Constructing Customer Knowledge in Knowledge-Intensive Customer Relationships

Abstract

Knowing your customers and their needs is a topic that has attracted increasing interest in the business and academic worlds. In line with this, constructing customer knowledge has come under examination in this study. A firm's ability to construct customer knowledge creates solid ground for responding better to its customers' needs. In the business-to-business markets, customers are demanding increasingly knowledge-intensive services. Therefore, examining the topic is particularly important in this specific context. In this study, the purpose is to find out how customer knowledge is constructed in knowledge-intensive customer relationships. To accomplish this purpose, a qualitative multiple case study is organized around seven case relationships allowing within-case and cross-case comparisons. The findings of this study describe a variety of practices knowledge-intensive firms can utilize in constructing customer knowledge in their daily activities. This study helps KIBS organisations in their efforts to create a source of competitive advantage as customer knowledge is a critical asset for firms, especially in a fast-changing knowledge-intensive environment.

Keywords: Knowledge-intensive business services; business-to-business, customer relationships, customer knowledge
1. Introduction

In recent years, recognizing the customer’s needs and, thus, constructing customer knowledge has become an important topic in the business world. These issues have also reached the academic world. Customer knowledge as a critical asset as well as gathering, sharing and utilizing customer knowledge as a source of competitive advantage have been addressed by several researchers (e.g. Slater & Narver, 1995; Harrison-Walker, 2001; Salojärvi & Sainio, 2006; Khodakarami & Chan, 2013; Tseng & Wu, 2014).

However, customer knowledge has received relatively little attention in research, and little is known about how firms learn to know their customers (Salojärvi & Sainio, 2006; Khodakarami & Chan, 2013). For firms competing in extremely competitive environments, such as in knowledge-intensive business services (KIBS), it is necessary to understand how to develop a competitive advantage (Kriz et al., 2014).

KIBS rely strongly on professional knowledge or expertise related to a specific discipline or functional domain (Den Hertog, 2000). Thus, in the KIBS sector, knowledge is considered the most important resource (Doloreux et al., 2019) where construction of customer knowledge plays a key role. Generally, KIBS that seek external knowledge from more sources and at a higher intensity reflect their perception that information has a higher strategic value for developing different business-related decisions (Doloreux et al., 2019). Knowledge creation ability depends to a large extent on an organization's ability to combine knowledge from various sources (Khodakarami & Chan, 2013).

By increasing the level of customer knowledge, firms can provide and develop offerings that include value to the customer. The better the firm can utilize its customer knowledge assets, the better the firm can provide value to its customers and the more likely it is to achieve a competitive advantage as the customers are likely to continue buying from the firm providing the highest value. (Salojärvi & Sainio, 2006.) Firms
striving to lead in their field should focus on continual learning and applying their customer knowledge to anticipate market changes (Lara et al., 2012). Some of the customer knowledge is easy to receive, but more complex knowledge of the customer’s business is more difficult to access (Ritala et al., 2013). Thus, constructing customer knowledge, while potentially very beneficial for firms, is not a simple task in practice.

The purpose of this study is to examine *how customer knowledge is constructed in knowledge-intensive customer relationships* and, thereby, provide insights into how everyday activities in firms could support that purpose. This study is also interested in whether customer knowledge is constructed similarly in firms operating in different fields of KIBS and if there are differences in the construction of customer knowledge between different types of customer relationships of the same KIBS firm. The existing literature is mainly focused on discussing customer knowledge from the viewpoint of knowledge management. Only little is known about the construction of customer knowledge in different customer relationships in the KIBS environment.

In the following section, the existing literature is first reviewed to combine knowledge of the knowledge-intensive service relationships as well as customer knowledge and its construction to form the basis for empirical examination. Two KIBS firms operating in different areas of expertise form the empirical context of this study, where the key informants of both the case firms and their customers are examined. Qualitative data collected by face-to-face interviews will be utilized in analyzing the empirical evidence in within-case and cross-case comparisons. In the discussion, the findings and theoretical contributions of this study are presented followed by managerial implications, limitations, and future research suggestions.
2. Literature review

2.1 Collaborative knowledge-intensive customer relationships

There is no single picture of B2B relationships; thus, they can vary from transactional relationships to long-term, collaborative relationships (Heikka & Nätti, 2018). However, established knowledge-intensive customer relationships are typically characterized by long-term and close customer relationships (Den Hertog, 2000). That is because providing knowledge-intensive services is strongly dependent on sharing knowledge (Martin et al., 1999), and a familiar counterpart on its part decreases the experienced risk related to sharing confidential business-related information (Karantinou & Hogg, 2009).

