THE IMPACT OF REMOTE SERVICE TECHNOLOGIES ON BUSINESS RELATIONSHIP MARKETING - INTERNATIONAL INVESTIGATION IN A B2B-SETTING

Work-in-Progress Paper

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Purpose of the paper and literature addressed:

Modern information technologies alter not only the nature of services and their delivery process (Meuter et. al 2005; Dabholkar 1994) but also the interaction at the interface between service provider and customer (Håkansson 1982; Colby and Parasuraman 2003; Bhappu and Schultze 2006). Therefore limited personal communication and face-to-face-interaction is challenging service provider and customer with special regard to business relationship marketing (Lindh, Dahlin and Hadjikhani 2008; Leek, Turnbull and Naudé 2003). The investigation of how customers perceive and evaluate remote services and how the transformation from close personal contact to technology-mediated interaction will affect the relationship between service provider and customer is relevant for academicians at the IMP group and practitioners.

Research method:

To answer these questions we conducted an exploratory research design that emphasizes discovery over confirmation. 30 personal in-depth interviews in Sweden, Germany and the USA were arranged. The interviews were transcribed and analyzed with the help of GABEK a computer program for text analyzes.

Research findings:

Initial results\(^1\) show that higher risk and security concerns, separation of the customer during the service provision, lower benefit perception, absent evidence of services, loss of process control and missing personalization are factors that influence the remote service perception and adoption. Additionally the lack of personal contact and social exchange complicate the trust building as a crucial factor for stable remote service relationships.

Main contribution:

This research implies that a focus on technology acceptance is not enough to increase remote service perception. In fact personal factors play an important role regarding the new service technology. For a remote service provider it is essential to integrate the customer in the process by providing transparency, training and first-hand knowledge about the technology. Additional information about the service provider employees that are displayed during a remote service provision can personalize the service experience and support the relationship building. In the future remote service technologies constitute an innovative tool to support customer retention.

Keywords: Remote Services, Service Technology, Relationship Marketing, qualitative Research

\(^1\) The analysis of the interview data and the cross cultural comparison are still in progress and will be finished soon.
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Modern information technologies alter not only the nature of services and their delivery process but also the interaction at the interface between service providers and customers. The transformation from close personal contact to technology-mediated interaction is challenging both sides. Against this background, this research focuses on the exploration of remote services in a B2B-context. This study intends aims at (1) exploring how customers perceive and evaluate remote services; (2) identifying their expectations; (3) revealing how technology-mediated interaction affects the relationship. 30 Qualitative in-depths interviews were conducted Results of this study generate managerial implications for remote service providers that help to enhance acceptance and strengthen customer relations.

Keywords: Remote Services, Service Technology, Relationship Marketing, qualitative Research
INTRODUCTION AND RESEARCH QUESTION

During the last decade, services industries were subject to considerable changes with regard to the way services are provided and delivered (Meuter et. al 2000; Meuter et al. 2005; Zeithaml and Bitner 2003; Dabholkar 1994). Modern information technologies alter not only the nature of services and their delivery process (Bittner, Brown and Meuter, 2000) but also the interaction at the interface between service providers and customers (Hakanson 1982; Colby and Parasuraman, 2003; Bhappu and Schultz, 2006). (Self)- service technologies in B2C-settings have received considerable research interest over the last years (e.g. Dabholkar, 1996; Dabholkar and Bagozzi, 2002; Baholkar et al., 2003; Weijters et al., 2007; Shamdasani et al., 2008). By contrast, little empirical research has been done to examine more complex and technology demanding remote services that are used and delivered in B2B-settings (Wünderlich and v. Wangenheim, 2007). Motivated by this existing gap our research focuses on the exploration of remote service adoption in B2B-settings.

In contrast to B2C self-service technologies that “are technological interfaces that enable the customer to produce a service independent of direct service employee involvement” (Meuter et al., 2000, p.50), B2B remote services are provided in an interactive technology-mediated production process, exclusively allowing the service providers to access and modify the service object over long distances (Schumann et al. 2007). Particularly in high technology industries such as IT, medical healthcare equipment and mechanical engineering, remote services are established instruments and are often used for remote repair and remote diagnosis and maintenance (Biehl et. al 2004).

