrated by the interviewees
	Discomfort	A perceived lack of control over the service or task done by the service and a feeling of being overwhelmed by it.	Lack of control over tasks caused discomfort among interviewees.
	Insecurity	A distrust of services, skepticism about their ability to work properly, and worry over security of their information.	Many interviewees were worried about the use of their data, and some did not believe that the services could work and provide benefits.
<i>Organizational</i>	Organizational culture & habits	The dominant perceptions either toward or against service usage and the prevalent focus on goods instead of services in the organization	In many customer organizations, a goods-centered mindset and strong habits of doing things themselves guide decisions.

Optimism is a positive driver of service readiness, and most of the interviewees were rather optimistic about the new services, despite some reserved views. The interviewees registered optimism, for example, by expressing interest in the new services and by explaining the benefits they saw in using the services. In contrast, some interviewees demonstrated lack of optimism by describing the challenges involved in using the services and by sharing doubts that the services were realistic options for their company.

Innovativeness is another driver of service readiness. The interviewees were not found to be very innovative about the new services. Even though most interviewees expressed hopes for new services, they were not particularly radical, not even when they were encouraged to think about the future and express wild and unrealistic ideas.

Insecurity, which hinders service readiness, was observable in the interviewees' discussions mostly as the skepticism held about services in which operational data would leave their internal network. The basic ideas behind some of the services were seen as beneficial, but the interviewees were not ready to share their data, as they were worried how the data might be used. In addition, machine suppliers as service

providers were sometimes seen as a threat, mainly because the developments made by customers to the machines could be observed and studied by the machine suppliers, who could use customer's development in their own product development. Some interviewees did not believe that services could actually work in their facilities.

Discomfort, another hindering dimension of service readiness, was the least discussed theme and was only alluded to by a third of the interviewees. Interviewees mostly expressed concern about losing control over when and how well the tasks can be done.

The business-to-business context also revealed a new dimension, affecting individuals' decision-making. This dimension of organizational culture and habits included mostly comments that described the organization's culture and habits, hindering service readiness. It was evident in the interviewees' wishes to keep the tasks internal and not to use external service providers and in the mindset of many interviewees who focused on goods and had difficulty in discussing services.

Further, the findings indicated that the interviewees with greater service readiness were more interested in the services. This was found by comparing the interviewees' service readiness with the interest they exhibited in the six example services in the interviews. The interviewees with low service readiness mostly had low interest in the services and none of them was highly interested in the services. Interviewees with high or medium readiness showed at least medium interest in the services. Thus, service readiness seems to be linked to interest in services, which has been found to precede the intention in innovation adoption process (e.g., Jung et al., 2012; Leonidou and Katsikeas, 1996).

4.2.2 Factors affecting the adoption of services

In addition to service readiness, there are other factors affecting service adoption. The interviewees explained that service adoption was primarily linked to their companies' needs for the service or for certain tasks to be implemented. This was seen as the starting point for the new service adoption. Other factors affecting interviewees' service adoption decision mostly included the traditional considerations such as costs and other economic viability matters, availability, and quality being the most commonly mentioned factors. The remaining factors differed

between the make-or-buy and supplier selection decisions, as described below in Figure 7. It seems that the different service adoption factors distinguish the make-or-buy decisions from the supplier selection decisions.

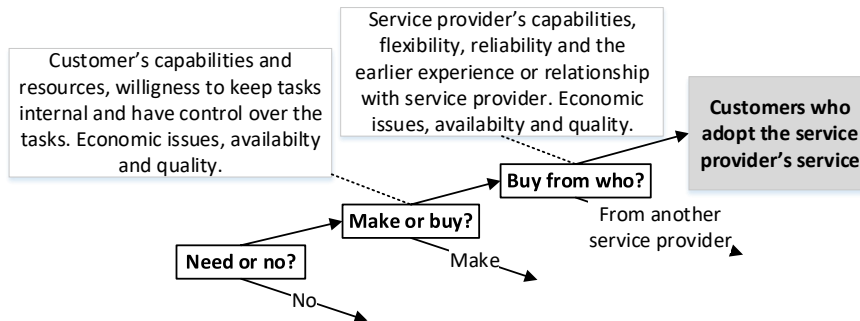


Figure 7. Factors affecting customer service adoption relating to the decisions in a business-to-business context (adapted from Article II)

The factors considered when making service adoption decisions were diverse and even fragmented within the companies. This may be due to the different locations in which these companies operate, given that it was suggested that decisions are highly location specific. However, it appears that it is possible to develop a set of more cohesive criteria, as in one company, the suppliers' selection decision criteria were somewhat consistent. One interviewee explained that they have a systematic way of evaluating investments and that a similar system is used for services.

4.2.3 Contribution of Article II

This research showed that readiness is a relevant concept, not only for technology adoption (Parasuraman, 2000; Tsikriktsis, 2004; Vize et al., 2013), but also for services. Earlier studies on technology readiness have mostly focused on individuals (Vize et al., 2013); this study, however, identified a new service readiness dimension specific to organizational context, namely organizational culture and habits. It showed that the existing goods-focused traditions in companies can hinder their readiness to adopt new services. Further, there are indications about the role of service readiness as a prerequisite for service adoption, in that some degree of service readiness seems to be required for people to become interested in the services. Hence, this article illustrates how the number of potential customers gets limited

gradually before only customers first adopting (taking a new service into use) and finally accepting (continuing use of the service) the service are left.

This article illuminates how the decisions during service adoption process differ from each other, and how the factors considered when thinking about new service adoption differ even within the companies. Moreover, the article considers how manufacturers selling new services can consider different customer needs during different decisions, and how they can take steps to increase their customer service readiness.

4.3 The organizational aspect of customer service readiness

Article III aimed at clarifying the organizational dimension of customer service readiness and the conditions surrounding customer adoption of new services. The dimension was identified in article II as an important aspect of business customer service readiness; however, as it was a new dimension, an investigation in a new context and more detailed information about it was still needed. Therefore, this article sought to clarify how the organizational service readiness appears in business customer adoption of new services, and how manufacturers can consider their customers' organizational service readiness when promoting services.

4.3.1 Internal view on customer cooperation relating to customers' new service adoption

The internal interviews revealed that R & D had only a weak relationship with customers, and even customers' expectations were acquired internally from other departments. Salespeople, on the other hand, had more detailed ideas about what is important for customers, and what their role is in service delivery. The majority of the interviewed salespeople highlighted the customers' feelings of safety about the running of their processes and help being available when needed. They also recognized that the customers' roles in service delivery depend considerably on service and customers: some services need more involvement than others, and some customers are more eager than others to follow the work and learn themselves.

The internal interviewees commented that, at the time of this research, they did not have many data-enabled services in use; some did not mention any and some

mentioned remote diagnostic service using on-demand connections. Many interviewees thought that the data-enabled services would have great potential in the future, and that the direction was right; despite this, some recognized the challenges involved in using those services. Main challenge was the strict cybersecurity policies at customers. Additional challenges were also recognized, relating to data ownership, customers' old equipment in need of updating, the attitudes and ways of working at customers, and concerns about employee safety (e.g., when something is operated remotely).