Firms may utilize customer knowledge to develop relationships with new customers. Furthermore, by constructing knowledge about and from customers, firms might sense new opportunities and apply this knowledge also in the development of established customer relationships. (Tseng & Wu, 2014.) Besides, to improve relationships with the customer, customer knowledge can be used to enhance service quality (Martin et al., 1999; Alam & Perry, 2002; Tseng & Wu, 2014). Collaboration between the customer and the firm, in any case, increases customer knowledge, and a long-term customer relationship provides a good condition for the optimal utilization of customer knowledge (Anderson et al., 2011).

Customers interact with the organization’s business processes in many ways. To understand how the customer interacts, the organization needs to gain knowledge about the customer. For example, an ad hoc customer might be interested in the offering only at a basic level, whereas a more sophisticated customer might interact with the organization in other ways. These interactions define the customer’s relationship with the organization and how the customer interacts with the organization (Blosch, 2000.)

However, collaboration is fruitful only when there is trust, and collaboration provides mutual benefits both to the customer and the firm (Matthing et al., 2004; Jimenez-Zarco
et al., 2011). Collaboration also increases the organizational performance (Jimenez-Zarco et al., 2011) of the knowledge-intensive firm by providing access to customer firm’s resources such as customer knowledge, expertise, markets and technologies (Ngugi et al., 2010). Utilization of customer knowledge allows the firm to have access to different perspectives, which may lead to the generation of new business-related ideas (Sundbo, 2002; Jimenez-Zarco et al., 2011; Nicolajsen & Scupola, 2011). Firms can also utilize customer knowledge to increase the quantity and scope of innovation and business expertise regarding certain customers (Hua et al., 2013).

Most importantly, collaboration alongside increasing customer knowledge capital provides for the firm a more detailed understanding of the customer’s needs (Dörner et al., 2011), which is particularly important since knowledge-intensive business services are typically customized to fit the specific needs of the customers (Heikka et al., 2018). Since customer knowledge is an important source of competitive advantage, firms should construct valuable customer knowledge to be able to improve their relationship with the customer in every type of customer relationship from new to established ones (Tseng & Wu, 2014) and to customize their offering based on customer needs (Heikka et al., 2018).

2.2 Customer knowledge and its construction

Customer knowledge can be categorized as 1) knowledge for customers (provided to customers to satisfy their knowledge needs), 2) knowledge about customers (gathered to understand the customer's needs and motivations to provide them with a customized offering), and 3) knowledge from customers (obtained through interaction with the customer concerning the customer's knowledge of products, markets, and providers) (Gebert et al., 2003; Salojärvi & Sainio, 2006; Khodakarami & Chan, 2013). In this study, the construction of customer knowledge means all the activities a firm carries out to gain
knowledge about and from its customers, as in the literature knowledge about and from customers are seen as the most important for continuous organizational improvement in a firm (Khodakarami & Chan, 2013).

The characteristics of customer knowledge can be divided into need heterogeneity and need tacitness. Customer need heterogeneity means that each customer has unique preferences for features and specifications in an offering (Cui & Wu, 2016). Customer need tacitness, on the other hand, means the degree to how difficult customer knowledge is to communicate across individuals or organizations (Ganesan et al., 2005; Subramaniam & Venkatraman, 2001).

In general, knowledge is created in an organization through a never-ending four-stage process: 1) socialization (sharing tacit knowledge through social interaction), 2) externalization (formulating tacit knowledge into explicit knowledge), 3) combination (integrating explicit knowledge to create new knowledge, and 4) internalization (understanding explicit knowledge and integrating it into business practices) (Nonaka et al., 1996).

It is very valuable to systematically construct customer knowledge (Ritala et al., 2013). Customer knowledge can be gathered from different sources within and outside of an organization (Khodakarami & Chan, 2013). Some of the necessary knowledge is codified and easy to receive, but that related to complex linkages in the customer’s business or decision-making is much more difficult to access (Ritala et al., 2013).

Open communication positively influences (Foley & Fahy, 2004) the construction of customer knowledge, which implies the combination of situational sensitivity and a deep understanding of what is relevant for the customer, as the knowledge is gathered in intensive interaction with the customer (Ritala et al., 2013). One potential method is spending and observing a day in the life of the customer (Day, 2002). It is important to
encourage the customer to enter and knowledge sharing (Ritala et al., 2013) and then utilize the knowledge by guiding the customer’s choices (Day, 2002; Ritala et al., 2013), where a shared knowledge base inside the firm will help (Day, 2002). There are several ways to encourage collaboration, such as holding meetings or conducting interviews with customers (Alam & Perry, 2002), resulting in the construction of customer knowledge.