Therefore limited personal communication and face-to-face-interaction is challenging service provider and customer with special regard to business relationship marketing (Lindh, Dahlin and Hadjikhani 2008; Leek, Turnbull and Naudé 2003). Investigating remote services adoption in a research context that is characterized by established B2B service relationships is important for a number of reasons. First, the provision of services from a distance complicates customers’ perception of the actual rendered services and the subsequent judgment of quality (Zeithaml et al. 2006). The customer will not necessarily be informed and notice when, how often and which services are provided. Hence, for providers it is important to make the “evidence of service” (Bitner 1993) realizable and traceable (Zeithaml et al. 2006. These facts make it evident to explore the actual perception and evaluation of remote services from a customer’s perspective and to unfold possible factors that determine the successful service perception and implementation. Second, remote services replace the face-to-face exchange and communication between the service organizations and their customers. This new form of technology-mediated interaction generates unexpected challenges both for the service providers and the customers (Zeithaml 2002) and change the relationship performance especially in a B2B-setting (Bhappu and Schultz 2006; Gremler and Gwinner 2000; Selnes and Hansen 2001). Exactly these interpersonal exchanges are important factors determining services success and give an impression about service quality (Bitner et al. 1990; Bettencout et al. 1997; Gremler and Gwinner, 2000). Interpersonal exchanges furthermore lead customers to develop strong personal relationships with an organization (Grönroos 1990; Parasuraman, Zeithaml and Berry 1985) and bind customers (Bateson and Hoffman 1999). For the above reasons it is necessary to analyze how the transformation from close personal contact to technology-mediated interaction will affect the relationship.
LITERATURE REVIEW

Remote Services allegorize a particular form of previously researched technology mediated services and are therefore defined as a unique service type (Schumann et al. 2007). According to Wünderlich and v. Wangenheim (2007) remote services are “provided in a technology mediated production process independent of the physical separation of customer and provider. Hereby, the service object is remotely modified via control and feedback devices.” There are three important characteristics that differentiate them from self-service technologies. First, remote services are complex and technology demanding compared to simple self-service technologies (e.g. ATMs). Second, the service object is actively accessed by the service providers during the production and delivery process. And third the service customers are integrated in the production process and have to co-produce the services via technology-mediated interaction (Wünderlich 2007). From a service provider’s perspective remote services offer increased flexibility concerning the reaction time on service failure, diagnosis and repair (Biehl et al. 2004). Furthermore the service employees can work for several customers at the same time without physically being present. This saves time and labour cost. Noticeable benefits for the customer are increased uptime for the systems, stability and consequently higher productivity (Wünderlich and v. Wangenheim 2007). Additionally, service providers can offer ‘customized solutions’ in form of remote services to commit their customers to the organization (Tuli et al. 2007) and to differentiate themselves from competitors. On the contrary remote services challenge providers and customers in certain areas. Especially data security is a great concern because providers often have full access to confidential data (e.g., digital patient’s records). Moreover the interaction is relocated on a technology mediated level meaning that human to human interaction does not exist. Personal exchange and face to face discussion are no longer an integrated part of the customer-provider relationship.