4.3.2 Conditions of service adoption in the customer firms

All of the customer companies purchased some services, albeit mainly traditional, such as spare parts, maintenances, and component updates and upgrades. Slightly over half of the interviewees used more advanced services, such as optimization, remote monitoring, and monitoring-based controlling. Still, almost half of the interviewees mentioned that they were somewhat cautious about remote connections, mainly due to security concerns.

Three themes relating to service adoption conditions arose in the data. The first theme concerned the process of service adoption. The described processes varied widely, even within a firm, which was also recognized by some interviewees. For some services, the process was very simple, and it only took moments to make the decision to purchase a service, whereas for some services, the process took years and required extensive preparations and considerations. The second theme was about the multiple decision-makers involved in the process. Often the service idea originated from the people responsible for tasks related to service use. However, many of the interviewees emphasized the purchasing unit's role in supporting purchase, taking care of contracts and bidding, and giving opinions on supplier selection. Further, the interviewees spoke about involving experts of the service subject (e.g. electricians) and the process foremen and superiors in purchase decisions. In addition, individuals' varying goals were recognized, including different goals between the purchasing unit and the experts needing the service. The third theme included the criteria used when considering adopting a new service. As for make-or-buy and supplier selection decisions, the prices compared to the costs and benefits over a lifetime were discussed most frequently. Other discussed factors were

also very traditional, including a lack of own resources, required competences, quality and functionality, size of the supplier, earlier experiences about the supplier, and availability of the service.

4.3.3 Customer organizational readiness for new services

Many factors relevant to customer organizational service readiness were repeated by the interviewees, which helped identifying three themes affecting customer organizational service readiness: service context, supplier relations, and organizational culture and habits. These themes and their connections to the literature-based challenges facing the manufacturers' customer interface during servitization are presented in Table 9.

Table 9. Components of organizational dimensions of customer service readiness and conditions surrounding it contrasted with challenges facing manufacturers' customer interface (adapted from Article III)

Challenges in manufacturers' customer interface	Customer organizational readiness to adopt new services and conditions surrounding it
Service offering and packaging (e.g., Groß et al., 2017; Raja et al., 2013)	Service conditions: Varying service processes, multiple and varying decision-makers, decision criteria
Need to understand and define service need (e.g., Kindström et al., 2015; Ulaga and Loveland, 2014)	Service context: <i>Work to make the service usable</i> e.g., clarifying the current situation, providing knowledge required for the service, updating needed equipment, planning and creating systems for data collection and sharing
Relational dynamics and increased customer communication (e.g., Raja et al., 2013; Ulaga and Loveland, 2014)	Supplier relations: <i>Supplier management work</i> e.g., planning contracts, making required supplier checks, specifying services further, agreeing on practicalities
Need to understand customers' businesses and processes to adapt services to their needs (e.g., Kindström et al., 2015; Neu and Brown, 2005)	Organizational culture and habits: <i>Deeper changes in the way of working and in the organizational mindset</i> e.g., trusting suppliers to handle tasks, getting people excited about using a service, open attitudes for technologies, shifting the long traditions of doing things in a certain way <i>Current habits that are showing some readiness</i> e.g., the practice of having limited internal resources

Service context includes preparatory activities that must be implemented to make the services functional. The interviewees described, for example, the need to investigate carefully the current situation in the company to know the current condition of machines, components, and processes related to the potential service and the need to create systems to support the upcoming service (e.g., for reliable data collection). These tasks were usually described as laborious and tedious. However, some interviewees were more positive about the services and regarded the preparatory activities as necessary, even if the service would not be purchased.

Supplier relations include practical tasks that need to be done to be able to work with the service suppliers. These tasks included specifying the services further (either with suppliers or within the company), agreeing on practicalities, making the contracts, and sharing information. These tasks can be small but are necessary and may require actions even later on (e.g., updating suppliers' information in the systems). Some discussed these tasks in a hesitant way, seeing them as extra work, whereas others spoke about them in a lighter manner, without emphasizing the challenges.

Organizational culture and habits included major adjustments in attitudes, daily duties, and customers' employees' job descriptions. The interviewees explained how getting people excited to use new services requiring their active inputs can be challenging and draining. Similarly, trusting that the external service providers are capable of handling the tasks was not perceived to be easy. Openness toward new technologies and new services was not self-evident, and it was seen necessary for adopting advanced services. Some long-held traditions in companies might even need changing when new services introduce better ways to handle tasks. The organizational adjustments were mostly considered as challenging shifts. Some strategies supporting service purchasing were active in the companies, which included policies to have a small number of own employees and policies to make recruitment more complicated than purchasing a small service.

4.3.4 Manufacturers' ways of adjusting selling to match customer organizational service readiness

Table 10 shows some potential ways for manufacturers to adjust their selling to match customer organizational service readiness and ways of enhancing this

readiness. One highlighted aspect is that manufacturers should understand their customers' needs, businesses, and processes very well to be able to offer services useful for their customers and fit the services to their customers' levels of service readiness. This will help manufacturers understand the overall effects and demands for customers taking their service into use. The second aspect highlighted in this research were the varying customer service adoption processes, decision-makers, and decision-making criteria. These illustrate the need for manufacturers to analyze the demands on customers adopting different services; they also need to analyze the differences in the ways various customers prefer to handle service adoption. These can aid salespeople to match their actions, proposals, and selling to their services and customers. Further, salespeople will need tools and freedom to respond to the different processes at customers also during the sales process.

Table 10. Actions manufacturers should consider in service sales to take into account customer service readiness (adapted from Article III)

Customers' operations and readiness	Requirements for manufacturing companies as service suppliers
<i>Varying customer adoption processes</i>	Understand the service purchase from customers' points of view; recognize how big/small, easy/difficult, and normal/special the purchase is and act accordingly
<i>Multiple and varying decision-makers</i>	Understand who in companies are interested in purchasing this service and how they make the decision. Based on this knowledge, the right people needs to be contacted with the right arguments, aligned with their interests.
<i>Decision criteria</i>	Understand customers' decisions and supplier selection criteria and turn the service benefits to fit the criteria, or use time and effort to help customers understand why other aspects must be considered with a certain service.
<i>Cybersecurity</i>	Handle the security of data and connections carefully. Need to show this to customers and convince them. Value customers' trust and act reliably to fulfill customers' expectations.
<i>Laborious tasks</i>	Recognize the importance of customer' tasks to prepare service context and manage supplier relationships. Understand customers' current situations and the changes needed. Consider how customers can be supported in these tasks or how needs for these tasks can be minimized.
<i>Adjustments in customer organization</i>	Understand customers' cultures and habits, and consider how services can be better aligned with customers' world. Identify ways of supporting customers during changes or offer pilot solution or simplified version of services to customer to initiate learning. Start with customers who seem ready and familiar with the advanced services.