As the organization changes, and as the customers change, so will interactions between the organization and the customer. It is important to understand the relationship between the organization and the customer as dynamic, one which must be constantly monitored (Blosch, 2000). A wide range of information (CRM) systems can be used to integrate customer knowledge sources to facilitate the construction of customer knowledge and monitor these interactions automatically (Blosch, 2000; Khodakarami & Chan, 2013).

Managers are continually exposed to data ranging from statistics to sales reports (Day, 2002), and they should purposefully utilize previous customer experiences and accumulated customer knowledge (Ritala et al., 2013). However, firms should aim at a holistic understanding of the competitive environment (Salojärvi & Sainio, 2006), which means that constructing customer knowledge requires that every employee at every level of the firm is committed to this goal (Day, 2002). In rapidly changing markets, one person cannot keep track of continuous changes. Thus, cross-functional collaboration within a firm can provide significant advantages (Salojärvi & Sainio, 2006). The framework of the study is presented in figure 1.
3. Methodology

3.1 The empirical setting

The current study is a qualitative multiple-case study. This study aims to gain an in-depth understanding and detailed description of the research phenomenon, which is a goal that is achieved most efficiently by using qualitative methods (Gummesson, 2005). The case-study methodology allows the research phenomenon to be explored in detail in its specific knowledge-intensive context, which is particularly important in a situation where the boundaries of the context and the research phenomenon are blurry (Yin, 2009, p. 180).
Organizational aspects, such as constructing customer knowledge in knowledge-intensive organizations, and the relationships between organizations, such as in knowledge-intensive customer relationships, represent examples of business-to-business phenomena that occur within rich contexts and especially benefit from utilizing the case study method (Johnston et al., 1999).

The empirical context of this study consists of two knowledge-intensive organizations in a Nordic country. This study examined the construction of customer knowledge by collecting qualitative data in knowledge-intensive customer relationships. The views of case firms were collected in two instances. First, a first-round of face-to-face interviews were conducted to get the first insight into the phenomenon. Thereafter, the second round of face-to-face interviews with open-ended questions regarding the construction of customer knowledge was conducted. The second data collection round was conducted two years after the first data collection round.

3.2 Data collection

This study includes two case firms operating in different fields of KIBS. The first case firm is called Alpha in this study. Alpha is a local SME offering education and consulting services for business and public sector customers. Alpha has long experience in training large-scale industry and SMEs in various fields, such as engineering and health businesses focusing especially on training concerning leadership and production. The second case firm is called Beta in this study. Beta is a large global KIBS provider offering engineering and consulting services in business-to-business markets. Its customers operate in various fields of KIBS, such as chemical, metal and water businesses.

A total of 30 face-to-face interviews were conducted with the two case firms and their customers as a primary data collection method in this study. Viewpoints of both case
firms and their customers were obtained to provide complementary information on research phenomenon and to aid in data triangulation (e.g. Aarikka-Stenroos and Jaakkola, 2012). Interviewees were selected to include key informants through their everyday work tasks, both in case firms and in their customer firms regarding the research phenomenon in question.

As the first data collection round in 2011 provided a relatively general overview of the construction of customer knowledge, the researcher conducted a second data collection round in 2013 among another knowledge-intensive firm and its customers to build a comprehensive understanding of the phenomenon.

3.3 Description of the cases

The two case firms and their seven customers were purposefully chosen for this study since they provide a diverse setting for a comparison of constructing customer knowledge in different KIBS firms and, thus, provide a useful basis for analysis. Both case firms of this study provide knowledge-intensive services in business-to-business markets, and their offerings are modular and, thus, customizable according to customer needs. The case firms differ in terms of their size and field of KIBS. This study includes three customers of Alpha and four customers of Beta. Next, the customers of Alpha and Beta are presented, and the type of customer relationship the customer has with Alpha or with Beta is described.

Case relationships of Alpha

Case relationship 1

The customer has a very long relationship with Alpha, and they have been working together on different issues, such as project management training, management degrees,
leadership seminars and training concerning the strategy process. The customer relationship first started during the 1990s.

