

Chapter 12

Acquiring Customer Knowledge to Enhance Servitization of Industrial Companies

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Abstract To enhance servitization of industrial companies there is a need for better understanding of why and how business customers purchase services. The purpose of this study is therefore to identify the factors affecting customer's service procurement. The study combines the theoretical bases of servitization, key account management and customer knowledge management. A qualitative exploratory research approach based on semi-structured interviews in both supplier and customer companies (n = 47) was used. The study contributes to the servitization literature by suggesting that customer's outsourcing strategy, manufacturing technology, level of technological competency, procurement function structure, and expectations for benefits and customer experience significantly influence the procurement of services. We propose that acquiring in-depth customer-specific knowledge is key to increasing solution supplier's customer orientation in servitization. The acquired customer knowledge offers a basis for identifying customers of most strategic importance with regard to their service purchasing potential.

12.1 Introduction

To meet customer's evolving needs and to achieve new competitive advantage, companies are increasingly offering value-added solutions to their customers (Brady et al. 2005; Davies et al. 2006; Nordin and Kowalkowski 2010). Industrial

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companies are augmenting their product offerings with various industrial services and striving for a servitization strategy (Baines et al. 2009; Matthyssens and Vandenbempt 2008; Vandermerwe and Rada 1988). Strong customer orientation is recognized as a key feature of servitization strategies (Baines et al. 2009).

The key account management (KAM) approach has gained major relevance for companies as b-to-b customers increasingly centralize their purchases and rationalize their supply base (Millman and Wilson 1995). The KAM approach is being adopted by suppliers aiming at building a portfolio of loyal key accounts by offering, on a continuing basis, product/service packages tailored to customer's individual needs (McDonald et al. 1997). At the very heart of the KAM approach is the identification of customers of strategic importance to the supplier (McDonald et al. 1997). Traditionally, key accounts have been selected, for example, on the basis of sales volume, profitability and length of relationship (McDonald et al. 1997; Ojasalo 2001). Key account management plays a central role when a company strives for a strategic change—such as servitization—that may considerably change its offering and cooperation with its customers. But how to identify those customers that have the most potential for supporting the strategic aim of servitization?

Successful key account management requires the acquisition, dissemination, and utilization of customer-specific knowledge (Salojärvi and Sainio 2010). Customer knowledge management (CKM) creates understanding of customer needs and expectations (García-Murillo and Annabi 2002) and enhances innovation and growth (Gibbert et al. 2002). However, current literature does not identify the customer knowledge that would support servitization, although deep understanding of customer's business and needs have been recurrently emphasized within the servitization domain (e.g. Brady et al. 2005; Brax 2005; Davies et al. 2007; Sawhney 2006). What, then, should suppliers know or find out about customers in order to enhance their service selling? This question provides the starting point of our study. Industrial companies need to understand why and how business customers purchase services.

This study aims to strengthen the customer orientation of the servitization domain (e.g. Baines et al. 2009; Brax and Jonsson 2009; Davies et al. 2006; Hakanen and Jaakkola 2012; Tuli et al. 2007) by increasing understanding of how customer knowledge management could enhance the servitization of an industrial company. More specifically, the purpose of the paper is to identify the factors affecting business customer's procurement of industrial services. A qualitative exploratory research approach was applied. Data was collected from fourteen supplier-customer dyads by means of semi-structured interviews ($n = 47$).

As a result, the paper provides empirical insight into how customer companies' basic characteristics, business, procurement, and value expectations can affect the procurement of industrial services. Furthermore, the study creates new understanding with regard to the key account management's pivotal role in managing and organizing servitization. The study also provides suggestions for the management of companies and for key account managers, especially regarding the customer knowledge required for focused and effective service development and sales and marketing.

The article is organized as follows. Firstly, literature on key account management and customer knowledge management are reviewed and the research gaps identified. The methodology is then presented, followed by the findings, consisting of the identified factors affecting customer's service procurement. Finally, theoretical and managerial implications are stated by drawing conclusions on how customer knowledge management can enhance the servitization of an industrial company.

12.2 Customer Orientation in Servitization

Strong customer orientation is widely promoted within the servitization literature (e.g. Baines et al. 2009; Brax and Jonsson 2009; Davies et al. 2006; Hakanen and Jaakkola 2012; Tuli et al. 2007). According to Oliva and Kallenberg (2003), customer orientation in servitization consists of two elements: a shift of the service offering from product-oriented services to the end-user's process-oriented services, and a shift in the nature of customer interaction from transaction-based to relationship-based. Solutions design begins with a deep understanding of the customer problem that the solution is designed to solve (Sawhney 2006). Brax (2005) suggests that knowing the customer's business context and operational conditions is fundamental in designing industrial services. Similarly, Brady et al. (2005) stress the importance of having a detailed understanding of the customer's business activities in order to understand how value is created through the eyes of the customer.

