Development and Validation of an Instrument to Measure Student Perceived E-Learning Service Quality

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ABSTRACT

While universities have been trying to focus their resources and attention on improving e-learning, many universities seem to be lagging behind students’ increasing demands and expectations. In order to sustainably grow in an increasingly competitive e-learning environment, it is clear that universities must provide e-learning students with high quality services. To do this, universities are required to understand the attributes that e-learning students use to evaluate service quality. Unfortunately, little research on e-learning service quality has been conducted. This study developed and validated an instrument to measure student perceived e-learning service quality. Based on the relevant literature review and using responses from 1,232 e-learning students, the authors validated a three-factor e-learning service quality instrument involving e-learning system quality, e-learning instructor and course materials quality, and e-learning administrative and support service quality. Among these three factors, e-learning system quality makes the highest contribution to overall e-learning service quality, followed by e-learning instructor and course materials quality, and e-learning administrative and support service quality. This scale provides a useful measurement for researchers who wish to measure e-learning service quality and for university administrators and managers who want to enhance universities’ e-learning service quality.

KEYWORDS
E-Learning Service Quality, E-Learning Student Loyalty, E-Learning Student Satisfaction, Three-Factor

INTRODUCTION

The applications of information and communication technologies promoted by the Internet are changing the way service providers interact with their customers (Abdullah & Toycan, 2018). Universities are no exception (Dursun et al., 2014). More and more universities are providing e-learning courses for students through e-learning systems (Allen & Seaman, 2010; Babson, 2015;
Wisloski, 2011). E-learning can benefit both the university and students (Al-Rahmi et al., 2018). Because e-learning does not require physical classes, universities can significantly save operating and fixed costs through the use of Internet-driven communication and information technologies (Taylor, 2007). These cost savings are likely to create favorable conditions to increase university-sponsored activities to attract more students to enroll in study programs (Taylor, 2007). Through e-learning, student learning is no longer limited by time and space (Kilburn et al., 2014). In other words, students can study at anytime in anywhere via computers or mobile devices connected to the Internet (Bhuasiri et al., 2012; Hollenbeck et al., 2006; Lange et al., 2003).

In order to sustain a competitive edge in the field of higher education, a number of traditional universities are using the Internet as a means to provide e-learning services besides traditional learning services that are characterized by interactions between lecturers and students in face-to-face classrooms (Kilburn et al., 2014). Recent research indicates that e-learning enrollments have grown (3.9%) faster than enrollments of overall higher education, and 63.3% of chief academic leaders believe that e-learning serves as a vital role in their long-term development strategies (Eom & Ashill, 2018). In fact, there are some universities that have become 100% online (for example, University of Phoenix), offering e-learning programs, including bachelor’s, master’s and doctoral degrees through their e-learning systems and websites.

Unfortunately, although universities have focused their attention on improving e-learning service quality, many are still not keeping pace with students’ increasing demands and expectations (Ali et al., 2018; Liu et al., 2010; Sulcic & Sulcic, 2007). Patten et al. (2006) studied e-learning based on seven distinct categories, namely, administrative, referential, interactive, micro-world, data collection, location aware, and collaborative. They found that much of the work presented across the categories has limited success.

In order to survive in an increasingly competitive e-learning environment, it is clear that universities must provide e-learning students with high quality services (Goh et al., 2017). To do so, universities are required to understand attributes that e-learning students use to evaluate service quality (Corbeil & Valdes-Corbeil, 2007; Pham et al., 2018). Then, necessary steps are taken to monitor and enhance the performance of e-learning services (Pham et al., 2018). Prior studies have identified service quality attributes in the traditional education environment in which direct interactions between faculty and students are the main communication and learning service delivery channel (Martinez-Arguelles et al., 2013). However, very few studies have examined service quality attributes in the e-learning environment where interactions over the Internet are the main communication and service delivery channel (Al-Rahmi et al., 2018).

The studies conducted by O’Neill and Palmer (2003), Wang et al. (2007), Udo et al. (2011), Martinez-Arguelles et al. (2013), and Pham et al. (2018) are exceptional, but these studies have limitations. Specifically, O’Neill and Palmer (2003) focused only on a particular university service – library service, while Udo et al. (2011) was limited to e-learning on a degree course. Wang et al. (2007) built and validated a scale aimed at measuring e-learning systems success, but this measurement scale was based on the firm’s employee perspective, not on the student perspective.

Martinez-Arguelles et al. (2013) developed an e-learning service quality measurement scale including 24 items that were grouped into four factors, namely, core business (teaching), facilitative or administrative services, support services, and user interface; however, this scale was based on E-SERVQUAL developed by Parasuraman et al (2005) and applied to the general online service environment, not the specific e-learning environment. In addition, this four-factor scale had limited explanatory power of overall e-learning service quality (adjusted R² = 50.1%).

Pham et al. (2018) showed that e-learning administrative and support service quality, e-learning instructor quality, e-learning accuracy, e-learning course materials quality, and e-learning security and privacy constitute overall e-learning service quality. However, this study was based on exploratory factor analysis with a small sample size (142) and the results of this study need to be confirmed.
Designing Open-Source OMIS Environment for Virtual Teams to Support Inter-Enterprise Collaboration
Kam Hou VAT (2010). Social, Managerial, and Organizational Dimensions of Enterprise Information Systems (pp. 272-288).
www.igi-global.com/chapter/designing-open-source-omis-environment/37919?camid=4v1a

Assessing Enterprise Risk Level: The CORAS Approach
Fredrik Vraalsen and Tobias Mahler (2007). Advances in Enterprise Information Technology Security (pp. 311-333).
www.igi-global.com/chapter/assessing-enterprise-risk-level/4805?camid=4v1a