Case relationship 2

The customer has worked with Alpha for over a decade. The customer relationship is good and close. The customer and Alpha have been working together on, for example, a large specialist qualification in leadership, which lasted one and a half years and in which all supervisors and members of the executive team participated. Besides, their sales staff participate in sales training. In the long run, the whole staff participates in different trainings.

Case relationship 3

The customer has worked for over a decade with Alpha. The customer relationship with Alpha could be described as similar to a partnership. The customer has had collaborations where they participated in customizing the training packages with Alpha. Alpha either orders a part of the course or the whole course from the customer. The customer executes a few courses a year in this kind of collaboration.

Case relationships of Beta

Case relationship 4

Beta has been involved in different projects with the customer for over a decade locally but also nationally. The customer produces chemicals focusing on water purification technology. Thus, the customer needs help with planning and technical support for their industrial processes. Beta is one of the providers the customer uses.
Case relationship 5

The customer and Beta have a long-term relationship, but this was the first collaboration in the mining department. The customer aimed to gain experience in this kind of collaboration and optimize its use of resources. This kind of project usually proceeds through tenders, but in this situation, there was no greater need for it since Beta's price level was identified as normal.

Case relationship 6

The customer has a long-term relationship with Beta. The customer operates in the water purification industry and has a network of firms offering planning services. The customer is a municipal organization and is, therefore, a little more bound by municipal procurement laws.

Case relationship 7

The customer relationship between the customer and Beta started in 2009. This customer is a locally operating small actor with four people on its payroll. Thus, the customer uses a lot of subcontractors for operational work. Beta is one of the providers the customer uses.

3.4 Data analysis

The interviewees worked in different organizational roles, but all of them could be characterized as key informants regarding the research phenomenon in question. The two interview rounds also included interviews with the customers of both case firms. The customer perspective is especially relevant in this study since constructing customer knowledge occurs in a dyadic customer relationship. During the first data collection
round, semi-structured interviews were utilized. During the second data collection round narrative open-ended questions were utilized to build a comprehensive understanding of the phenomenon. During the face-to-face interviews, the interviewees could raise also themes that were not mentioned by the interviewer.

The general information of the case firms was collected from web pages, brochures, annual reports, memoranda from the meetings, and other documentation the researcher was able to access. This secondary data also serves as a means of ‘perceptual triangulation’, which on its part, helps to gain a complete description of the phenomenon (Bonoma, 1985; Perry, 1998). The details of the interviews are summarized in Table 1.

Table 1. Details of the interviews.

<table>
<thead>
<tr>
<th>Firm</th>
<th>Field of business</th>
<th>Interviewee</th>
<th>Time</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Alpha</strong></td>
<td>KIBS (Education)</td>
<td>Deputy General Manager Lecturer</td>
<td>1.4.2011</td>
<td>40 min</td>
</tr>
<tr>
<td>Customer of Alpha</td>
<td>Health</td>
<td>Member of the executive team</td>
<td>23.6.2011</td>
<td>28 min</td>
</tr>
<tr>
<td>Customer of Alpha</td>
<td>IT</td>
<td>Manager</td>
<td>4.7.2011</td>
<td>55 min</td>
</tr>
<tr>
<td>Customer of Alpha</td>
<td>Education</td>
<td>Educator</td>
<td>16.7.2011</td>
<td>32 min</td>
</tr>
<tr>
<td><strong>Beta</strong></td>
<td>KIBS (Engineering)</td>
<td>Head of the unit Engineer</td>
<td>11.2.2013</td>
<td>57 min</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Manager</td>
<td>18.4.2013</td>
<td>1 h</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Head of the department Engineer</td>
<td>29.3.2013</td>
<td>1h 13 min</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Head of the department Manager</td>
<td>18.4.2013</td>
<td>53 min</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Head of the department Engineer</td>
<td>18.4.2013</td>
<td>58 min</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Head of the department Manager</td>
<td>19.4.2013</td>
<td>40 min</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Manager</td>
<td>19.4.2013</td>
<td>47 min</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Manager</td>
<td>27.3.2013</td>
<td>56 min</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Head of the department Manager</td>
<td>13.3.2013</td>
<td>83 min</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Engineer</td>
<td>18.3.2013</td>
<td>1 h 3 min</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Manager</td>
<td>18.3.2013</td>
<td>1 h 5 min</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Engineer</td>
<td>5.3.2013</td>
<td>1 h</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Manager</td>
<td>6.3.2013</td>
<td>1 h 4 min</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Manager</td>
<td>11.2.2013</td>
<td>50 min</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Manager</td>
<td>13.2.2013</td>
<td>48 min</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Engineer</td>
<td>16.3.2013</td>
<td>57 min</td>
</tr>
<tr>
<td>Customer of Beta</td>
<td>Chemicals</td>
<td>Site manager</td>
<td>13.3.2013</td>
<td>1 h 1 min</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Buyer</td>
<td>13.3.2013</td>
<td>52 min</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Manager</td>
<td>13.3.2013</td>
<td>1 h 20 min</td>
</tr>
</tbody>
</table>
Data analysis started with taping and transcribing the interviews. For the qualitative analysis, the qualitative data were analysed by comparing each transcript with the others case by case and by searching for similarities, differences, and recurring themes as well as by allowing new themes to arise from the empirical data. (Perry, 1998). The theory provided a structure with which to categorise the interviews into subsections to capture the meanings underlying the data (Perry, 1998; Guest et al., 2011, 10).