The servitization literature emphasizes long-term customer relationships and interaction with the customer. Enduring relationships with customers need to be established to obtain comprehensive and relevant information and to build a strong knowledge of their business (Shepherd and Ahmed 2000). Storbacka (2011) emphasizes the importance of dialog with the customer's decision makers and the role of sales and account management in working proactively with customers. The study by Kapletia and Probert (2010) suggests that customer orientation is best developed in the early stages, from defining customer requirements onwards.

Solutions can be regarded as 'on-going relational processes of defining, meeting, and supporting customer's evolving needs' (Tuli et al. 2007). As a result of thorough understanding of the customer's processes, the supplier becomes a part of the customer's processes (Windahl and Lakemond 2010). Suppliers organize their operations around customer segments (Galbraith 2002). Engaging in a close dialogue with the customers and identifying customer's business needs results in developing the capabilities to offer products and services that link uniquely well to the customer's priorities (Davies et al. 2006). Thus, long-term relationships and knowledge exchange between a supplier and a customer organization enable the provision of customized solutions (Tuli et al. 2007). In other words, strong customer orientation results in delivering a solution that fulfils customer-specific needs (Brax and Jonsson 2009). Customer-focused solutions provide the customer with the expected value and customer experience (Hakanen and Jaakkola 2012).

12.2.1 Customer Knowledge Management

Account management can be seen as a proactive development towards a customer-focused organization (Gosselin and Bauwen 2006). Systematic selection, analysis and management of the most important current and potential customers are the bases for key account management (Zupancic 2008). Successful key account management (KAM) consists of four basic elements: identifying the key accounts, analysing key accounts, selecting suitable strategies, and developing operational capabilities to build, grow and maintain profitable and long-lasting relationships with them (Ojasalo 2001).

The KAM literature abundantly addresses different criteria for the determination of strategically important customers. Key account managers and others responsible for customer relationships operate in a boundary-spanning role between the supplier and customers (McDonald et al. 1997; Nätti et al. 2006). They conduct in-depth analyses of the customer's business, which results in addressing customer-specific needs (Davies et al. 2007). They understand the customer's business and customer needs now and in the future. Arguably, they are in a central position in identifying strategically important customers with regard to the supplier company's servitization goals.

Several authors have pinpointed the importance of managing customer knowledge in key account management (e.g. Abratt and Kelly 2002; Nätti et al. 2006; Salojärvi and Sainio 2010). Customer knowledge utilization lays the foundation for all strategic decision-making concerning the key account relationship (Salojärvi et al. 2010). Instead of the structured data that is gathered from transactions, García-Murillo and Annabi (2002) emphasize the information coming from interactions with customers. Customer knowledge management (CKM) is based on personal interaction and long-term cooperation as well as knowledge gathered from conversations with the customer. Of the three identified phases of CKM (acquisition, dissemination, and utilization) the degree of acquisition and utilization has been found to be significantly associated with supplier's key account performance (Salojärvi and Sainio 2010).

CKM research (e.g. Campbell 2003; García-Murillo and Annabi 2002; Gebert et al. 2003; Gibbert et al. 2002; Salojärvi et al. 2010; Salomann et al. 2005), rooted in the integration of customer relationship management and knowledge management, has boosted during the past decade. While customer relationship management has identified managing the relationship between a company and its current customer base as a success factor, knowledge management stresses the importance of knowledge in a company's success (Gebert et al. 2003). The key motive of customer knowledge management is better understanding of the customer and their true needs and expectations (García-Murillo and Annabi 2002). According to Gibbert et al. (2002), CKM is about collaboration, innovation and growth—how companies generate growth by acquiring new customers and engaging in active value-creating dialogue with them. Their research showed that companies

managing customer knowledge are more likely to sense emerging market opportunities and create economic value more rapidly. Thus, CKM entails a strong future perspective in business development.

12.2.2 Acquiring Customer Knowledge to Enhance Servitization

Increasing customer orientation in servitization is a common trend among industrial companies (e.g. Baines et al. 2009; Brax and Jonsson 2009; Davies et al. 2006; Tuli et al. 2007). However, the servitization literature lacks empirical insight into the required customer knowledge that would enhance servitization of an industrial company. Key account management (KAM) literature addresses several customer knowledge insights that are beneficial to acquire about business customers. Customers should be analysed in terms of the basic characteristics of the customer company, such as internal value chain, markets, suppliers, products, and economic situation (Ojasalo 2001). In other words, in addition to the customer company itself, the business network surrounding it should be analysed. Millman and Wilson (1996) emphasized the importance of knowing the composition and dynamics of a customer's procurement function, practices and decision making. CKM literature outlines, for example, the following as salient customer knowledge: customer needs (García-Murillo and Annabi 2002; Gebert et al. 2003; Salojärvi et al. 2010), customer's sources of problems (García-Murillo and Annabi 2002), motivations and behaviour (Gebert et al. 2003), and purchasing history (Salojärvi et al. 2010).