In the last years, service technology received attention from researchers in both disciplines management and marketing. Especially self-service technologies in the B2C setting gain sustainable research interest (e.g. Dabholkar, 1996; Dabholkar and Bagozzi 2002; Baholkar et al. 2003; Meuter et al. 2005; Weijters et al. 2007; Shamdasani et al. 2008). Literature on self-service technologies (SST) generally examines factors that determine acceptance (Curran Meuter and Suprenant 200; Dabholkar 1994; 1996; Dabholkar and Bagozzi 2002). These studies are based on technology acceptance research for example the technology acceptance model (TAM) (Davis 1989). The TAM is based on the theory of reasoned action (TRA) meaning that an attitude toward a specific behavior has an impact on behavioral intentions (Ajzen and Fishbein 1980; Fishbein and Ajzen 1975). Applied to TAM this means that the degree of technology acceptance is reflected in the strength of attitude or intention toward using the technology (Davis, Bagozzi and Warshaw, 1989). In their study Davis, Bagozzi and Warshaw (1989) identified the constructs ease of use and perceived usefulness influencing the attitude to use technology at work. Curran and Meuter (2005) emphasize the importance of variables like perceived risk and need for interaction that are missing in the TAM. Drivers of usage and satisfaction (Parasuraman, Zeithaml and Malhotra 2005) are examined and predictors of self service adoption like technology-readiness (Parasuraman 2000) and technology anxiety (Meuter et al. 2003) are identified. Research from B2C-settings prove that from a consumer’s perspective the technology-mediated service encounter can be both beneficial and challenging (Curran and Meuter 2005). Customers are used to close personal contact in the service encounter and oftentimes prefer
personal exchange and interaction (Zeithaml and Gilly 1987; Dabholkar 1992; Dabholkar and Bagozzi 2002).

Interactive services research has identified the service provider representative’s behavior as an important component in service perception (Bettencourt and Gwinner 1996; Bitner, Booms and Tetreault 1990; Gremler and Gwinner 2000; Solomon et al. 1985; Zeithaml, Berry and Parasuraman 1988). Customer’s general evaluation of the service experience depends on employee’s characteristics (e.g. friendliness, responsiveness and enthusiasm) (Sundaram and Webster 2000). Further important outcomes being affected by the employees are the customer’s perception of service recovery (Liao 2007), satisfaction (Solomon et al. 1985; de Ruyter and Wetzel 2000) evaluation of the service organizations (Bitner, Booms and Tetreault 1990), employees support the integration of the customer in the service production process (Bettencourt et al. 2002; Lovelock and Wirtz 2004; Lovelock and Young 1979; Vargo and Lusch 2004).

All studies and approaches apply to B2C-settings. Due to this fact it is essential to investigate remote services in B2B-settings in order to examine to what extend these approaches can be transferred to organizational contexts. In addition, by identifying factors and aspects that cannot be explained with the existing concepts our research will contribute by extending these concepts and theories. With regard to the research questions and the overall aims of this study, a qualitative research design seems appropriate for this study.

QUALITATIVE RESEARCH DESIGN

Remote services represent a relatively new field of services research therefore literature and concepts on remote services are limited. Moreover the key research questions of this research have not been investigated before and seem to be important in the context of B2B remote services usage and implementation from a theoretical and practical perspective. Managers want to get a deeper understanding of how different markets work, why customers behave the way they behave (Ghauri and Gronhaug 2005); they try to be consumer-oriented and know their customers well (Ruyter de and Scholl 1998). Moreover “if we want to have a holistic perspective and want to obtain in-depth knowledge about certain objects qualitative approach is the most appropriate (Sinkovics, Penz, and Ghauri 2005). “Qualitative Research provides an in-depth insight; it is flexible, small-scale and exploratory and the results obtained are concrete, real-life and full of ideas” (Ruyter de and Scholl 1998). An exploratory research design that emphasizes discovery over confirmation is thus appropriate for this study. We utilize in-depth interviews as a method to capture the underlying dimensions (Miles and Huberman 1994; Carson, Gilmore, and Gronhaug 2001) of how customers perceive the remote service technology, to explore basic perceptions and evaluations of remote service encounters and to identify the impact of the remote service technology on the quality of customer relations. Particularly in industrial settings qualitative research play an important role when it comes to capture subconscious motives and perceptions of respondents (Wagner, Lukassen, and Mahlendorf 2010; De Beuckelaer and Wagner 2007; Easton 1995). In-depth interviews were selected as they are a “useful method for exploring new and under-researched topics” and enable researchers to gather “rich and meaningful data” (Carson, Gilmore, and Gronhaug 2001).