After gaining an overall understanding of the data, within-case and cross-case analyses were carried out simultaneously and the themes of figure 1 guided the analysis. In the within-case analysis, the seven case relationships were divided into specific chunks of texts, which shed light on the topic under study. In the cross-case analysis, differences and similarities between the case relationships and case firms were compared. By comparing cases enabled examining the topic further to ensure an appropriate understanding of the phenomenon. The codes were not pre-determined; rather, the researcher allowed to raise them from the data. The selected codes describe best the different characteristics of the case relationships.

Next, the chain of evidence was made as transparent as possible by proving authentic quotations from the empirical data to increase the validity of this study and to justify the findings of the within-case and cross-case analyses. (Perry, 1998). NVivo software was utilized in organizing and coding the research data.
4. Findings

The empirical data of this study helped to illustrate how customer knowledge is constructed in two KIBS firms operating in different knowledge-intensive fields. In data analysis, the construction of customer knowledge is elaborated in greater detail in different customer relationships (case relationships 1-7) in the KIBS environment.

4.1 Case relationships of Alpha

Case relationship 1

The customer thinks that training for the sake of training does not add any value. The customer points out that it is a matter of discussing with the customer about the customer’s needs and understanding how the customer evolves and changes over time, which is why it is important to monitor the customer relationship constantly. The customer emphasized the role of a discussion twice a year in building a roadmap for the next six months to find areas to collaborate and, thus, constructing customer knowledge. The customer does not think there is a single practice for constructing customer knowledge. On the contrary, it seems that there are many, and they are not exclusive. For example, the customer mentioned various methods for constructing customer knowledge such as business simulations, customer visits and queries on the web, but underlined that they do not replace the need for dialogue. Dialogue would especially help to find new elements and ideas, and this way, the customer would be able to open more of its needs, thus, constructing customer knowledge. The quality manager from the customer supported this:

Training for the sake of training does not add any value. Therefore, you should understand how the firm evolves and that the firm is changing all the time. --- I do not think there is a single practice. Doing queries on the web is one way, but there must be dialogue. It may be that we have recognized needs, but it may be that we have unrecognized needs and dialogue could help in both cases. --- We should unlock what is the real benefit without a huge investment but to see, using a little investment and business simulation if a certain concept makes sense.
The customer believes that the challenge is how to handle the customized needs of the customers. The customer felt that Alpha is willing to customize primarily their existing training programmes. The customer feels it is important that a firm is willing to customize its service offerings also outside existing service packages.

*Case relationship 2*

This customer feels that training is not just training as such but also brings some value for business and benefits from a future perspective. This customer also highlights the importance of customizing the service according to customer needs. According to the customer, customizing the service based on customer needs could be promoted through having a team or a workgroup thinking about what the basic modules could be in a service map or portfolio, which also constructs customer knowledge. The customer mentions that for firms to take their operations and business to the next level, they need comprehensive investment in personnel’s competence development. In that case, it is important to have flexible firm-specific customization concerning training. Member of the executive team of the customer emphasised the importance of this:

> Training we have used have taken us to the next level and have reflected in our key figures and profitability and competence development. The fact that training is customized to our needs has been central to our business. --- A team or workgroup could think about what those basic modules could be in a service map or portfolio. --- The more we analyze our future knowledge needs together, the more we recognize our learning paths. Alpha could provide processes, tools and methods for analyzing the skills, knowledge gaps, and defining the core competencies and future business needs of customers.

