

REMOTE SERVICE TECHNOLOGIES - A FRAMEWORK AND FACTORS INFLUENCING ADOPTION IN B2B RELATIONSHIPS

Stefanie Paluch, TU Dortmund University, Germany
Hartmut H. Holzmüller, TU Dortmund University, Germany

INTRODUCTION

“The world is becoming characterized by services” (Ostrom et al. 2010, p. 4) during the last decade, services industries were subject to considerable changes with regard to the way services are provided and delivered (Bitner, Brown, and Meuter 2000). Modern information technologies leverage service advances (Ostrom et al. 2010) and alter not only the nature of services and their delivery process (Bitner, Brown, and Meuter 2000) but also the interaction at the interface between service providers and customers (Colby and Parasuraman 2003). (Self-)Service technologies in B2C-settings have received considerable research interest over the last years (Dabholkar 1996; Makarem, Mudambi, and Podoshen 2009). However these concepts fall short in explaining complex service technologies in business-to-business settings.

This study focuses on an emerging type of service technology in a B2B context. Remote services are provided in an interactive technology-mediated production process, exclusively allowing 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, Prater, and McIntyre 2004). More precisely we focus on *proactive remote service that are one-directional technology-mediated services enabling the service provider to preventatively monitor, diagnose and repair physically separated service objects ideally without human to human interaction and customer’s collaboration.*

Our study aims to develop a holistic understanding of how customers perceive remote service technology, which factors influence their adoption and additionally we investigate how the transformation from close personal contact to technology-mediated interaction will affect the relationship between service provider and customer.

Investigating remote service technology perception is important for a number of reasons. First, physical distance and remote delivery complicates rich communication modes, such as face-to-face contact (Ostrom et al. 2010). Second, remote services are extremely intangible and they are delivered without personal interaction. Therefore the evidence of service is often not observable to the customer and complicates the evaluation of the service performance and quality (Bitner 1993). Third, this new form of technology-mediated interaction characterized by *“boundaryless relationships and low-friction transactions, exchanges and business operations”* (Ostrom et al. 2010, p. 29) generates unexpected challenges both for the service providers and the customers (Zeithaml, Parasuraman, and Malhotra 2002) and might change the relationship especially in a B2B-setting (Selnes and Hansen 2001) because as said before interpersonal exchanges are important factors determining services success and give customers an impression about service quality (Gremler and Gwinner 2000).

RESEARCH DESIGN

Remote services represent a relatively new field of services technology research therefore literature and concepts on remote services are limited. 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). An exploratory research design that emphasizes discovery over confirmation seems to be appropriate for this study. We utilize in-depth interviews as a method to capture underlying dimensions (Carson, Gilmore, and Gronhaug 2001) of how customers perceive remote service technology. Particularly in industrial settings qualitative research plays an important role when it comes to capture subconscious motives and perceptions of respondents (Wagner, Lukassen, and Mahlendorf 2010). In-depth interviews are useful in business-to-business marketing research where it may be desirable to tailor questions to a company or to a specific respondent’s knowledge and background (Craig and Douglas 2000). We conduct the interviews following the critical incident technique (CIT)¹ because *„the method is adapted to identify the sources of both satisfactory and dissatisfactory service encounters from the customer’s point of view“* (Bitner, Brooms, and Tetreault 1990).

¹ (Flanagan 1954)

We have chosen the healthcare industry as unit of analysis since the medical- and healthcare sector is very essential for service technology research (Ostrom et al. 2010), remote services in this industry are developed and established to a certain extent and interview partners can refer to their experience, incidents and know-how collected over the time. 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.

RESULTS

The interview material is content analyzed. Following Miles and Huberman's components of data analysis (data collection, data reduction, data display and conclusion) seven emerging categories (technology, workflow, interaction, individualization, economic value and value-added services) are identified (all results are shown in figure 1). These categories are summarized to five dimensions that influence remote service perception. In addition several influencing factors (e.g. age, role) emerged from the interviews and possible consequences of remote service adoption are investigated. At the moment the analyzes is still work in progress and will be finished by the end of the year. The results will be summarized as propositions and presented in a holistic remote service perception framework.