4.3.5 Contribution of Article III

This article was the first in-depth study on organizational dimension of service readiness, identified in article II, when adapting technology readiness by Parasuraman (2000) to service context. It revealed the components of organizational service readiness and the conditions surrounding customer service adoption. Further, it revealed the connections between current literature on the servitization challenges in customer interface, especially among salespeople (e.g., Kindström et al., 2015; Ulaga and Loveland, 2014) and customer service readiness and conditions for service adoption. By revealing these connections, it offered new understanding about the origins of some of the challenges in customer interface at the manufacturer. In addition, it offered suggestions to manufacturers on how to consider customer organizational service readiness at sales processes, and what kind of actions they can take to better direct their services at their customers' needs and service readiness and to enhance customer service readiness.

4.4 Internal and external salespeople readiness to sell services during manufacturers' servitization

Article IV focused on internal and external salespeople readiness to adopt services into their active sales portfolios when a manufacturer is servitizing. It focused on manufacturers perspective on service readiness, but acknowledged that sales work may require external actors' involvement in service sales. The article identified challenges that hinder salespeople service readiness and the requirements that manufacturers can fulfill to support salespeople in service selling.

4.4.1 Current service selling and challenges hindering it

Among SysCo's internal salespeople, the services are secondary to the complex systems they sell. It has not been seen as a core activity, although some interviewees recognized the need for more active service selling, and many see it as a long and winding road. Also, among the SysCo's external salespeople, SysCo's services are not yet actively sold, although sometimes those are included in the offers they get from SysCo. When discussing the future, the external salespeople were not generally interested in focusing on SysCo's service selling. Mostly they would be interested in

including in the initial system sales offer certain services that would complement their own offering for their machines.

The challenges hindering SysCo's salespeople readiness to sell services can be categorized into four classes: customer, knowledge and offering, service quality, and organizational culture and practices. Customer-related challenges dealt with customers not seeing the need for the services and the need to decrease the costs for customers, either in the system sales phase or by external salespeople when directing customers straight to SysCo to avoid adding their own margin on top of an already expensive service. Knowledge- and offering-related challenges were more detailed when described by the internal salespeople. Those were, for example, about a lack of well-defined services and interviewees' lack of knowledge about the services and their marketing. Quality-related aspects dealt largely with salespeople wanting to retain their customers' trust, which can be at risk if you sell a service that does not perform. Thus, services that are more reliable were desired. In addition, service selling by some external salespeople had been limited by the challenges in gaining information from SysCo quick enough when the customers needed it. As for organizational culture and practices, the external salespeople mentioned that their main job was to sell their own machines, and SysCo's business was of peripheral concern. Thus, it was not worth their time to learn SysCo's services in detail. The internal salespeople, demonstrated clear focus on system sales and described how the processes were mostly made to support system sales, which made selling services challenging.

4.4.2 Requirements for enabling more active service selling

Some of the interviewees identified certain steps that had already been taken to ease and support the selling of services, such as ready-made service sections in contracts for both internal and external salespeople, some trainings about services, and a service configurator being developed to ease service selling. Yet, some requirements for more support or changes to enable service selling arose during the interviews. Some of the external salespeople said straight away that there was nothing that would make them sell SysCo's services more actively now, since their main business was much more important, and they were already very busy.

The requirements largely resemble the challenges above (i.e., customer, knowledge and offering, service quality, and organizational culture and practices); however, an additional theme for external salespeople’s relationships with SysCo needed to be added. Table 11 shows these requirements.

Table 11. Requirements for enabling more active service selling for SysCo's salespeople (adapted from Article IV)

	Internal salespeople	External salespeople
Customer	<p>Understand Help to understand customers and their causes for service needs. Listen to customers and have a good relationship.</p> <p>Find the right people Identify the right person to sell services to, access that person and understand the demands placed on him/her.</p>	
Knowledge & offering	<p>Knowledge and training Train to sell services and identify customer needs; give information about services and arguments for showing value of services.</p> <p>Service offering Package services and make them easy to understand.</p>	<p>Knowledge and training Give information on services, their content, prices, strategy, and selling arguments.</p> <p>Offering from external point of view Create a certified partner model.</p>
Service quality	<p>Improve services Make services good and reliable.</p> <p>Sell services to salespeople Make salespeople proud of the services.</p>	<p>Improve services Improve service quality.</p>
Organizational culture and practices	<p>Culture and processes Create cultural, behavioral, and mental change from systems to solutions and from passive to active. Create processes for identifying service needs and tools to follow up and consider the role of services.</p> <p>Incentives Create good monetary incentives and motivate salespeople.</p> <p>Use of service technicians (ST) Develop STs' mindsets and skills and use STs in service sales. Make service selling easy and provide incentives for STs.</p>	<p>Incentives Add own price margin (some already do). Share SysCo's profits with the company.</p>
Relationship with SysCo		<p>Support from SysCo Flyers and mailings; more resources to SysCo.</p> <p>Improve Dealer-SysCo relationships A more active contact person from SysCo; info about busyness, references, new services, changes in SysCo organization</p>

Both types of salespeople had requirements related to knowledge and offering, service quality, and the incentive aspect of organizational culture and practices. Concerning knowledge, the salespeople hoped for more information about services and their selling. They also wished for improvements in the current services and hoped that those would be grouped into easy-to-sell bundles. Regarding incentives, the salespeople mentioned monetary incentives as a good way to encourage service selling. The external salespeople saw the incentives as something to be given to their company and not to individuals and compared this to adding their own margin on top of the SysCo's price.

The internal salespeople discussed the organizational aspects much more widely. They described the need to change the culture and processes toward supporting the services, using service technicians more in service selling, and generally about the required mental shifts. The internal salespeople also discussed the customer-related requirements. They hoped for support in figuring out how to identify the right people in the customer organization, since not everyone is interested in the services and developing a better understanding of the customers and the reasons behind their service needs. The external salespeople explained the requirements concerning their relationships with SysCo. They hoped for more support from SysCo in the form of flyers and mailings for customers and more resources to handle their queries; some also hoped for a more active SysCo contact person and generally for more communication and information about things such as changes in SysCo's organization.

4.4.3 Contribution of Article IV

Only a few studies focus on the effect of servitization on salespeople (e.g., Groß et al., 2017; Kindström et al., 2015; Ulaga and Loveland, 2014), and these do not really take into account the external salespeople. Kindström et al. (2015) have called for more research on this topic, involving more complex and capital-intensive manufacturers, which characterizes the case company herein. This study complemented the earlier views that had concentrated on salespeople's capabilities and roles by illustrating that change and supportive action throughout the company are needed to enable the salespeople to actively sell services. Further, the study stressed the importance of considering the internal but also external salespeople. It

offered new insights from the perspective of the external salespeople and hinted toward the need to consider the characteristics of services that may influence service adoption—as done in the general innovation adoption literature (Plouffe et al., 2001).

5 DISCUSSION AND CONCLUSIONS

5.1 Service readiness and its interdependencies

This research has sought to develop a good understanding of customer and internal and external salespeople service readiness to help manufacturers understand how their new services will create demand and prosper. Service readiness has shown itself to be a highly relevant factor to manufacturers. The first research question inquired what the service readiness is and how it differs between customers and manufacturers' internal and external salespeople. This research illuminated the dimensions of service readiness for different actors and revealed interconnections between its different levels and actors.