This customer mentions discussing with the customer and collaboration concerning analysing and recognising future needs of the customer as prerequisites in constructing customer knowledge, which emphasizes the role of monitoring the customer relationship. Besides, the provider could support the construction of customer knowledge by providing the customer processes, tools and methods for analyzing and defining the knowledge gaps, core competencies and future business needs.
Case relationship 3

This customer highlights also the importance of customizing the content of the training packages according to customer needs. However, the customer reminds that customization might affect the price of the service offering since customizing the content often requires resources. Educator from the customer supported this finding:

*Customizing the content of a training programme is a bit of a resource thing, and we need to negotiate with the management what is possible, and do we get resources for it. However, new elements can be added depending on how much the customer is willing to pay. --- Whatever the needs of the industry are, it can be one thing today and another tomorrow. And customers want different things. It’s hard to respond to every single desire. But we need to follow what the industry thinks and what the world thinks.*

The customer emphasizes that the construction of customer knowledge requires also sensing the overall atmosphere in society and following the industry to recognize future business needs and trends, and to make far-sighted decisions. However, the customer emphasizes that in practice it might be difficult to respond to every single desire of customers since customers in the industry want different things, and those needs can change rapidly.

4.2 Case relationships of Beta

Case relationship 4

The customer feels that years of collaboration creates security and certainty, and when the counterparty is familiar, collaboration is much easier. The customer underlined that collaboration constantly constructs customer knowledge through communication and interaction. The buyer of the customer emphasised:

*Asking "what do you need?" and that kind of general communication or interaction other than just sending an order and getting an order confirmation. I think it's important to sit down and go through a little about what has happened and what is coming.*
The customer feels that it is quite heavy to run a feedback system for evaluating providers. From the viewpoint of the customer, it's a lot easier to take the familiar provider who can quickly get to the job. Because for the customer, it's all going down to schedule and costs in the end. Thus, selecting a provider has a lot to do with the customer’s reputation in performing the job, which is a result of accumulated customer knowledge.

*Case relationship 5*

The customer appreciated the fact that Beta took care of the project according to the customer’s needs. Good collaboration ensured the construction of customer knowledge throughout the project and resulted that no misunderstandings occurred. Head of the department of the customer agreed:

*I was particularly pleased with the collaboration and the technical success and project meeting practices with all the documentation. Site meetings were held every 1–2 months. --- There was a good collaboration with our experts there. That is, these individuals gave what we wanted, and no misunderstandings occurred.*

The customer mentioned that quality of collaboration was supported by the regular meetings in every 1-2 months. Regular meetings ensured the provider’s customer knowledge stayed up to date. The customer thinks that signs of good and high-quality collaboration are that no misunderstandings occur and the fact that the provider can give what the customer wants.

*Case relationship 6*

For the customer, the important source in constructing customer knowledge comes from experiences of previous assignments and projects. The references of skills and work of the provider are evaluated when thinking possible partners, which is a result of accumulated customer knowledge. Head of organization of the customer supported the
importance of this finding:

The qualitative comparisons are made between consultants by their references. They are ranked based on their score, and usually whoever gets the best score gets the work. --- They can get on with the assignment with great flexibility, they have skills to define the task, and the customer's needs are quickly recognized. It is imperative that our consultant is involved in the process and in a way acts as our representative in it and does the technical reviews.

The customer says that the assignment determines how many face-to-face meetings are required and what is the role of geographical proximity in the construction of customer knowledge. The customer has a long-term customer relationship with Beta, and certain people have been in contact for a long time with the customer, for example, concerning certain projects, which creates benefits in terms of construction of customer knowledge. Also, IT systems can help in constructing customer knowledge. The customer felt it was important that their consultant is involved in the process throughout the project, which helps to construct customer knowledge and ensures that no misunderstandings occur.

Case relationship 7

The customer felt that sitting and thinking things through together create a basis for good collaboration and constructs customer knowledge. Collaboration should be flexible, innovative and add something in thinking of alternative ways of working, which on help to construct customer knowledge further. The customer felt that Beta did a great job by gathering all the available information and asking all the right questions as nothing was taken for granted through which their customer knowledge was constructed. CEO of the customer underlined the importance of this:

Beta craved information from different sources from archives with old photos and then designed based on them. They could ask all the right questions when nothing was obvious for them. --- But certain things must be decided with a quick rhythm, and sometimes even with little information. Having the courage to say the opinion face-to-face is what we want, whether the opinion is right or wrong. That's what we need, to tell us what they think so that we can make an informed decision about why we want to do something in a certain way.
The customer feels that the design itself was accurate, but customer felt that Beta spent too much time on precise planning rather than giving the customer a rough opinion about the possible options at the beginning of the project to save time and to assist in the customer’s decision-making. This finding underlines the importance of accumulated customer knowledge.