We have chosen the healthcare industry as unit of analysis since in the medical- and healthcare sector remote services are established to a certain extent and interview partners can refer to their experience, incidents and know-how collected over the time. Interview partners were selected according to a criterion sampling method meaning that selected interview partners must meet some predetermined criterions that method is important concerning the quality assurance of the
data (Patton 2009). In accordance with our research aims we selected medical engineers and technicians being directly affected by remote service technologies. This study comprises a total of 25 extensive qualitative in-depth interviews with remote service customers and 10 interviews with remote service representatives across 10 different hospitals in the USA, Germany and Sweden.

Due to the enormous amount of verbal data and the different languages the data material is analyzed with the help of a computer-aided software tool called GABEK®/WinRelan (Weitzman and Miles 1995). The convincing strengths of GABEK are the strict rule-based coding process, the closeness to the original data and respondent’s language and transparency during the complete analysis process (Buber and Kraler 2000; Zelger and Oberprantacher 2002).

**RESULTS**

The major themes and topics that emerged from the interviews with remote service customers are discussed in the next paragraph, supported by exemplary quotes. Some of these results correspondent to previous studies about technology mediated services in a B2C-context but for example the responsibility toward a third-party is unique in B2B-context.

**Remote service perception.** The perception of the service technology is depending on the individual experience of the respondents. In theory they all know the benefits and how this technology should work. “Well, I mean, in theory there is this concept that somebody can get in to our system and look out what is wrong, remote. And remote doesn't work between you and me. There is nothing like having a person here” [customer, USA, A 19]. But in reality customers express predominantly their concerns “I think remote services are pretty useful, but when I wanted to start the remote service procedure I had problems with the technology and it was very difficult for me to handle this. I did not know what to do” [customer, USA, Q 36].

**Perceived Risk.** Customers have a higher risk perception especially when the service technology is new, complex and highly intangible (Bettmann 1973; Dowling 1986). Concerning remote services the risk perception is even stronger because the provider can log on the customers’ system at any time and has full access to sensitive data for example patient’s records. This is why trust plays a crucial role in the remote service delivery. “Usually, I really want to know, who is on my system and what kind of changes he made. Not letting people know [that they are on my system] is horrible. I have to trust them without knowing what’s going on.” [customer, Sweden, L 22].

**Perceived Integration.** The benefits of remote services are limited by the willingness and competence of the customer (Walker and Craig Lees 2000; Walker and Johnson 2006). Remote services are complex services and require a lot of special know-how and training of the customer “I need technical help from the provider, the system is too complex for me, I am not able to handle this.” [customer, Germany, M 13]; “Some-times I wish, when I call in with a problem, the remote service would be trying to explain to me how to do something. So sometimes I wish they had the ability to solve the problem.” [customer, USA, C 17]). Because of the complexity providers often solve a problem without involving customers in the process. This separation is a very serious problem for the customers. They have the feeling that providers do not value the counterpart’s competence. “So, if remote service could diagnose the problem and allow me to physically fix it, then it would be helpful.” [customer, USA, D31]. “I would like to be involved. I think there is a benefit to, again, I would think that belongs to the relationship. I mean, why not allow me to be part of that process? Why does it have to be separated?” [customer, USA, A16].
Negative Benefit Perception. The new technology can malfunction and frustrate customers (Prendergast and Marr 1994), although it is supposed to be extraordinary beneficial. Particularly the intangible and non-observable nature of remote services make it difficult to show the ‘evidence of service’ (Bitner 1993) and the benefit, although a clean functional system can be the result of several remote service operations but that is hard to notice. “In the past I don’t think it was thought to bring value to the end user, to us.” [customer, USA, E42].

Perceived Service Quality. Customers do not only receive benefits from the product itself; they also receive benefits from interaction with service employees (Hennig-Thurau 2004; Zeithaml and Bitner 2003; Parasuraman, Zeithaml and Berry 1985). The human interaction is an important element in how customers define service quality (Walker and Craig Lees 2000; Walker and Johnson 2006). “And I want to see prove an evidence of that. I want to see okay, you had this error and we fixed it remotely by doing this and correcting this problem in the system.” [customer, USA, A48]

Personalization. When it comes to personalization, customer of remote services criticize the impersonality of this kind of services and they describe remote services as “less friendly, [it should be] a little bit more sensitive, a little bit, you know, when you are just typing you send something out, there is not personality in it. I’m not saying that’s good or bad, it just is. When you’re dealing with a body not somebody you act a different way” [customer, USA, B35]. “You might be willing to give the somebody you talked with the last three years an extra day to fix the problem when you may not give a remote person any time.” [customer, B 50]. With remote services “everybody gets into the same category; there is no differentiation and priority.” [customer, USA, H28].