Although the importance of customer understanding and the acquisition and utilization of customer knowledge is widely acknowledged, current research refrains from addressing what knowledge should be acquired about customers with regard to the strategic aim of servitization—what exactly should be known and understood about the customer? Therefore, the aim of this study is to increase understanding on how customer knowledge management could enhance the servitization of an industrial company. In particular, the purpose of the study is to identify the customer factors that affect the procurement of industrial services. By acquiring knowledge about customers, how they purchase, and which factors affect their purchase decisions, a supplier can customers that are most likely to purchase their services. Of the CKM phases of acquisition, dissemination, and utilization (Salojärvi and Sainio 2010), this study concentrates on knowledge acquisition.

12.3 Methodology

As customer knowledge management has not been applied before within the servitization domain and research on customer factors affecting service procurement remains sparse, a qualitative exploratory research strategy was chosen.

Table 12.1 The studied dyads and their business fields

Supplier company, business units	Customer company, business field
<i>Dyad: Supplier A—Customers A1–A4</i>	
Supplier company	- Customer A1, mechanical engineering - Customer A2, automation industry - Customer A3, mechanical engineering - Customer A4, engineering steel producer
<i>Dyad: Supplier B—Customers B1–B6</i>	
Management of the concern	- Customers B1–B6
Machine tools unit	- Customer B1, mechanical engineering - Customer B2, minerals and metals processing
Engines and generators unit	- Customer B3, base metals production - Customer B4, material handling solutions
Construction machines unit	- Customer B5, construction machine rental - Customer B6, construction machine rental
<i>Dyad: Supplier C—Customers C1–C4</i>	
Management of the company	- Customers C1–C4
Production services unit	- Customer C1, metal industry manufacturer - Customer C2, food industry
Industrial services unit	- Customer C3, food industry
Business solutions unit	- Customer C4: pharmaceuticals

Qualitative research is often used when ‘how’ and ‘why’ questions are being posed and the aim is to increase understanding of a phenomenon previously under-investigated (Yin 2003). With the exploratory approach, key issues and/or key variables are identified to enhance understanding of the studied phenomenon. In this study, identifying the factors affecting customer’s procurement of services advances the discussion on how key account management and customer knowledge management may enhance servitization and effective solutions selling.

Fourteen customer-supplier dyads were selected as the units of analysis. Data was collected from three supplier companies and fourteen customer companies. The scope of analysis was limited to b-to-b relationships, with the public sector customers of the studied supplier companies excluded from the study. Table 12.1 outlines the studied companies and their business fields.

The studied suppliers operate in the mechanical engineering sector within the EU. Supplier A manufactures chip removal machining and production systems. Supplier B operates in the technical trade and imports machine tools, engines, generators and construction machines. Supplier C manufactures robotic packaging and palletizing systems. Shares of services vary between 20–25 % of the turnover of the supplier companies. The main service business volume of the supplier companies derives from repair and maintenance services with related spare part and software-based services. The suppliers mainly focus on the repair and maintenance of machinery that they have previously delivered to their customers. In addition, they offer training, modernization, technical support and consultancy.

All of the supplier companies had identified their biggest and most significant customers, i.e. key customers, according to sales volume and length of cooperation. They had also appointed certain persons to be responsible for key customers. However, Suppliers A and C did not have a formal key account management programme, and Supplier B had recently established one. The suppliers had hundreds of customers in their customer base, of which a number already purchased services. However, the common challenge of all the suppliers was how to identify customers of key importance when aiming to sell more services? The supplier's motive for participating in the study was to deepen their customer knowledge and develop their solution sales strategy and practices accordingly. The duration of the study was September 2011–February 2013.

As conceptualized by Salomann et al. (2005), customer knowledge management is the utilization of knowledge *for* (e.g. product information), *from* (e.g. their ideas about product improvements) and *about* customers (e.g. their requirements and expectations) in order to enhance the customer-relating capability of organizations. The focus of the present study was on the latter: the acquisition of knowledge *about* customers in order to be able to assist customers in making purchase decisions (c.f. García-Murillo and Annabi 2002).