4.3 Synthesis of the analysis

In table 2, the key findings from the case relationships of Alpha (case relationships 1–3) are summarized. Similarly, table 3 summarizes the key findings from the case relationships of Beta (case relationships 4–7). The findings of this study, which are not mentioned in the existing literature, are presented in bold text.

<table>
<thead>
<tr>
<th>Table 2. Key findings from the case relationships of Alpha.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Case relationships of Alpha</td>
</tr>
</tbody>
</table>
| Case relationship 1 | - Business simulations  
                      - Customer queries  
                      - Customer visits  
                      - Building a roadmap of customer needs semi-annually  
                      - Dialogue  
                      - Collaboration  
                      - Communication and interaction  
                      - Meetings  
                      - Monitoring the customer relationship  
                      - Understanding what is relevant for customers |
| Case relationship 2 | - Providing the customer processes, tools and methods for analyzing and defining the knowledge gaps, core competencies and future business needs  
                      - A team or workgroup thinking about a service map or portfolio based on basic modules  
                      - Collaboration  
                      - Communication and interaction  
                      - Meetings  
                      - Monitoring the customer relationship  
                      - Understanding what is relevant for customers |
| Case relationship 3 | - Sensing the atmosphere in society and following the industry  
                      - Collaboration  
                      - Communication and interaction  
                      - Meetings |
### Table 3. Key findings from the case relationships of Beta.

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<thead>
<tr>
<th>Case relationships of Beta</th>
<th>Examples from the construction of customer knowledge</th>
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<td>Case relationship 4</td>
<td>Feedback systems</td>
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<td></td>
<td>Collaboration</td>
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<td>Communication and interaction</td>
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<td>Meetings</td>
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<td></td>
<td>Monitoring the customer relationship</td>
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<td>Accumulated customer knowledge</td>
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<td>Case relationship 5</td>
<td>Documentation of project meetings</td>
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<td>Collaboration</td>
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<td>Communication and interaction</td>
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<td>Accumulated customer knowledge</td>
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<td>Case relationship 6</td>
<td>Involvement of a consultant of the customer in the process</td>
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<td>Geographical proximity</td>
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<td>Feedback systems</td>
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<td>Case relationship 7</td>
<td>Gathering all the available information from different sources and asking the right questions from the customer</td>
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<td>Alternative ways of working</td>
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<td>Monitoring the customer relationship</td>
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<td>Accumulated customer knowledge</td>
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<td></td>
<td>Understanding what is relevant for customers</td>
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</table>

### 5. Discussion

In this study, the purpose was to find out how customer knowledge is constructed in knowledge-intensive customer relationships. By building on the previous literature, this study makes a theoretical contribution by examining context-specific knowledge on how customer knowledge is constructed in different types of service relationships in the field of knowledge-intensive business services. This study proposes that knowledge on these issues has the potential to provide insights into how everyday activities in firms could support this purpose.

Although the two KIBS firms researched in this study were different in terms of backgrounds and organizational cultures, they shared some similarities related to
practices in constructing customer knowledge. These similarities concerned collaboration, communication and interaction, meetings, monitoring the customer relationship and understanding what is relevant for customers. There were also some similarities between the case relationships of the same KIBS firm. In both case firms, these similarities between the customer relationships were related to collaboration, communication and interaction and meetings. In Beta, also accumulated customer knowledge was a similar practice in the construction of customer knowledge between the customer relationships. The findings of this study clearly show that there is no single practice for constructing customer knowledge. On the contrary, there are many practices, and they are not exclusive. Rather, a single practice or a combination of practices can be involved, and the degree of any certain practice may vary in the construction of customer knowledge.

According to this study, customers of both case firms considered good relationships and a familiar counterparty relevant creating a basis for collaboration and constructing customer knowledge, where communication and interaction play a key role. This is supported by the literature (e.g. Den Hertog, 2000; Karantinou & Hogg, 2009). In this study, being active towards customers and holding regular meetings were seen important since they created a sense of security and facilitated discussions of the content of the project and areas of collaboration and, thus, the construction of customer knowledge. In the literature, meetings are one way to encourage collaboration with the customers (Alam & Perry, 2002).