Social Bonds. Without personal contact it is almost impossible to build up personal relationships between customers and service providers (Liljander and Stratvik 1995), since service employees convey the provider’s identity and personality (Berry 1981; Lovelook et al. 1998; Berry and Parasuraman 1991). “I want remote services but I insisted on having somebody onsite” [customer, USA, Q30]; “When you have a person onsite they can build on a relationship with him and of course the provider” [customer, Germany, O45]. Furthermore it became clear that a discussion in privacy between the customer and the service employee can help to solve problems and together they are able to develop more efficient solution for the future. “When I have a problem and I talk with Frank, he knows me and my system. We always find a way together even after work” [customer, USA, P34].

Responsibility of third-party. One concern that is mentioned throughout the interviews is the responsibility towards a third party. In the medical contexts the hospitals are responsible for their patients and they want to ensure that the equipment is functional so they on the other hand can offer medical service “This hospital is unique, people come here for only one thing and that's cancer. They want to know if they're going to live or die. It's personal. I don't want to hear that my CT scanner wasn't available when I got to CT” [customer, USA, M23].

Metaphors. As results the analysis identified the above mentioned topics but all through the interviews it was surprisingly that respondents use continuously strong metaphors to describe their attitudes and perceptions. Altogether 42 metaphors are mentioned and can be divided into two categories. Things of the everyday life like car, refrigerator and puzzle are often used for demonstrating the problem solving process and to explain their needs. “Remote service to me is always looking at, let's do it this way: if I am sitting in my automobile I have a speedometer, I can see the oil pressure. You can look at those same things sitting in Germany if I had the ability to send those electronically to your screen. So, you could look and you could say, hey, you know what; he needs a new battery”[customer, USA, M4]. The second category implies technology in
extreme situations (submarine, Apollo 13, George Orwell 1984). One the one hand the expressions highlight the respect towards the technology and the importance of reliability on remote services. The submarine as an example shows the high pressure on reliability and trustworthiness “basically if you're on a submarine and you're under water for six months that is a long time, you know, if that pump is available from 7 in the morning to midnight, then I don't want to hear it's not available from 7 a.m. to midnight.” [customer, USA, M23].

**DISCUSSION AND LIMITATIONS**

This research implies that since remote services are provided with no direct face-to-face contact between the service providers and the customers, a sole focus on technology performance is not enough to increase the customer’s perception and intention to use remote services. The integration of the customer in the production process in order to increase and demonstrate the service quality is essential. Service customers can integrate their specific knowledge and get gain a certain degree of control about the processes. For this reason service providers should support their customers by providing clear instructions, good training and additional guidance to optimize the co-production. Customer integration is also important for reducing uncertainty about customers’ perception of their own competence and ability to perform the co-production activities in a technology-mediated service provision. This study revealed that customers perceive remote services as risky due to the non-observable nature of these services therefore it is necessary to continuously exchange information to strengthen and assure a trustful relationship. It is further necessary to provide transparency of the process by providing protocols and reports about remote service operations. Additionally pictures and CVs of service employees can be displayed to provide a personal component and facilitate the relation between service providers and their customers.

As with all empirical studies, our study suffers from limitations: We have to summarize, that this research examines 30 customers and employees from one industry only. Therefore, further research should conduct interviews in different settings. Further consequences may exist in a different context (e.g., services of less criticality than in medical equipment industry). Therefore, we recommend research designs comparing different types of remote services. Our results should be used to develop a conceptual model and test it empirically using a larger number of remote service-customers.
REFERENCES