Data was collected by means of semi-structured interviews in which considerable freedom was given for the informants to openly discuss the interview topics (cf. Silverman 2006; Yin 2003). The interviews consisted of questions regarding purchased solutions, the characteristics of customer companies and their purchasing function and procedures, as well as customer-supplier cooperation. To strengthen the reliability of the study, the interviews were transcribed verbatim. The findings were presented to the representatives of the supplier companies in company workshops to ensure the validity of the findings and to correct any biases.

The selected supplier informants represented the company management and the persons responsible for key customers and for daily cooperation with customers. Although there were, in the strict sense, no 'key account managers' among the informants, the informants (e.g. business unit directors) represented the persons in charge of key customer relationships. Customer informants were selected based on their responsibility for or involvement in supplier selection and purchases as well as their extensive knowledge and experience of the supplier and cooperation with them. Table 12.2 outlines the data collection and the selected informants of the study.

Data analysis commenced with reviewing the interview transcripts and highlighting significant issues regarding the customer companies and their purchases. We identified the factors affecting the procurement of services and analysed how these factors are connected to purchasing services. Conclusions were then drawn regarding the most important factors with regard to the supplier's aim of servitization. Finally, contributions to the servitization, KAM, and CKM literature were addressed. In the next chapter, the factors affecting customer's procurement of services are reported using the following categorizations that emerged on the basis of the data collection topics, as well as during the data analysis: (1) Basic company characteristics; (2) Customer's business, products and processes; (3) Procurement

Table 12.2 Outline of the informants and collected data

Supplier informants	Customer informants
<i>Supplier A—Customers A1–A4</i>	
Managing director, technical director, director, product line director, purchasing manager, product manager, project manager, regional manager, two team leaders	Development director, real estate manager, development manager, project engineer
n = 10	n = 4
<i>Supplier B—Customers B1–B6</i>	
Managing director, main owner, three directors, marketing manager, administrative manager, two product line managers, sales manager, maintenance manager, spare parts manager, repair and maintenance supervisor	Three managing directors, technical director, production director, maintenance manager, spare parts manager, production engineer
n = 13	n = 8
<i>Supplier C—Customers C1–C4</i>	
Managing director, R&D director, three directors, manager, product manager, service manager	Managing director, purchasing manager, production manager, production supervisor
n = 8	n = 4
Supplier n (total) = 31	Customer n (total) = 16

strategy, function and practices; and (4) Value expectations and purchasing criteria. To increase the reliability of the study, findings are reported using direct quotations from the interviews.

12.4 Customer Factors Affecting the Procurement of Industrial Services

12.4.1 Basic Company Characteristics

When asked about the differences between customers, company size seemed to emerge as a key factor affecting service procurement in several ways. An interviewee of Supplier B stated that smaller companies may not be as eager to buy services as bigger companies as they are more willing and capable of repairing and maintaining machines by themselves: *‘These small workshops... when they purchase a machine they want to maintain it themselves. It’s like owning a car. Some people take the car to a garage, while others change the oil themselves. And the*

bigger the company, the more likely they will want to be sure that machine breakdowns won't cause a break in production' (Supplier B). On the other hand, small companies may lack, for example, engineering competence, which may motivate them to purchase larger service packages including engineering. In such cases, the limited resources of a small company may provide opportunities for a supplier to offer complementary resources. However, the sales volumes of small customers may never reach those of bigger customers and, in the present study, such small-scale projects were characterized by poor profitability. On the other hand, a representative of Supplier B considered bargaining with bigger clients to be expensive, as the following quote illustrates: *'There are usually at least ten people ... in the delegation attending the negotiations. Bargaining with them can get expensive because there's usually a lot of wining and dining involved.'*

All of the studied supplier companies were family-owned and, especially for one customer, having a similar organizational culture to theirs was an important factor affecting the procurement of services, as one CEO (Customer B5) described: *'Things can be discussed at the owner level, too. Compared to stock listed companies, we are closer to those kinds of suppliers as they have a similar mind-set to us. Changes don't happen as quick, but long-term cooperation and partnership are valued. You can trust one another.'* Customers thus considered that a supplier with a similar background to them would be more likely to understand their business.

12.4.2 Customer's Business, Products and Processes

The studied customer companies differed in terms of their core businesses and the role of manufacturing in their business, although the majority was highly 'manufacturing-centric'. The importance of manufacturing may affect how customers value manufacturing and invest in repair and maintenance. On the other hand, Customer B5, for example, does not manufacture but provides construction equipment rental services and seldom purchases services as this is their own core business: *'If we run out of ideas of how to fix a machine, Supplier B takes care of it. However, we have to know how to fix our machines ourselves. It's our promise to our customers'* (Customer B5).