Consistent with the literature (see e.g. Blosch, 2000; Khodakarami & Chan, 2013), this study highlighted the help of information systems to construct customer knowledge. Despite information systems, this study revealed the importance of dialogue between the firm and the customer, which is also supported by the literature (Ritala et al., 2013) to
identify needs of the customer. In line with the literature, this study confirmed that collaboration enables mutual learning, which also increases the organizational performance of both parties (Matthing et al., 2004; Jimenez-Zarco et al., 2011). However, the findings of this study revealed that accumulated customer knowledge, such as sharing a quick opinion to back up instant decision-making of the customer at the beginning of the project and experiences of previous assignments and references for the skills and work, has also an important role in constructing customer knowledge.

Both case firms emphasised understanding what is relevant for customers and the potential for customization, which are mentioned also in the literature (Ritala et al., 2013; Heikka et al., 2018). This study noted that it is important to make firm-specific customization according to customer needs based on constructed customer knowledge. The services of both case firms are modular, which means their services can be divided into smaller modules, and different modules can be selected in various combinations to meet the specific needs of customers. According to this study, customizing the service offering according to customer needs could be promoted through having a team or a workgroup thinking about what the basic modules could be in a service map or portfolio.

This study revealed many important ways to construct customer knowledge in practice, such as providing the customers with the processes, tools and methods for analyzing the skills and knowledge gaps and defining their future business needs related to their core competencies, which were not mentioned in the literature. Besides, this study emphasized the role of customer visits in the construction of customer knowledge and to find out areas of collaboration. Further, this study suggested that business simulations would make it possible for customers to unlock with a little investment if a certain concept makes sense and, thus, construct customer knowledge. This study also suggested that building a roadmap for the next six months at a time regarding customer needs would
help to construct customer knowledge and to understand how the situation of the customer evolves and changes.

This study revealed also many other practices related to the construction of customer knowledge, such as queries, documentation of project meetings, geographical proximity, alternative ways of working and feedback systems, which were not previously mentioned in the literature. Besides, the involvement of a consultant of the customer in the process and gathering all the available information from different sources and asking the customer the right questions are important practices in the construction of customer knowledge. This study also revealed that following the industry as another important way to contrast customer knowledge.

5.1 Managerial implications

From a managerial perspective, this study provides several context-specific implications for managers obtained by undertaking a qualitative multiple case study with two different KIBS firms and their seven customers. As customer knowledge is a critical asset in firms and a source of competitive advantage (e.g. Slater & Narver, 1995; Harrison-Walker, 2001; Salojärvi & Sainio, 2006; Khodakarami & Chan, 2013; Tseng & Wu, 2014) being aware of how to construct customer knowledge in practice is central for strategic decision-making and helps improve the organizational performance. This is the case, especially in a dynamic and competitive knowledge-intensive environment.

Constructing customer knowledge is an important but challenging task for every firm operating in KIBS or any other field of business. It is possible only by knowing the customer well enough. The construction of customer knowledge begins through the creation of a good customer relationship and getting to know the customer and its situation. That creates trust between the firm and its customers, which acts as a starting point for the construction and later utilization of customer knowledge. This study suggests
various practices where putting the customer in the core of daily activities of a firm ensures continuous construction of customer knowledge.

This study underlined that firm-specific customization is central for customers to take their operations and business to the next level and, thus, reflecting also to their key figures and profitability. However, customizing the content of a service offering often requires resources, which might affect the price of the offering.

Knowledge-intensive businesses are to a large extent bound to specific consultants, which means the know-how of a certain customer, and thus customer knowledge is to a large extent bound to a specific consultant. That means that there is a considerable risk that the customers would follow those consultants if they change their job. Therefore, retaining consultants remains an important strategic area for knowledge-intensive service firms.

For managers, the findings of this study might be interesting and useful since the construction of customer knowledge is central in understanding customers, developing and improving customer relationships, enhancing service quality and customer service, customizing the offering according to specific customer needs and, thus, guiding the customer’s choices.

5.2 Limitations and suggestions for future research
There are some limitations to this study. This study only researched the topic in KIBS firms. Therefore, its findings might not be generalizable beyond KIBS firms. This study also observed customers and employers in one country. The single-country location of the dataset might further limit the generalizability of this study. Nevertheless, the findings of the study bring out relevant issues and provide useful insights to both academics and practitioners into the construction of customer knowledge in the fast-changing and competitive KIBS environment.
An interesting topic for future research could be related to examining the phenomenon in other types of KIBS to explore further possible differences and similarities between different types of knowledge-intensive service firms. Hopefully, this study provides useful input for future research endeavours.
References