5.1.1 Organizational service readiness and its distinctiveness compared to technology readiness

This research reveals that service readiness in a business-to-business context is a complex and relational phenomenon. The studies on technology readiness, like also most of those on general innovation adoption, seem to present individual readiness or adoption from the perspective of users excluding suppliers (e.g., Parasuraman, 2000; Parasuraman and Colby, 2015; Pires et al., 2011; Tsikriktsis, 2004). Services, on the other hand, are already based on definition, actions or processes devised to solve customers' problems (Edvardsson et al., 2005; Vargo and Lusch, 2004). This is obvious also in this research in the entanglement of customer and manufacturer service readiness and in the relational aspects being part of customer service readiness. Therefore, the interactive and relational nature of services (Edvardsson et al., 2005) seems to require a different approach from that of the traditional innovation and technology adoption for studying service adoption.

This research has illustrated how customer and salespeople service readiness is formed (Figure 8). The top left-hand square includes the original dimensions, adapted from Parasuraman's (2000) technology readiness; the rest of the dimensions are derived from this research. Customer service readiness, in particular, has now clearly defined dimensions using Articles II and III. In addition, according to Article

IV, the manufacturer’s internal and external salespeople need service readiness to adopt services into their active selling portfolios.

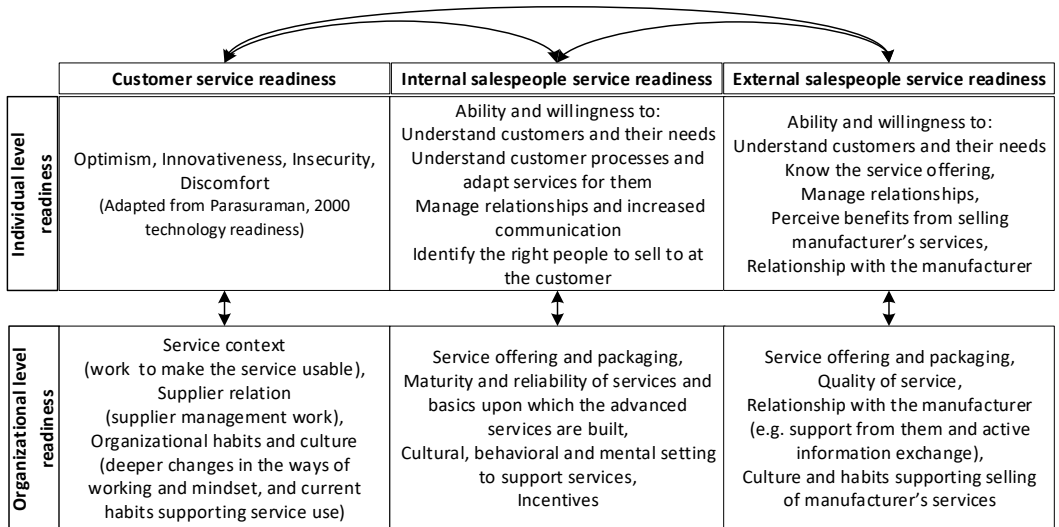


Figure 8. Illustration of customer and internal and external salespeople service readiness at individual and organizational levels

This research—in Articles II, III and IV—illustrates that service readiness in an organizational context is relevant to both customers and salespeople at two levels, individual and organizational, making it a multilevel concept. The earlier literature has not covered organizational service readiness; it has rather focused on technology readiness at the individual level (e.g., Parasuraman, 2000; Tsikiritis, 2004; Walczuch et al., 2007), with the organizational-level studies drawing on the individual-level dimensions (e.g., Richey et al., 2007; Vize et al., 2013). Individual-level service readiness concerns the characteristics, ability, and willingness of the person considering service adoption or selling. As for customers, these findings are largely consistent with those reported earlier (Parasuraman, 2000; Tsikiritis, 2004); however, salespeople service readiness has not been probed, even in the area of technology readiness. Organizational-level service readiness comprises the organizational-level factors, inclined either toward or away from service adoption, and affecting the decisions to adopt or sell services. Even studies on technology readiness in the organizational context (e.g., Richey et al., 2007; Vize et al., 2013) have not identified such an important dimension of readiness. Hence, service readiness includes two

levels, although some aspects can relate to both levels (e.g., manufacturer relationship), and both levels will affect the overall readiness for services in an organization.

The lack of service readiness can be seen as one aspect hindering the manufacturer's servitization or movement toward service-dominant logic, and the service readiness is both internal and external to the manufacturer. From the perspective of goods-dominant logic, adopted in this study, services are perceived as additions to goods (Vargo and Lusch, 2004) and seen as such by both customers and manufacturers. As Article I shows, the goods-focused manufacturers in early phases of servitization may face significant problems in their servitization; many of their issues can be attributed to a lack of service readiness, including troubles in service sales or a lack of a reliable base to build services on. Indeed, manufacturers may struggle in their servitization journeys and—if intended—in their movement toward service-dominant logic if the internal or external service readiness is missing and has to be built. Only when this is realized can manufacturers seek to enhance the service readiness of relevant actors, both internally and externally, and advance in their servitization.

This research also illustrates the role of service readiness in the adoption process, especially from the customer perspective. The literature identifies innovation adoption as a decision to take an innovation into use and acceptance as the continued usage of the innovation (Planing, 2014). This research, especially Article II, indicates that some level of service readiness is necessary for customers to develop an interest in the services and become ready to adopt them. Further, it recognizes customer needs as the principal constraining factor in the pool of potential customers. Thus, this research complements the current view on innovation adoption process, as illustrated in the seashell model of Figure 9. Understanding this pattern is especially important for manufacturers seeking to enhance the demand for their services. They must be able to aim their actions toward supporting customers' progress through these phases of adoption process to create more demand for their services. There is no reason to rule out the possibility of a similar pattern existing for salespeople service readiness. For salespeople, the need comes from superiors or customers requiring salespeople to sell services; the number of people selling services will be further limited by salespeople service readiness, adoption, and eventually acceptance.

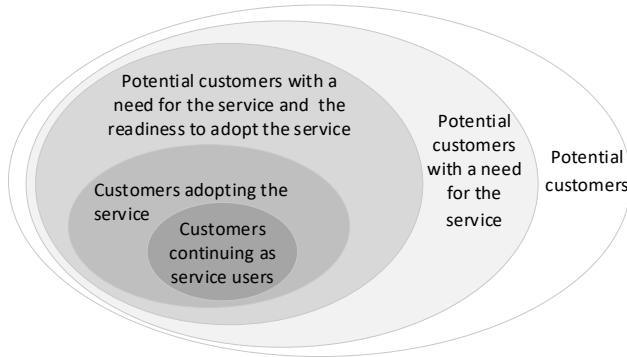


Figure 9 The seashell model of potential service customers (adapted from Article II)

5.1.2 Interdependencies of service readiness among customers and salespeople

This research emphasizes the need for manufacturers to understand the tasks demanded from their customer companies for successful service adoption and the differences among customers. The earlier marketing literature has identified knowledge about customer needs as cornerstone of marketing (Homburg et al., 2009). This research, using Articles II and III, suggests that, without understanding the required changes and adaptations at the customers, manufacturers cannot understand the overall value of the services for their customers. This way, they might not be able to modify their services properly, offer suitable support, or sell the services, mainly because the customers' and manufacturers' understanding of the value of the services does not match. Earlier research has discussed the gaps in suppliers' and customers' perceptions of supplier market orientation and found them to have a negative impact on customer satisfaction (Krepapa et al., 2003). Therefore, there is a need to consider also the consequences of inconsistencies in customers' and manufacturers' perceptions of the value and usability of services. Without attention to customers' specific adaptation needs, manufacturers may fail in their servitization endeavors, mainly due to a lack of market acceptance of the services.

