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RETHINKING SERVICE QUALITY FOR CONTEXT-SENSITIVE SOCIO-TECHNICAL SYSTEMS

Idea for ECIS 2016 Workshop
Service Science: Perspectives from the Next Generation of Service Scholars

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1 Motivation and Purpose

In today's digitized and 'servitized' world, an increasing amount of service interactions are conducted (or mediated) via IT. Taking a taxi service as an example, customers formerly needed to call an operator to order a taxi, enter it and pay the taxi driver for the entire service when arriving at the destined location. Nowadays, customers can use a single mobile application to find a taxi nearby, order it and pay upfront. Traditional ways of providing services via person-to-person contact are increasingly being replaced by person-to-IT service encounters. This circumstance requires a holistic view on the interdependencies between social, organizational and technical requirements. Thus, software, such as the mobile taxi application, need to be considered as socio-technical systems in which success (i.e., user acceptance and continuous use) relies on both technical and non-technical factors (Sommerville, 2012; Baxter and Sommerville, 2011; Geihs *et al.*, 2012). Additionally, the century of smartphones heralded the age of sensor integration in consumer devices in manifold forms (e.g., GPS, gyroscope, humidity sensors). These components allow for the collection of personal and context data of the user to provide personalized and situation-dependent services. Hence, the implementation of sensors not only enables novelties in service provision (e.g., location-based services) but also changes the service encounter: manual user input is being replaced by automated and unnoticed data collection, analysis and context-dependent adaptation. Thus, both the redefinition of the user as being a major part of the socio-technical system and the integration of context-sensitive adaptability to digital services require a novel view on how users experience service interactions. This understanding is important to lay the foundation of sufficient information systems (IS) and service design.

In this context, service quality (SQ) plays an important role. Xu *et al.* (2013) show that also in digital contexts SQ is a main enabler of customers' service satisfaction. It describes a customer's global, subjective assessment of the quality of an interaction with a vendor and especially includes the perceived degree to which the customer's specific needs have been met (Xu *et al.*, 2013). Whereas this definition can be applied to offline scenarios with person-to-person service encounters, the shift towards digital services challenges existing SQ frameworks. For example, SERVQUAL primarily focusses on customers' perceptions about vendors' attributes to deliver services in an offline scenario (Parasuraman *et al.*, 1988; van Riel *et al.*, 2001). Furthermore, several major questions arise from an SQ viewpoint considering the implementation of context-adaptive digital services: first, less manual input reduces user effort but also gives the user fewer opportunities to influence the service outcome. Second, the system is able to adapt itself autonomously to the respective context, which reduces manual changes on the one hand but might also lead to a perceived loss of control for the user. Third, many functionalities become increasingly unnoticeable due to automated data collection and processing beyond the line of visibility. Although this also prevents the user from manual data input, it may lead to reduced

trust and unexpected results. Regarding SQ on a long-term system use, for users it thus may be difficult to build expectations, familiarity and trust towards the application's behavior.

Since context-dependent adaptability becomes increasingly important for the implementation and use of information systems and users demand high-quality services, SQ is an important determinant that needs to be covered in future IS research and service science. We attempt to lay the foundation for this process by proposing a two-step approach to obtain a thorough understanding of SQ in a digitized world: First, we want to find a contemporary definition of SQ and contrast the concept with related topics such as user experience, service experience, quality of service, information quality and system quality by conducting a review of high-ranking literature. In a second step, we will conduct a Meta-analysis (Lipsey and Wilson, 2001) based on the identified literature in order to find most important determinants on and consequences of SQ and estimate their effect size. In the following, we will briefly present our research approach as well as theoretical and practical implications of our proposal.

2 Research Questions and Methodology

According to the goals mentioned above, we propose two research questions:

RQ1: How can SQ be defined for socio-technical systems?

Establishing a clear definition of SQ and contrasting it to adjacent concepts requires an in-depth literature analysis (Webster and Watson, 2002; Vom Brocke et al., 2009). We therefore aim at reviewing peer-reviewed publications in the fields of service science, IS, marketing and general economics that are high-ranking in well-acknowledged journal and conference rankings such as VHB JOURQUAL (VHB, 2015).

Expected results: Clear definition of SQ that is contemporary regarding current and future IS challenges (e.g., context-dependent adaptability) and elaboration on its relation to adjacent concepts such as user experience, service experience, quality of service, information quality, system quality etc.

RQ2: Which determinants and consequences of SQ for context-sensitive socio-technical systems exist?

A Meta-analysis (Lipsey and Wilson, 2001) will be conducted in order to find most important determinants on and consequences of SQ and estimate their effect size. This method is based on an exhaustive systematic literature review (Webster and Watson, 2002; Vom Brocke et al., 2009). Furthermore, a test of the empirical model needs to be conducted.

Expected Results: Most important determinants and consequences of service quality for context-sensitive socio-technical systems and estimated effect sizes

3 Theoretical and Practical Implications

Although the understanding of more and more services becoming digital is not quite new anymore, few studies provide a sound understanding of SQ as an important driver of service experience and satisfaction in the digital age. From a theoretical point of view, we thus contribute to establishing this understanding. Furthermore, to the best of our knowledge, this study is the first one that conducts a meta-analysis to determine most important determinants for and consequences of SQ.

Since we aim at revealing most important determinants of SQ in our meta-analysis, these findings will also reflect a practical contribution since they are fundamental for defining design requirements for socio-technical systems helping requirements and system engineers in the development process. Furthermore, the results of investigating the effect of context-adaptability on SQ can be a basis of decision-making for sensor integration in information systems as part of socio-technical system design.

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