A common servitization approach among suppliers was to augment previous machine deliveries with services. They gathered knowledge on the customers using their technology and offered additional services to them. One interviewed customer considered the main benefit of purchasing services from the same supplier that delivered the products was the supplier's competence in their 'own' technology: *'In the ideal situation the supplier (which has delivered the machine) offers the best possible maintenance. They know the machine. I think this is a useful role for an importer. For example, Company x offers general machine maintenance, they don't have special expertise...in the future, machines will be even more complicated with a lot of technology... the one who has the competence will be the winner in industrial services, then'* (Customer B1). Similarly, Customer

C3 confirmed: *'We tend to centralize our purchases. It makes it easier for the users and the maintenance personnel, not having a different machine on each production line. They know how ... the machine works. And then we get the spare parts ... for repair and maintenance we can agree on the timetable (with Supplier C) and stop several production lines at the same time.'* It also makes the customer's life easier to purchase products and services on a one-stop shop principle: *'Customers want services, too, a total solution. They want to buy everything from the same place'* (Supplier A). Thus, the customers saw several benefits accruing from the same supplier providing both the technology and the related services. Knowing the customer's manufacturing technology was regarded as pivotal, as a supplier is thus not limited to offering services regarding their 'own' technology, but also other supplier's technology.

The data provides several indications of how customer's technological competence affects service procurement. According to the interviewed suppliers, technological competence varied considerably among the customers, as one director described: *'Some are highly technical and extremely knowledgeable, whereas with others ... you wonder whether they've ever bought one before—do they really have any idea what they're buying'* (Supplier B). Although some customers invested in their own repair and maintenance (R&M) function, the level of technological competence was not necessarily high, as a representative of Supplier A stated: *'The manufacturer (i.e. machine supplier) always has the right expertise. We've noticed this during audits. Although there were customer's own repair and maintenance personnel they aren't able to do anything special beyond basic maintenance tasks.'* Especially technology that requires special expertise may encourage the customer to purchase R&M services from the manufacturer or importer who knows the machine best. Similarly to R&M services, services such as safety audits provide the customer with competences they do not have themselves. Suppliers may thus—when knowing the customer's competencies—discover potential for selling services that complement these competencies.

The data also revealed how customers differ regarding the extent to which they are able or prepared to make information on their future plans, such as investment plans, known to suppliers. The ability of a stock listed company to release such information is naturally limited. However, in the present study, family-owned companies, in particular, discussed their future plans openly, sharing confidential information with suppliers. Supplier B described their strategic aim of being involved as early as possible in their customer's investment plans: *'We're especially interested in whether they have new machine acquisitions in the offing, or any other big changes where we could assist the customer.'* Early involvement in investment plans may increase opportunities to sell technology and/or services to the customer.

The ways in which customers categorize their own products can affect how they purchase services. For example, Customer B6 categorizes its products, which it rents to its customers, in three categories according to products' self-sufficiency and criticality to its business. Products in which Customer B6 has 100 % self-sufficiency are classed as the most important and are invested in most. Services are

also most likely to be purchased for these products. Customer B6 even described itself as ‘married’ to Supplier B in terms of certain critical products, as they are unable to readily change the strategic categorization of their products or the related service suppliers.

The criticality of a machine to the manufacturing process can influence the procurement of services. Customers are likely to invest more in maintaining machines that are critical to maintaining a trouble- and stoppage-free manufacturing process: *‘If something unexpected happens, in most cases they (Supplier B) are already here. Those machines are critical... machine tools, especially, are such huge investments that they have to run reliably’* (Customer B2). Similarly, in another business field, Supplier C has been able to sell service contracts to all of its pharmacist customers (e.g. Customer C4) as the robotic medication storage and retrieval system manufacturer is at the core of its customer’s business, bringing them significant benefits in terms of core process effectiveness.

Knowledge about customer’s core and non-core processes can open up opportunities for suppliers to offer additional services to their customers. Customers are likely to invest most in services that focus on their core processes, and non-core processes are most likely to be fully outsourced. On the other hand, customers may invest in their own R&M function in cases where they cannot afford to risk production downtime and need to have the competence in house. The closer supplier gets to the customer’s core processes, the stronger and more critical the position of the supplier becomes. The data thus indicated that knowing the customer’s processes and strategically important products and machines is pivotal in evaluating the future potential for selling services to the customer.

However, Supplier B encountered an obstacle in attempting to broaden its service offering by renting certain construction machines as this service was already the core business of their customers: *‘We are not a rental company. That’s why we can’t go straight to the end customer, because we’d basically short-circuit the construction machine rental company. I don’t want to compete with my customer’* (Supplier B). Thus, the supplier assessed the customer’s position in the value chain and took the decision not to pursue servitization through the provision of rental services.