The identification of the effects of the organizational context on customer service readiness draws attention to the differences in service readiness and adoption among different customers. As Article II, and in particular III, show, each customer's unique context and situation will influence their service readiness. It has been suggested that the amount of suitable customization may vary according to industry (Lampel and

Mintzberg, 1996), and that customization is more a market- and a customer-oriented strategy (Wang et al., 2010). This study shows that the selling of the advanced services cannot be viewed as a uniform offering presented to all customers, relying on standardization, which often has been manufacturers' way of viewing marketing (Batt, 2000). Instead, the nature of services and differences between salespeople, and especially among customers, requires considering the selling of the complex, advanced services on a case-by-case basis. This is yet another aspect that may cause complications in manufacturing organizations that seek to servitize, and hence requires attention. Not all services can be packaged and sold without adaptation, even though this has clearly been salespeople's wish in different servitization studies (e.g., Groß et al., 2017; Raja et al., 2013), including Article IV. Instead, the customer context and the suitability of services must be considered, which requires tremendous understanding and knowledge on salespeople's part. There is still a need to consider the amount of customization in light of the revenues that can be claimed to avoid economical suicide, feared by those defending the standardization perspective (Lampel and Mintzberg, 1996). Therefore, a balance between packaging basic services and adapting the advanced ones is required.


Service readiness is a complex phenomenon. It has levels that affect each other, as organizations learn through their individual members (Kim, 1997) and the individuals then again adapt to organizations' beliefs (March, 1991). For example, when a company's culture supports services and information, and help is available, salespeople will find it easier to develop an understanding about what can be offered to customers and learn to identify customer needs and problems and offer solutions, as the salespeople's hopes in Article IV and challenges in Article I hint. Similarly, salespeople with a profound understanding of customer needs and manufacturers' service offerings can work to improve their service offerings or in external context relationship with the manufacturer. Similar effects can be extended to customers.

Moreover, in the context of organizational service purchasing, there is usually more than one individual involved in decision-making, following varying criteria (Day and Barksdale, 1994; Stremersch et al., 2001). Therefore, customer service adoption is not only affected by an individual or an organization purchasing a service but by a combination of individuals within an organization working together to purchase something. Thus, a service adoption decision is influenced by several individuals' individual service readiness and their perceptions of the organizational

service readiness. This turns service readiness into a much more complex phenomenon than service purchase by an individual consumer and, perhaps, even more complex than what the earlier technology-focused research had expected (e.g., Asare et al., 2016).

In addition to the different levels of service readiness affecting each other, service readiness of different actors also seems to affect each other. Similarities in internal and external salespeople service readiness are apparent in Figure 8 but also customer and salespeople service readiness are connected. Customer organizational-level readiness and salespeople individual-level readiness, in particular, have clear connections, as shown in Article III and illustrated in Table 12. This connectedness is further supported by the different literature streams, as the innovation adoption literature clearly posits that salespeople have power to influence customers' opinions and choices (Badrinaryanan and Laverie, 2013; Nordfält, 2017). Complementing this, the servitization literature highlights that customers should adapt to benefit from manufacturers' new services (Brax and Jonsson, 2009; Story et al., 2017); it also reveals that customer-related adaptation is required from manufacturers' salespeople (Kindström et al., 2015; Martinez et al., 2010).

Table 12. Aspects related to each other in customers and salespeople service readiness

Readiness of manufacturers' customer interface for new services		Customer organizational service readiness and conditions surrounding it
Understanding and defining the service need		Service context: Work to make the service usable
Ability to manage relational dynamics and increased communication		Supplier relations: Supplier management work
Understanding customers' businesses and processes to adapt the service to their needs		Organizational culture and habits: Deeper changes in the way of working and in the organizational mindset
Service offering and packaging Identifying the right people at customer		Service conditions: Varying service processes, multiple/varying decision-makers, decision criteria
Maturity of the existing functions to have a solid base to build reliable services on		Service context: The current state of processes and equipment
The cultural, behavioral, and mental settings to support services		Organizational culture and habits

The parallels among different actors' service readiness may be explained by the way salespeople interact with customers and by the "emotional contagion," which has been established as the emotion experienced by one person being transferred to another and has been found crucial in company-customer interactions (Homburg and Stock, 2004). This effect may be key in the service context where salespeople can be especially important, as the intangibility of services makes their role in communication especially prominent (Crosby et al., 1990). This can partly explain the identified interconnected nature of service readiness and the need to consider service readiness simultaneously from both sides of the customer interface. Additionally, the similarities between internal and external salespeople service readiness may indicate that these readiness aspects are connected, especially when the internal salespeople also handle communications with the external salespeople. Thus, these different actors—internal and external salespeople and customers—work interactively and influence one another, which implies that their service readiness is not created in isolation. Hence, service readiness is not connected at different levels only (i.e., individual and organizational), but also the service readiness of different actors is interdependent. This connection creates a complex situation, where changes in service readiness in one part of the customer interface can extend to other parts. The interpersonal relationships between customers and salespeople can be a great tool to enable salespeople to influence customers (Crosby et al., 1990). However, interdependency of service readiness of different actors can provide both challenges and opportunities for manufacturers seeking to influence their service readiness.

5.2 Manufacturers' ways of enhancing service readiness

The second research question dealt with how manufacturers can enhance the service readiness of customers and internal and external salespeople. This research addressed the different ways of enhancing service readiness, emphasized the indications of relational nature of services for the enhancement of service readiness, and identified different ways of enhancing different actors' service readiness.

5.2.1 Ways of enhancing service readiness in service context

This research sought to investigate different ways of influencing customers and salespeople scattered across different fields, create a synthesis of this knowledge, and explore how these ways fit into the context of service readiness. The traditional innovation acceptance and diffusion literature does not commonly heed the supplier's role (Deeter-Schmelz et al., 2001). Rather, the earlier literature in other areas has highlighted different ways to affect customers and salespeople, such as marketing and selling (e.g., Sharma et al., 2008; Salomonson et al., 2011), service purchasing (e.g., Lindberg and Nordin, 2008; van der Valk and Wynstra, 2014), customer relationship management (e.g., Chen and Popovich, 2003; Gebert et al., 2003), and channel management (e.g., Merritt and Newell, 2001; Pelser et al., 2015). In many ways, this research finds that the earlier examples are relevant, although it, for example, pays less attention to advertising than the traditional marketing literature (e.g., Kotler and Keller, 2012). Instead, the current research emphasizes that proper understanding of certain customers' businesses, processes, situations, and service readiness should be used as the basis for choosing correct actions and interpreting whether the service is a rational choice for customers. Based on this knowledge, manufacturers' salespeople can take appropriate actions to offer suitable services to their customers and convince them.

