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Service Quality and Perceived Value of Cloud Computing-Based Service Encounters

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INTRODUCTION

Cloud computing based technology is becoming increasingly popular as a way to deliver quality education to community colleges, universities and other organizations. At the same time, compared with other industries, colleges have been slow on implementing and sustaining cloud computing services on an institutional level because of budget constraints facing many large community colleges, in addition to other obstacles. Faced with this challenge, key stakeholders are increasingly realizing the need to focus on service quality as a measure to improve their competitive position in today's highly competitive environment. The purpose of this article is to present a study that examined the expectations and perceptions of instructors' usage of cloud computing based technology on overall quality of service (QoS). The article explores literature review that establishes the rationale and framework for this investigation, research methodology, data analysis, and results. A final section will include a summary of the findings, conclusions, and recommendations from the study.

BACKGROUND

Cloud Computing Environments

The explosive growth in computer usage by business, government, educational institutions, combined with global collaboration provided by the Internet, and competition has brought a considerable increase towards computer usage along with the associated need to maximize the use of available resources while minimizing costs. One area of growing interest for meeting these needs is the use of cloud computing to centralize computing and information management functions for large, often geographically dispersed organizations. Users only need to pay for the services they actually use (Kim, Kim, Lee, & Lee, 2009). It offers potential benefits related to reductions of server/storage infrastructure and delivery of services (Leavitt, 2009). Some of the primary types of cloud computing services include infrastructure as a service, platform as a service, and software as a service (Leavitt, 2009; "National Institute," 2011). Leavitt (2009) also included a general group called services, which consist of storage, middleware, collaboration, and databases provided via the Internet. These technologies and services together comprise the majority of the types of computing services available from cloud computing, ranging from hardware and software services, to entire computing environments. Cloud computing offers potential benefits related to reductions of server/storage infrastructure and delivery of services (Kim et al., 2009; Robinson, 2009). Cloud computing can be highly beneficial in educational settings. Among the possible benefits is the enhanced usefulness of the existing technology (Erenben, 2009). With its emphasis on the delivery of low-cost or free applications anywhere on the Internet, cloud computing is a promising prospect for educational institutions faced with budget restrictions and mobile student population (Denton, 2012). This study builds on the SERVQUAL model, discussed next, to analyze

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the significance of expectations and perceptions of instructors' usage of cloud computing technology in community colleges.

SERVICE QUALITY MEASUREMENT

According to Renganathan (2011), quality is a subjective concept that has no generally agreed definition for it. The word quality means different things to people according to the context. In general it is difficult to measure and quantify service quality. The main purpose of measuring service quality is to ensure whether service is provided as per the expectations of the customers. There are several well-known tools for measuring service quality or customer satisfaction. The most eminent instrument in attempting to systematize the service quality is "The gap model" of service or SERVQUAL developed by Parasuraman et al. (1985). This conceptual framework was developed initially to measure customer perception of service quality for the financial service sectors but later extended to sectors such as hospitality, telecommunications and healthcare. The SERVQUAL's model, which was developed by Parasuraman et al. (1988) used a survey to ask respondents for an indication of their expectations as well as their perceptions of service, and establishes the gap between the two. Other researchers, such as Cronin and Taylor (1992), held that only the perception of quality is important. The next section highlights how SERVQUAL has been used in universities to assess satisfaction not only with teaching and learning, but with support services such as information technology (Smith et al., 2007).

MEASURING SERVICE QUALITY IN HIGHER EDUCATION

Frequently, higher education institutions seek to provide high quality services in all parts of their educational curricula and administrative processes. Therefore, the importance of service quality makes its measurement and its subsequent management an issue of utmost importance (Shekarchizadeh, Rasli & Hon-Tat, 2011).

The review of literature shows that some studies used the SERVQUAL model to measure service quality in higher education. Boulding, Kalra, Staelin, and Zeithaml (1993) used SERVQUAL model to study expectations and perceptions linked with the delivery of services in an educational environment. Their study used SERVQUAL to measure students' satisfaction with overall quality of service in a higher educational setting (Al-alak & Alnaser, 2012). Table 1 below shows hypotheses' testing results of their study. All but the sixth hypothesis was accepted. Hampton (1993) also used SERVQUAL model to measure college student satisfaction with professional service quality. In examining students' perceptions of service delivery, he applied the gap model (the disparity between expectations and experiences). These studies support the use of SERQUAL model to measure instructors' usage of cloud computing technology

Table 1. Hypotheses' testing results

H		Result
1	There is a significant relationship between service quality dimensions and students satisfaction.	Accepted
2	There is a significant relationship between tangibles and students satisfaction.	Accepted
3	There is a significant relationship between reliability and students satisfaction.	Accepted
4	There is a significant relationship between empathy and students satisfaction.	Accepted
5	There is a significant relationship between assurance and students satisfaction.	Accepted
6	There is a significant relationship between responsiveness and students satisfaction.	Rejected

Source: Schwantz, 2012, p. 161, Table 4