12.4.3 Procurement Strategy, Function and Practices

Customer’s outsourcing strategies were shown to be a central factor affecting their service procurement. The studied customers differed in terms of whether they had their own R&M function. Some customers (e.g. Customers A3, B1, and C2) had outsourced repair and maintenance work completely as a strategic efficiency improvement decision. Some customers (e.g. Customers A2, B5, and C3) had their own R&M function but also purchased complementary R&M services from suppliers. The data indicated that it was essential for suppliers to know both the present strategy of the customer as well as, more importantly, their future

development strategy—which operations will be insourced and which ones may be outsourced.

Interviewees were asked about the structure of their customer's procurement functions, who are the main counterparts between the supplier and customer, and who makes the purchase decisions. Some customers had a centralized purchasing function while others purchased through different organizational units. The CEO or the owner was typically the main contact person and decision maker in smaller companies. In larger companies, the main contact person was the production manager or a representative of the procurement function. However, in some cases, especially with large customer companies, the customer's purchasing organization was complex and challenging to grasp for the supplier, as the following statement by Customer C1 illustrates: *'Vehicle parts procurement has its own unit, which is divided into component sourcing, with its own sourcing manager, and vehicle parts sourcing... then, purchasing support operations are my responsibility, and we're not a part of a procurement organization... then, when it comes to spare parts, there's another separate unit. So we purchase from three places. Then, in manufacturing, there's so-called strategic sourcing, which isn't included in the procurement function but in manufacturing. Strategic sourcing focuses on the selection of suppliers, contracts and prices. Daily operational cooperation (with the suppliers) takes place through the logistics unit.'* (Customer C1). In many cases the production manager approves purchases up to a certain cost limit, beyond which more expensive purchases require additional upper management approval. Furthermore, when aiming at selling services instead of technology, the contact person may not be the same as previously. The studied suppliers were aware that purchase decisions could be influenced by several persons within a customer organization in addition to the main decision maker or purchaser, such as production line employees. Finding the right counterpart(s) in a customer organization was thus identified as critical to servitization.

In addition, knowledge about a customer's other suppliers can be beneficial to a supplier. For example, a representative of Supplier C emphasized the importance of knowing which companies provide R&M services to the customer, as occasionally Supplier C may be able to sell their special expertise to these companies.

12.4.4 Value Expectations and Purchasing Criteria

When asked about purchasing criteria, a representative of Customer C3 stressed the following: *'We look for trouble-free solutions and reliability, as our production lines have to roll five days a week, 24 hours a day without interruption.'* The representative went on to describe how Supplier C makes his work easier: *'Those guys have been with us for several years now. They know our hygiene rules (within the food processing lines) and know how to take care of all that for us. That makes my work a lot easier because I don't have to be watching over them the whole time.'* Another customer, which completely outsourced its R&M to Supplier B,

described the reasons behind their satisfaction as follows: *'They have very carefully planned and analysed our machinery and its optimal maintenance... These days they work pretty much independently, we get input from them, we don't have to push them, instead they make things easy for us, and that's how it should be'* (Customer B2). In other words, the customer values the supplier taking a larger manufacturing responsibility and contributing new ideas and perspectives. In contrast, another customer criticized Supplier B for not giving their full support to their business and that this, ultimately, affects how much they are willing to purchase their services: *'No salesman has ever, ever, during our entire 30 years of cooperation, asked me how am I doing 'business-wise', how am I coping with my customers, or suggested visiting a customer together, for example. If they were more interested in our business, and how we could do better business, they'd be able to sell more to us'* (Customer B5).

Another customer emphasized availability and fast service delivery with regard to spare parts, for which there only exists one supplier: *'The only thing that matters then is availability, how fast can you get it? That's the most important thing. In these cases, price is meaningless'* (Customer A1). On the other hand, with regard to bulk services, price was the central decision-making criterion, as one customer confirmed: *'Services such as building maintenance, cleaning and security services, for example... are very price driven'* (Customer A1).

One of the interviewed customers challenged Supplier B in a way that could lead to significant changes to the supplier's service business: *'Another challenge... I don't know whether it's even realistic, would be to change the revenue logic, i.e. instead of being based just on hours, there would be some other drivers defining the revenue logic, perhaps the utilization rate of the machines, or something else?'* (Customer B2). In other words, suppliers were urged to find out what different customers value and to plan their service pricing models accordingly.