REFERENCES

- Biehl, Markus, Edmund Prater, and John R. McIntyre (2004), "Remote Repair, Diagnostics and Maintenance: An Overview and Comparison of the U.S., Japanese and German Machine Tool Industry," *Communications of the ACM*, 47(11), 101-6.
- Bitner, Mary J. (1993), "Managing the Evidence of Service," *The Service Quality Handbook*, 358-70.
- Bitner, Mary J., Bernhard H. Broome, and Mary S. Tetreault (1990), "The Service Encounter: Diagnosing Favorable and Unfavorable Incidents," *Journal of Marketing*, 54(1), 71-84.
- Bitner, Mary J., Stephen W. Brown, and Matthews L. Meuter (2000), "Technology Infusion in Service Encounters," *Journal of the Academy of Marketing Science*, 28(1), 138-49.
- Carson, David, Audrey Gilmore, and Kjell Gronhaug (2001), *Qualitative Marketing Research*. Thousand Oaks, CA: Sage Publications.
- Colby, Charles L. and A. Parasuraman (2003), "Technology Still Matters Never Mind the Doomsayers. E-Services are Alive, Well, and Positioned for Growth," *Marketing Management*, 12(4), 28-33.
- Craig, S. S. and Susan P. Douglas (2000), *International Marketing Research*. Chichester, UK: Wiley.
- Dabholkar, Pratibha A. (1996), "Consumer Evaluations of new technology-based Self-Service Options: An Investigation of alternative Models of Service Quality," *International Journal of Research in Marketing*, 13 29-51.
- Flanagan, John C. (1954), "The Critical Incident Technique," *Psychological Bulletin*, 51(4), 327-58.
- Gremler, Dwayne D. and Kevin Gwinner (2000), "Customer-Employee Rapport in Service Relationships," *Journal of Service Research*, 3(1), 82-104.
- Makarem, Suzanne C., Susan M. Mudambi, and Jefferey S. Podoshen (2009), "Satisfaction in technology-enabled Service Encounters," *Journal of Services Marketing*, 23(3), 134-44.
- Ostrom, Amy L., Mary J. Bitner, Stephen W. Brown, Kevin A. Burkhard, Michael Goul, Vicky Smith-Daniels, Haluk Demirkan, and Elliot Rabinovich (2010), "Moving Forward and Making a Difference: Research Priorities for the Science of Service," *Journal of Service Research*, 13(1), 4-36.

Schumann, Jan H., Nancy V. Keller, Florian v. Wangenheim, and Hartmut H. Holzmüller (2007), "Technology Mediation in Service Delivery: A new Typology and an Agenda for Managers and Academics," in *AMA Winter Educator's Conference Proceedings*, 45-64.

Selnes, Fred and Havard Hansen (2001), "The Potenzial Hazard of Self-Service in Developing Customer Loyalty," *Journal of Service Research*, 4(2), 79-90.

Sinkovics, Rudolph R., Elfriede. Penz, and Pervez Ghauri (2005), "Analysing Textual Data in International Marketing Research," *Qualitative Market Research: An International Journal*, 8(1), 9-38.

Wagner, S. M., P. Lukassen, and M. Mahlendorf (2010), "Misused and missed Use - Grounded Theory and Objective Hermeneutics as Methods for Research in Industrial Marketing," *Industrial Marketing Management*, 39 5-15.

Zeithaml, Valerie A., A. Parasuraman, and Arvind Malhotra (2002), "Service Quality Delivery Through Web Sites: A Critical Review of Extant Knowledge," *Journal of the Academy of Marketing Science*, 30(4), 362-75.

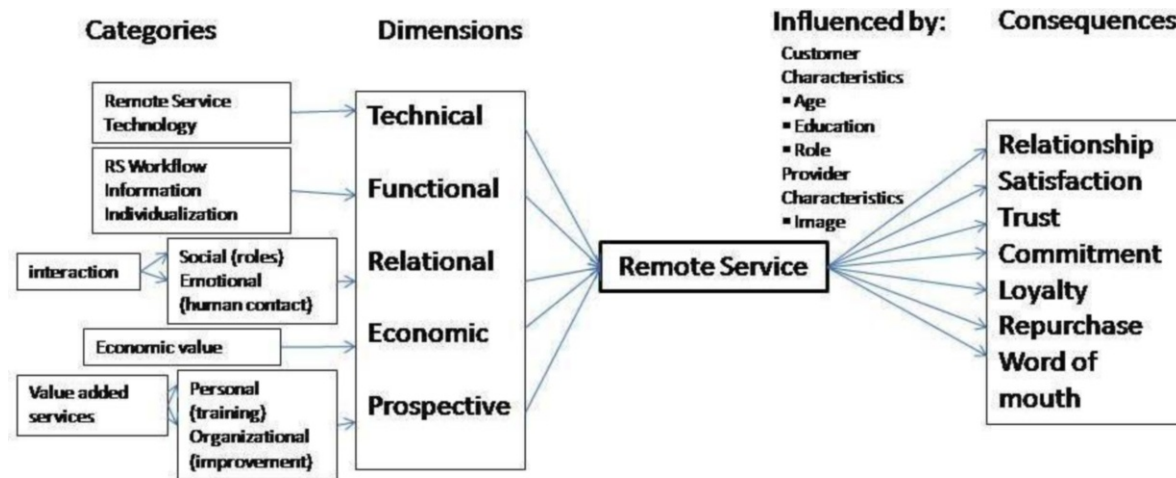


Figure 1 summary of results from the qualitative interviews