Information Systems Service Quality, Zone of Tolerance, and User Satisfaction

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ABSTRACT

Information system service quality has been a very important theme in both IS practice and research. User service expectations affect perceived service quality and user satisfaction. The objectives of this research are to i) to explore the relationship between perceived IS service quality and user satisfaction across the three regions of zone of tolerance (ZOT) and ii) to validate the associations between service expectations (adequate service and desired service) and service performance. The analysis of the data obtained from 193 IS users revealed a positive and significant association between perceived service quality and user satisfaction across the service zones and service dimensions with stronger associations in the acceptable service zone and weaker associations in the inadequate and superior service zones. Thus, the results demonstrate that the relationship between IS service quality and user satisfaction is affected by ZOT. It is found that the desired service expectation measure is more strongly related to service performance compared to the adequate service expectation measure. It is also observed that irrespective of the ZOT, the service dimension that contributes most to service performance is assurance. Tangibles have the widest ZOT and assurance has the narrowest ZOT compared to most other service dimensions. The author discusses the implications of the present study for both research and practice.

Keywords: Adequate Service, Desired Service, Information Systems Service Quality, User Satisfaction, Zone of Tolerance

INTRODUCTION

Information Systems (IS) service providers deliver both software products and associated services to organizations. The functional departments periodically evaluate the performance of IS departments through the quality of services provided to them (Watson, Pitt, & Kavan, 1998). IS service quality can be integrated into an IS balanced scorecard - a strategic IS management tool for assessing overall IS performance. In a 2007 survey of CIOs conducted by the Society for Information Management (SIM), “Improve IT quality” emerged as one of the top five concerns facing IT executives (Luftman & Kempaiah, 2008). Monitoring IS service quality is even more critical in the context of IS outsourcing or offshoring, an alternate or complementary delivery mechanism to insourcing (Gorla & Lau, 2010). Previous research has established the importance of IS service quality in the success of IT departments and organiz
tions (Gopal & Koka, 2009; Gorla, Somers, & Wong, 2010).

Service quality can be measured based on customers’ expectations (what they want) and perceptions of actual performance (perceptions of what they think they are getting) for a range of service dimensions (Parasuraman, Zeithaml, & Berry, 1988). The gap between expectations and perceptions averaged across these dimensions is computed as service quality. By measuring the difference between service performance and customer expectations, managers can assess their shortcomings as well as the amount of service that needs to be enhanced in each service dimension to meet customer needs. This difference or gap between customers’ expectations and perceived service performance can be measured with the help of the service quality instrument SERVQUAL, which was originally developed in the field of marketing by Parasuraman, Zeithaml, and Berry (1988). The SERVQUAL instrument has been applied to IS services by modifying the instrument to suit the IS context (Kettinger & Lee, 1994; Kim, Eom, & Ahn, 2005; Pitt et al., 1995; Wang & Tang, 2003). This instrument is a 22-item questionnaire that measures service performance and service expectation in five dimensions: tangibles, reliability, responsiveness, assurance, and empathy. Owing to the ambiguity associated with single expectation measure, two comparative norms were conceptualized: adequate service and desired service expectations (Parasuraman, Zeithaml, & Berry, 1994; Zeithaml, Berry, & Parasuraman, 1993). The range between adequate service and desired service represents the window of customer expectations, which is termed as zone of tolerance (ZOT).

It is noted that service quality is positively associated with favorable behavioral intentions and negatively associated with unfavorable behavioral intentions (Zeithaml, Berry, & Parasuraman, 1993, 1996). The relationship between service quality and behavioral intentions vary across the three segments of zone of tolerance: below adequate service level, within the zone of tolerance, and above desired service level (Teas & DeCarlo, 2004). Teas and DeCarlo (2004) provide further motivation by stating that “…the slope of one attribute may be most positive in the acceptable zone, whereas the slope for another attribute may be most positive in the superior zone. This issue of individual dimension slope is an interesting question for future research” (p. 283). There are few studies in the IS context, which examine the impact of service quality on user satisfaction in relation to ZOT or the impact of user expectations on IS service quality. Investigating such issues helps to identify the IS service quality dimensions that are associated with high user satisfaction or high service performance. The present study highlights those important service dimensions for IS managers to examine in the context of resource allocation decisions. The following research questions have been addressed in the paper:

1. What is the effect of perceived service quality on user satisfaction in the IS context with reference to the zone of tolerance? In particular, does the association between IS service performance and IS user satisfaction vary across the three regions of the zone of tolerance: below ZOT (or inadequate service zone), or within ZOT (acceptable service zone), or above ZOT (superior service zone)?

2. What are the relationships between levels of service expectation (adequate service or desired service) and service performance (or perceived service) with reference to ZOT? It is to be noted that for the purpose of the present research the terms service performance and perceived service have been used interchangeably.

The paper has been divided into five main sections. The first section provides theoretical background in marketing and IS areas on the relationship between service quality and user satisfaction and the relationship between service expectations and service performance. The second section presents the research methodology including a detailed description the research
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