The studied customers varied considerably in terms of what kind of cooperation and customer experience they expect. In some cases, services require close and long-term cooperation in order to learn and adapt to the customer's operations. Some customers (e.g. Customer B2) valued close cooperation involving working and solving problems together at the manufacturing line. Other customers valued services that are effortless and 'out of sight, out of mind' (Customer C3) or in which they are kept informed only of the most critical issues (Customer B3). Customer A3 saw a downside to close cooperation: *'Every time we ask them to visit us the price of the project goes up a hundred thousand euros.'* As the result of various value expectations, the suppliers aimed at adjusting their services and agreeing on a suitable extent and depth of cooperation with the customers.

The suppliers also noticed that the purchasers vary in terms of the decision making criteria or benefits that they stress in their decision making. The suppliers also considered purchasers with a technical background to be more interested in technical details, whereas 'professional purchasers' stress costs: *'They do differ, the users think more about the use of the machine, the professional purchasers stress the euros more'* (Supplier A). As a result of these observations, the suppliers adapted their selling arguments and offering according to the characteristics of

their customer companies, but also according to the background and preferences of individual purchasers.

Similarly, Supplier C stressed the importance of knowing the customer thoroughly in servitization: *‘I think understanding the customer starts with understanding that they are all individuals. If you don’t know your customer well enough you’ll end up trying to sell your own thing, but you won’t be able to tailor your way of selling to the customer, you won’t have the right selling arguments...’* To acquire the needed knowledge about the customer, personal customer interaction was recognized as pivotal, as two representatives of Supplier C stated: *‘When we get to visit the customer, to spend time there on the production line, we can discover new customer needs.’ ‘If you don’t spend time with your customers, you won’t get the customer knowledge you need. You’ll end up thinking you know what they need.’*

12.4.5 Summary of Factors Affecting Service Procurement

To summarize the empirical findings, the factors affecting customer’s service procurement are outlined in Table 12.3.

In servitization, knowledge of the above customer factors is essential for suppliers. This knowledge should be analyzed more in depth by the supplier organization to adjust their service offering and cooperation with the customer according to the customer’s specific needs and preferences. Instead of the basic customer company characteristics (e.g. size), the influence of customers’ business, procurement, and value expectations were emphasized in the data. Next, we present the conclusions drawn on the basis of this study.

12.5 Customer Knowledge Management for Enhanced Servitization

12.5.1 Theoretical Contributions

Customer orientation, acknowledged as a central success factor in servitization, results in changes in supplier’s service offering and customer interaction (Oliva and Kallenberg 2003). However, our study suggests that customer orientation in servitization is not only about undertaking changes in the offering and the nature of customer interaction, but actually focusing *on* the customer and acquiring knowledge about customers in the interest of servitization. We argue that acquiring deep customer-specific knowledge is key to increasing customer orientation in servitization. Consequently, our study proposes that customer knowledge management can be used for analysing and identifying customers of strategic

Table 12.3 Summary of customer factors affecting service procurement

Basic company characteristics

- Company size
- Organizational culture
- Position in value chain

Customer's business

- Core business
- Products and product categorization
- Role of manufacturing
- Technological competencies
- Manufacturing technology
- Core and non-core processes
- Investment plans

Procurement

- Outsourcing strategy
- Repair and maintenance function
- Procurement function
- Decision-making process
- Purchaser and others involved in decision making
- Background and orientation of the purchaser
- Supplier base

Value expectations

- Benefits and customer experience
 - Extent and depth of cooperation
 - Purchasing criteria
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importance with regard to their potential for purchasing industrial services. Key account management plays a pivotal role in organizing and managing servitization as it focuses on building and maintaining long-term relationships with key customers. Key account managers are responsible for analysing customers and creating understanding of customer's business and needs and communicating customer knowledge in their organization (cf. García-Murillo and Annabi 2002; Millman and Wilson 1995; Nätti et al. 2006; Ojasalo 2001).

This study builds a bridge between the theoretical domains of servitization, key account management and customer knowledge management, and creates new understanding with regard to why and how b-to-b customers purchase industrial services. The results show that a customer's service procurement is most influenced by its outsourcing strategy, manufacturing technology, level of technological competency, procurement function structure, and expectations for benefits and customer experience. Consequently, acquiring knowledge about a customer's outsourcing strategy, repair and maintenance function and level of technological competency allows the supplier to discover opportunities to complement the customer's resources and competencies with its services. Acquiring knowledge about the customer's manufacturing in terms of machines, processes and

investment plans may also open up new service business opportunities for suppliers as they may complement both previously and presently supplied machinery with service contracts, for example. Knowing the customer's procurement function and practices is essential for discovering the right customer counterpart for negotiating industrial services, as the contact person may not be the same as when selling machinery. In addition to the customer company itself, knowledge about the customer's business network may offer possibilities to sell services to other companies within this network. Finally, knowledge about company-level value expectations as well as individual purchaser expectations regarding customer experience and cooperation were identified as essential customer knowledge for servitization purposes.