Especially in Articles III and IV, this research has introduced several specific actions, belonging to the five categories, identified from the literature. However, the nature of services has implications also for these actions. These five categories of actions that can influence customers and salespeople are (a) monetary and contractual aspects, (b) information provision, (c) relationship management with customers and external salespeople and support for them, (d) advertising and selling, and (e) support for internal salespeople. Many of the identified service readiness enhancement actions do not belong to one category but several; they combine relationship aspects, for example, with information provision, supportive tasks, or contractual elements. This is likely to stem from the interactive nature of services, which highlights the importance of relationships (Edvardsson et al., 2005; Vargo and Lusch, 2004). Table 13 displays the different ways of enhancing the service readiness of salespeople and customers.

Table 13. Ways for manufacturers to enhance service readiness of actors in their distribution channel

Categories of action	Enhancing customer service readiness
Information provision Relationship management with customers and support	Manage data and connections security very carefully; show this to the customers and convince them; value customers' trust and act reliably to fulfill customers' expectations.
Relationship management with customers and support Information provision	Recognize the relevance of customers' tasks of preparing the service context and managing the supplier relationship; understand their current situation and the required changes; consider how customers can be supported in these tasks or the need for these tasks can be minimized.
Relationship management with customers and support Monetary and contractual aspects	Consider customers' cultures and habits and how the service can be better aligned with their world; identify ways of supporting customers with the required changes or offer them pilot solutions or simplified versions of the services to initiate learning.
Relationship management with customers and support Information provision	Understand how big/small, easy/difficult, and normal/special services are for customers, and who are the right people to contact; contact them with proper solutions and arguments specified to fit their interests.
Support for internal salespeople Information provision	Provide trainings and tools to learn to understand customers and their needs and processes
Support for internal salespeople Relationship management with external salespeople and support Information provision	Make services easy to understand, adapt, and sell Give information on services, their prices, strategy, selling arguments, and fit for customers
Monetary and contractual aspects Relationship management with external salespeople and support Information provision	Provide an incentive system to motivate salespeople Offer flyers, mailings, information about manufacturers' organizations and changes in them, and information about manufacturers' busyness

As described in the previous section, the relational nature of service readiness provides manufactures with possibilities but also with risks in influencing service readiness of different actors. In principle, the interconnectedness of service readiness of different actors could mean that, when manufacturers successfully direct their actions toward one actor, these actions are likely to reach other actors through communication and enthusiasm of that actor. This way, by affecting several actors using different interventions, the positive effects can multiply. Conversely, this also means that negative opinions resulting in diminished service readiness, can be

conveyed from one actor to another through emotional contagion, as explained by Homburg and Stock (2004). Therefore, manufacturers should seek to enhance service readiness in a holistic manner and consider the consequences of their actions on service readiness of different actors in the distribution channel.

5.2.2 Enhancing service readiness of different actors

This research has several implications for existing research, which emphasize the need for manufacturers to develop an understanding about customer needs and processes as a basis for developing relevant service offerings (Brax and Jonsson, 2009; Nudurupati et al., 2016; Van der Valk and Rozemeijer, 2009). This research draws attention to customer service readiness, as one key criterion according to which manufacturers should aim their actions at service sales. Without an appropriate level of service readiness, customers do not seem to be interested in new services. Therefore, manufacturers are advised to try out their new advanced services with those customers who are ready and familiar with the advanced services. As for customers at a lower level of service readiness, manufacturers should start with less complex and demanding services or focus on actions aimed at enhancing service readiness, such as providing information or trial periods, acquiring reference cases, using current relationships to convince customers about the capability, functionality, and usefulness of the services.

This research has identified the importance of overall servitization effort by manufacturers to enhance salespeople service readiness. Manufacturers' ways of enhancing salespeople service readiness have clear connections to the servitization literature, focused on manufacturers challenges during servitization efforts (e.g., Kindström et al., 2015; Martinez et al., 2010; Raja et al., 2013; Ulaga and Loveland, 2014). However, in addition to the traditional salespeople's focused efforts, such as adapting to value-based selling and providing more information and tools to learn to understand customers (e.g., Groß et al., 2017; Kindström et al., 2015; Ulaga and Loveland, 2014), this research has illustrated the importance of manufacturers' overall processes, supporting not only their goods but also services. This is a clear challenge, especially when considering manufacturers rooted in goods-dominant logic. These manufacturers tend to see services as additions to their goods-focused offering (Vargo and Lusch, 2004) and, therefore, may not see the importance of

systems and processes supporting services. However, this is one clear hindrance to creating functioning service sales; salespeople need systems, processes, and support from individuals within the organization to be able to grow into skilled service salesforce. Therefore, in addition to traditional support, such as trainings and materials, manufacturers need to see that a mental and behavioral shift toward services is implemented internally. They also need to ensure that services are implemented at a level that salespeople can cope with, without fearing a backlash from customers, given that salespeople are often blamed when the service does not perform satisfactorily (Koppitsch et al., 2013).

These requirements highlight the need to take a more micro-level approach in research, when thinking about how the servitization process can be supported in an organization. The majority of the servitization studies still offer generic discussions about challenges or drivers, for example (e.g., Kuo, 2010; Martinez et al., 2010), whereas micro-level analysis has been largely ignored in servitization research (Valtakoski, 2017). Thus, researchers have called for more guidance for servitizing organizations and recognized the need for more tools and techniques (Baines et al., 2009a). Moreover, Bigdeli et al. (2017) have asked for more evidence about how, in practice, to identify and engage relevant people at the customer and educate them and communicate the value proposition to them. Therefore, similar to earlier studies, this research has illustrated the need to go to the micro level and focus on practices, but it has also given guidance to identify service supporting processes and practices widely in the company and shown their importance for work at the customer interface.

As for the external salespeople, it is important to note that there are different kinds of external salespeople, which also affects how they can be encouraged to adopt services into their active selling portfolios. Manufacturers have varying power over external salespeople, and contractual relations can vary (Bergen et al., 1992; Weitz and Jap, 1995). This research shows that some salespeople who do not have the readiness to sell manufacturers' services might not be enticed into selling them, at least by the actions taken by manufacturers. The external salespeople's organizational cultures, habits, and workload as well as their share of profits coming from the manufacturers' goods may be such that they do not feel that service selling would be worth the trouble or even possible. On the other hand, even when manufacturers have less power over external salespeople, they may be able to

influence salespeople service readiness if the fundamental elements such as external salesperson’s organization’s cultures and habits are suitable for service selling and selling the manufacturers’ services. Rewards and information may be suitable ways to influence external salespeople, as the other sources of power (e.g., legitimate, punishment, and referent) (Gaski, 1986) are not as suitable without contractual mechanisms and lack of power. For example, profit sharing, programs aimed at channel partners, and adequate support may help in increasing the external salespeople service readiness so that they will actually adopt the manufacturers’ services into their active selling portfolios.

