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Factors Influencing Web 2.0 Technology Usage Among Academics:
A Case Study of Two South African Tertiary Institutions

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ABSTRACT

The usage of Web 2.0 tools in education affords many benefits, which include increased access to educational resources and the ability to collaboratively create and use content. Despite the benefits of Web 2.0 tools in higher education, the technology has not been widely used by academics in South Africa. Thus, the purpose of this research is to investigate the extent of usage and the factors that play a role in the usage of Web 2.0 tools among academics at two South African higher education institutions. A case study research strategy was adopted to fulfil the objectives of the study. This paper reports on the quantitative approach used to conduct the study. A questionnaire was administered to collect data from the target population. The results revealed that individual factors, organisational factors, perceived usefulness, and perceived quality characteristics are significant predictors to the usage of Web 2.0 tools. The study has practical implications for academic stakeholders in private higher education for the integration of Web 2.0 technology into their teaching practice.

KEYWORDS

Individual Factors, Organizational Factors, Pedagogic Factors, Perceived Quality Characteristics, Perceived Usefulness, Tertiary Education, Web 2.0 Usage

INTRODUCTION

Technology is advancing at a rapid rate and is becoming increasingly popular amongst students. This creates an ideal climate for the integration of technology into teaching and learning by academics in tertiary education. Technology can be an enabler for academic staff to develop and broaden their teaching skills and redesign curriculum for optimal integration. Web 2.0 is the term given to describe a second generation of the World Wide Web from static web pages to a more dynamic Web with applications like wikis, blogs, social networking (Facebook) and podcasting that allows greater collaboration, enhanced communication and easy access to material (Bower, 2015; Okello-Obura & Ssekitto, 2015). Web 2.0 tools used in an educational setting allows educators and students to create, collaborate, edit and share content on-line (Tyagi, 2012; Ajise & Fagbola, 2013). The usage of Web 2.0 tools in education holds a lot of benefits like enhancing teaching and learning experiences, improving students' access to educational resources and programmes, collaboration and easier communication with the lecturer and peers (McKnight, O'Malley, Ruzic, Horsley, Franey & Bassett, 2016). Despite

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the benefits afforded by Web 2.0 tools in higher education, the technology has not been widely used by academics in South Africa (Ngcobo, 2016).

A study by Yadav & Patwardhan (2016) revealed that the usage of Web 2.0 tools in higher education may be a result of individual efforts rather than institutional policies and strategies. Another study conducted by Tyagi (2012) on the usage of Web 2.0 tools among faculty members in six universities in India revealed that the usage of Web 2.0 tools was associated with important challenges such as potential risks and institutional fears. The results also indicated that faculties' attitude and their perceived behavioural control were strong predictors of intention to use Web 2.0 tools. According to Jimoyiannis, Tsiotakis, Roussinos, & Siorenta, (2013), Web 2.0 tools needs to be implemented in higher education as a learning platform and a learning attitude rather than just technology. A study conducted by Bagarukayo and Kalema (2015) revealed that academics are not using Web 2.0 technologies to their potential, thereby contributing to the low usage rates in South African higher education institutions. According to Keats and Schmidt (2007), major barriers that limit most African universities from adopting Web 2.0 technology tools are related to poor ICT infrastructure, limited access to computing technologies, and high cost and scarcity of Internet bandwidth, among others. Other factors that affect the implementation of Web 2.0 tools in South African higher education institutions are the lack of e-learning policy, the need for appropriate training and capacity development, a lack of relevant digital content, and the cost of implementation (Unwin, Kleessen, Hollow, Williams, Oloo, Alwala, Mutimucuio, Eduardo, & Muianga, 2010).

Based on the gaps in past literature, this research presents an original and empirical study on the extent to which Web 2.0 technologies are utilised to support teaching and learning at two South African private tertiary institutions. In addition, this study aims to uncover the factors influencing the usage of Web 2.0 technology in tertiary education.

BACKGROUND

Web 2.0 tools use the online platform that includes a variety of web sites and applications where *academics* and students can share ideas, information and interests. The usage of Web 2.0 tools can assist students to participate in groups by means of collaborative learning in tertiary education. Web 2.0 tools used in education can engage students in meaningful learning, as well as social interactions (Atkinson & Swaggerty, 2011). These tools also have the ability to provide effective and efficient feedback to students (Hartshone & Ajjan, 2009). Web 2.0 tools are important to implement in education because it will increase students' interests in courses taught, provide an exciting learning environment and improve learning by introducing appropriate technologies into the curriculum (Dooley & Jones, 2012). According to Junco (2012), students prefer to communicate with their fellow classmates by means of their cellular phones, e-mail, and social networks.

Many higher education institutions around the world are integrating Web 2.0 technological tools to enhance the teaching and learning process, however, most African higher education institutions are still faced with challenges that affect the effective use of Web 2.0 technologies in education (Kumar, 2009; Hramiak & Boulton, 2013). An empirical study conducted in Nigeria in 2013, examined the use of Web 2.0 in learning amongst librarians, academics and students in Nigeria, and reported that the use of these tools was lacking (Echeng, 2014).

The remainder of this section presents background information on the usage practices of Web 2.0 tools, and the factors related to the problem of Web 2.0 usage.

Web 2.0 Tools Usage

The three main uses of Web 2.0 tools in a university environment are: (1) to communicate classroom and research activities; (2) to keep up-to-date on topics of interest and (3) to make professional contacts (Yadav & Patwardhan, 2016). Regarding the first main use, which is to communicate classroom and research activities, Eyyama, Menevis and Dogruer (2011) explained that academics mostly use Web