This study contributes to the servitization literature emphasizing the customer centricity of solutions (e.g. Baines et al. 2009; Brax and Jonsson 2009; Davies et al. 2006; Hakanen and Jaakkola 2012; Oliva and Kallenberg 2003; Sawhney 2006; Tuli et al. 2007) and customer knowledge management literature (e.g. García-Murillo and Annabi 2002; Gebert et al. 2003; Gibbert et al. 2002; Salojärvi and Sainio 2010) by presenting rich empirical evidence on the customer knowledge that is required in servitization. Annual customer satisfaction surveys seldom provide sufficient means for developing and selling services more effectively. Instead, more thorough customer-specific knowledge is required. Our study also supports the notion that customer knowledge needs to be continuously evaluated (cf. Salojärvi and Sainio 2010) as customers—their business, strategy, and organization—change over time.

The commonly recognized main selection criteria for key accounts include sales volume, length of relationship, and profitability (McDonald et al. 1997; Millman and Wilson 1995; Ojasalo 2001). This study contributes to the key account management literature by complementing the selection criteria with the identified customer factors, which provide means for analysing and selecting customers that are of most importance with regard to servitization. Compared to the current KAM literature and the selection criteria for key accounts, of which the majority are based on past experience with customers, the contribution of this study focuses more on future business opportunities and potential new customers. With regard to KAM literature, our study also provides new knowledge on 'organizing for KAM' which was recognized as an under-researched topic within the KAM literature, although being of high relevance for practitioners (Guesalaga and Johnston 2010).

12.5.2 Managerial Implications

The results of our study provide support and advice especially for the management and key account managers of companies offering industrial services to business customers. Companies are encouraged to increase their understanding of their customer's business and service procurement motives in order to have better

possibilities to influence their customer's purchasing decisions. We encourage companies to obtain customer knowledge through conversations with both present and potential new customers, as more thorough knowledge is needed on customer's strategy, repair and maintenance function, manufacturing, procurement practices and future plans than companies usually present in public. In essence, customer-centric servitization comes down to identifying how the supplier's services and competencies could complement the customer's strategy, organization and competencies—how the supplier could find ways to integrate itself into the customer's business and manufacturing both technologically and organizationally.

To enhance customer-centricity in servitization, companies need to analyse their customers first and align their offering and the nature of their customer interaction accordingly. The summary of factors affecting service procurement outlined in Table 12.3 provides a checklist for supplier companies in customer knowledge management when striving for servitization. As companies may have hundreds of customers, the results of this study provide a means to thoroughly analyse selected customers and to identify those with the most potential for purchasing services, thus resulting in more effective and focused sales and marketing. The identified customer factors may also provide a means for servitization-based customer segmentation.

It is the responsibility of the management to make decisions on how to utilize customer knowledge in line with the servitization strategy and solutions development. However, acquiring and utilizing thorough customer knowledge demands resources as well as agreement on the required practices in the development and utilization of common customer understanding within the organization.

12.5.3 Limitations and Suggestions for Future Research

Certain limitations of this study deserve consideration and offer possibilities for future research. Firstly, the study covered a limited number of companies, which poses challenges with regard to generalizability. On the other hand, rich empirical insight into the topic was achieved. However, this qualitative exploratory study addressing the factors affecting the procurement of services builds, rather than tests, theory. As a consequence, the study provides possibilities for scholars to conduct further quantitative research on the same topic. For example, the proposed customer factors and their relation to purchased solutions or, for example, to customer-supplier relationships could be studied in more general terms. As industrial services defined the scope of this study, studying service procurement and customer knowledge management in other industries and contexts could also provide interesting avenues for future research.

The effective utilization of CKM in servitization is also an interesting area for further research. As the emphasis of the present study was on the acquisition of customer knowledge, we call for more research on the dissemination and utilization of customer knowledge. How can suppliers effectively utilize customer

knowledge in servitization? What kinds of tools and practices would enhance customer knowledge dissemination and utilization in servitization?

As argued the role of key account management is pivotal to promoting customer understanding in servitization. We therefore also call for further research on KAM in servitization. In addition to addressing the role of KAM operations, the role of other employees in customer knowledge management could be addressed, as in service business customer knowledge is gained collectively by several employees. In this respect, an interesting topic for further study would be how the customer knowledge of all employees operating within the customer interface can be acquired, disseminated and utilized in servitization.

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