5.3 Scientific contributions

This research makes scientific contributions to two streams of the literature: the servitization literature and the innovation adoption literature. The key contributions of this research are summarized in Figure 10.

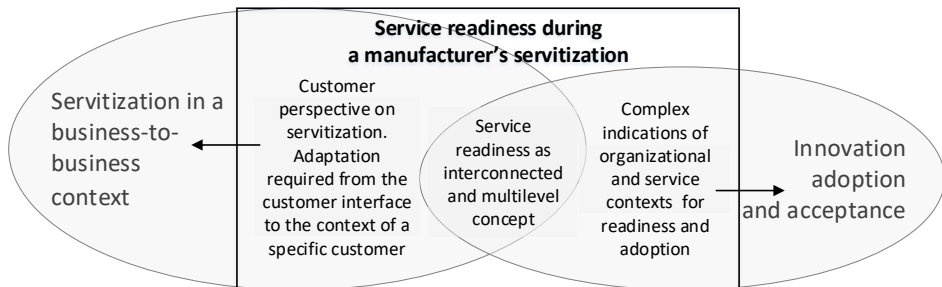


Figure 10. Key scientific contributions of research for the relevant literature streams

This research, especially, Articles II and III have clearly illustrated the need to distinguish between organizational service adoption and readiness from traditional technology-oriented adoption studies. The research highlights how the interactive nature of services (Edvardsson et al., 2005; Vargo and Lusch, 2004) affects their adoption and service readiness. Service context requires that services’ process and relational nature is considered when studying their adoption to truly understand the interconnectedness of different actors in terms of services and service readiness.

This research has illustrated the special implications of business-to-business context for service readiness and adoption. This highlights the complexity that already the earlier technology adoption literature has tried to understand using

different perspectives (e.g., the innovation's characteristics, the external factors, the organizational factors or a combination of these) (Asare et al., 2016; O'Callaghan et al. 1992). This research emphasizes the multiple actors within the customer company affecting the purchase decision and adds to this the manufacturer's salespeople trying to affect the decision. In addition, the research identifies how both the individual- and organizational-level elements of service readiness are interacting for customers (Articles II and III) and salespeople (indications from Articles I and IV), contributing to even more complex decision context.

As for servitization, this research, particularly through Articles II and III, gives useful insights about the customers' role in servitization and about the adaptations required from the customers when a manufacturer servitizes. This has largely been lacking previously, leading to calls for studies from the customer perspective (Baines et al., 2017; Brax and Jonsson, 2009; Nudurupati; 2016; Story et al., 2017). Using Articles III and IV, this research stresses the importance of interconnectedness of customer and salespeople service readiness, and how contributions from the customer angle complement the earlier servitization literature, highlighting the required adaptations in customer interface (e.g., Groß et al., 2017; Kindström et al., 2015; Martinez et al., 2010; Neu and Brown, 2005; Raja et al., 2013; Story et al., 2017; Ulaga and Loveland, 2014). In addition, this research illustrates the relevance of adoption frameworks to service research, and works as a first step toward more organized way of understanding customers' perspectives and their interplay with salespeople's perspectives in servitization.

This research also reveals how the relational nature of services, raised by different authors (e.g., Edvardsson et al., 2005; Vargo and Lusch, 2004), affects the manufacturers' ways of enhancing service readiness of the key actors in the distribution channel. Many of the means to affect service readiness identified, particularly in Articles III and IV, combine relational elements with other elements, such as information provision or monetary and contractual aspects. This highlights the need to base the selection of information, contracts, and incentives on customers or salespeople, instead of planning general campaigns alone. This echoes the findings of many servitization studies, which see customer understanding as one of the key elements of manufacturer's servitization process, especially from the salespeople point of view (e.g., Kindström et al., 2015; Martinez et al., 2010; Ulaga and Loveland, 2014). However, in addition to this, this research shows how the relational nature of

services affects specific aspects, such as actions to enhance service readiness of different actors in the distribution channels.

5.4 Managerial implications

As many companies are struggling to gain the expected benefits from servitization and the introduction of the advanced services (Gebauer and Friedli, 2005; Neely et al., 2011; Oliva and Kallenberg, 2003), this thesis intends to raise managers' awareness about the factors underlying customer and salespeople related servitization challenges. This thesis presents service readiness as a relevant tool for manufacturers to consider their internal salespeople, customers, and intermediaries needs during servitization. This assessment may help manufacturers to spot weak points in their servitization plans and to select the appropriate actions to address these challenges. The assessment also shows the relevance of salespeople service readiness, which even considering technology readiness, has been under-researched and, perhaps, under-rated in companies.

Manufacturers need to choose their actions according to their customers' service readiness. It may be useful for manufacturers to first introduce the advanced services to their customers who have high service readiness, mainly because they are more likely to be interested in them. This way, manufacturers can use these keen customers as reference cases to convince less ready customers and salespeople. In line with previous research, manufacturers may wish to start with simple services (Gebauer and Friedli, 2005; Oliva and Kallenberg, 2003) to those customers who have lower service readiness, because they may find using the advanced services challenging. Similarly, echoing Vize's (2013) findings, this research suggests that customers with low service readiness should be considered when trust in the industry for new technology-based services has increased; alternatively, this research suggests that a suitable simplified version of a service can be offered, or actions need to be taken to increase customer service readiness (see Table 13 for some of the actions introduced in this study).

It is imperative to base actions taken to enhance customer service readiness on strong knowledge about them. Understanding about customers and their businesses have also been highlighted earlier as a key factor in servitization (e.g., Kindström et al., 2015; Martinez et al., 2010; Ulaga and Loveland, 2014). This research emphasizes

the need to consider this relational aspect in the majority of service-related communications with customers. Salespeople are advised to consider customers' situations and businesses, and how manufacturers' services could best be used in customers' context before choosing which services to offer and how those need to be modified. Salespeople also need to understand the investments, not only monetary but also in terms of time and effort that the customers have to make to get the services function in their organizations.

When servitizing, manufacturers need to support salespeople. In such circumstances, it is necessary to consider both internal and external salespeople and recognize those external salespeople who could be encouraged to sell manufacturers' services. Following this, training, tools, and incentives need to be offered to salespeople. Internally, manufacturers are advised to instill pride and confidence in their companies for their services (Sakao et al., 2009). In addition to supporting goods, the culture, processes, and systems should be adapted to support also services. This requires top management support as well as reliability from production and basic services. This is very important, mainly because if a company's services are not supported and valued in the culture of the company, there remains little reason for the salespeople to devote their time and effort to them.

This research also illustrates that service readiness is a highly complex phenomenon, and that the service readiness of different actors is interlinked. The views and opinions of the salespeople can affect those of the customers and vice versa. Hence, manufacturers should consider the service readiness of all actors simultaneously and be especially well aware of their own salespeople's negative attitudes and concerns, so that they can take action before they are conveyed to the customers.

5.5 Validity and reliability

Here this research is scrutinized related to its validity and reliability as suggested by Yin (2009). While reliability and validity have received some criticism (Seale, 1999) and some authors see them more as terms related to quantitative research (Bassey, 1999), this research follows the view that validity and reliability are relevant for qualitative research and case studies as well (e.g. Creswell 2009; Eisenhardt, 1989; Yin, 2009). It is noteworthy that many means to improve validity and reliability are

similar to the means to improve trustworthiness, a concept used by some researchers in qualitative research with the same purpose (e.g. Bassey (1999), Guba and Lincoln (1989 according to Seale, 1999) and Martinsuo and Huttu (2015) in relation to case studies). The similarities include, for example, triangulation, consistency of the research process, detailed description of the case, participant reviews, and critical review of findings by fellow researchers.

Qualitative studies are prone for several reliability problems, posing challenges to achieving consistency in the procedures. However, several steps were taken to assure that reliability was considered. First, to improve reliability, as suggested by Yin (2009), a clear plan for each case study was drawn up. The aims, interviewees, questions, and data collection procedures were planned, and a case study database of the materials collected about each case was created and made accessible to the colleagues in the same project or research group. Following Gibbs (2007) and Creswell (2009), further steps were taken: the interviews were recorded, the transcripts were checked, the mistakes were corrected, consistency of codes within each study was checked iteratively during the analysis, and mostly only one coder was used to avoid inconsistent coding and interpretation of codes. For Article II, a colleague who was not involved in the research was used in cross-checking the codes and categorizing the excerpts into different existing codes (see Creswell, 2009). Further, the articles drew on interview data from multiple different perspectives, enabling the use of one form of data triangulation (Miles and Huberman, 1994). In addition, the interviewer elaborated the research purpose and topic of the study, sought not to influence the interviewees' opinions, and participants were further inquired at times when their answers were unclear. Moreover, the interviewer tried her best to help the interviewees feel comfortable to speak their minds.

Validity has been said to be a strength of qualitative research (Creswell, 2009). Yin (2009) discusses construct, internal, and external validity in the context of case studies. Following Yin (2009), this research took two steps to increase the construct validity. First, multiple sources of evidence were used by studying several organizations. Several participants in each organization were interviewed (except for the external salespeople and one customer), and the interview data were complemented by documents (e.g., for Article III). Further, all the results were discussed at an aggregated level with the case companies' key informants to elicit their feedback on the results and ensure that the responses made sense. The findings

of the research were also reviewed critically by fellow researchers. Second, the Articles provided a clear direction from the beginning to the conclusions, thus maintaining a chain of evidence (Yin, 2009); the articles also provided rich and thick descriptions of the findings, brought out the different perspectives of the themes, and contributed to holistic, critical arguments by illuminating the contrary aspects of the phenomenon (Miles and Huberman, 1994). In addition, the existing literature was used when planning the interview outlines and during the analyses, especially for papers II and III.

Internal validity is mainly concern for explanatory case studies (Yin, 2009). To improve internal validity, pattern matching to existing theoretical patterns was performed. This technique was used when identifying the dimensions of service readiness in Article II and when analyzing the internal data in Article III. In addition, rival explanations were sought leading, for example, to analyzing the data in Article I inductively and to adding organizational dimension to service readiness in Article II.

External validity deals with generalizability of the results (Yin, 2009). The value of a qualitative research is not usually in its generalizability but rather in its particularity and ability to describe and create understanding of the themes in certain context (Creswell, 2009). Further, a case study research might not be generalizable to population but rather to a theory, model, or propositions (Creswell, 2009; Eisenhardt and Graebner, 2007; Saunders, 2009; Yin, 2009). Hsieh and Shannon (2005) state that conventional content analysis is conducive to concept development and model building rather than theory development, which coheres with the aims of this research. This research has provided a preliminary conceptualization of service readiness; further work is required to develop, refine, and test this in various contexts using different methods.

5.6 Limitations and avenues for further research

This research although important opening for research on service readiness has some limitations. First, this is a qualitative research, comprising five case companies and their associated distribution channel members. Therefore, the results might be context specific. Further, this research focused on service readiness among manufacturers' internal and external salespeople and customers; however, it did not

have a chance to study the whole triad in a single setting. The concept of service readiness is still in its early stages, and the area of salespeople service readiness particularly requires more development. It is also necessary to consider how service readiness can be operationalized and developed into a measurable concept to be tested quantitatively. Therefore, future research should be conducted to test the concept of service readiness quantitatively and in different contexts. Service readiness should also be developed into a measurement tool to allow managers to easily evaluate their customer and salespeople service readiness during servitization. In addition, future research should strive to investigate service readiness and its interdependencies in a triadic setting (with manufacturer, intermediary, and customer) simultaneously to provide in-depth insights into the interdependencies of service readiness and how they work in practice.

In addition to the actors whose service readiness was reported in this research, one interesting aspect for future research is to discover how manufacturers' operative service personnel fit into the picture of service readiness. Is the service readiness applicable to these employees or is service readiness a de facto requirement of their job description? On the same note, operative service personnel should also be able to influence customer decision-making as trusted professionals; however, to what extent are they ready to handle this function of their occupation or would they rather focus on the service implementation itself? Another question relating to this concerns the extent to which people implementing services should balance creating new business—by suggesting new goods or services to their customers—against maintaining customers' respect.

An additional question arising from this research and requiring more attention is how, in practice, manufacturers can engage different actors and convey messages about new advanced services convincingly to their customers and salespeople. This echoes Bigdeli et al.'s (2017) suggestion that more evidence is required about how to identify and engage relevant people at the customer, educate them, and communicate the value proposition to them. This research has also found micro-level specific guidelines lacking, for which further examination is recommended.

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PUBLICATIONS

Publications are omitted from the online version of the thesis.

I. Vaittinen, E., & Vuorinen, L. (2015). Factors preventing the servitisation of manufacturing companies. In Martinsuo, M., Perminova-Harikoski, O., & Turunen, T. (eds.). *Strategic Change towards Future Industrial Service Business*, pp. 124–142. Tampere University of Technology.

II. Vaittinen, E., Martinsuo, M., & Ortt, R. (2018). Business customers' readiness to adopt manufacturer's new services. *Journal of Service Theory and Practice*, 28 (1) 52–78.

III. Vaittinen, E., & Martinsuo M. (in review). Industrial customers' organizational readiness for new advanced services. Under review in *Journal of Manufacturing Technology Management*.

IV. Vaittinen, E., & Martinsuo, M. (2018). Ready to sell? Requirements for promoting service selling in a manufacturing firm. In Bigdeli, A., Frandsen, T., Raja, J., & Baines, T. (eds.). *Driving competitiveness through servitization: Proceedings of the Spring Servitization Conference (SSC2018)*, pp. 26–34, 14–16 May 2018, Copenhagen, Denmark.

