Chapter 13
Predicting Student Intention to Use Cloud Services for Educational Purposes Based on Perceived Security and Privacy

Nikhil Padayachee
University of KwaZulu-Natal, South Africa

Surika Civilcharran
iD https://orcid.org/0000-0001-5222-1428
University of KwaZulu-Natal, South Africa

ABSTRACT

Cloud services in its entirety has drastically changed the perception of how industry experts and academics alike foresee the information technology sector. The reach of cloud services stretches into many sectors of society. Such sectors include the use of cloud technologies in education, which is of growing interest to academics and higher education institutions. However, many institutions adopt these services into their workflow without properly identifying the potential impacts on their students, since it is the student who engages with the new technology to enhance their knowledge base. This chapter investigates how student's perceptions of security and privacy, influences their adoption of cloud services for use in an educational setting. This study proposes that student intention to use a cloud service (e.g., DropBox) for academic purposes can be predicted upon their perception of security and privacy when using a specific cloud service.

INTRODUCTION

Over the years evolution in technology has brought about a transformation to the educational system. Consequently, educational institutions and students are increasingly incorporating Internet-based applications into their academic workflow, which is also meant to enhance teaching and learning activities. This transformation has resulted in student reliance on Internet-based applications for learning activities (Saini & Kaur, 2017). Internet-based applications are also referred to as Software as a Service (SaaS), which is one of the few paradigms of cloud computing. The remaining paradigms being Infrastructure as a service (IaaS) and Platform as a Service (PaaS) (Ali, 2019). The adoption and implementation of cloud computing has been under the spotlight by many researchers. However, many of these researchers who study SaaS in academic environments, mainly focus on the impact of SaaS applications on the educational institution itself. Subsequently, neglecting to investigate the "core" of the educational institution, which is the student body. Qasem et al. (2019) advises that more academic attention is needed to investigate the factors that affect the adoption of cloud computing in higher education institutions.

The literature pertaining to cloud computing presents a correlation among the definitions of underlying concept of cloud computing. In general, cloud computing is defined as, any kind of software services or computing resources that are provided or accessed through the capabilities of a network infrastructure – commonly the Internet (Mell & Grance, 2011; Mitra & Gupta, 2019). Examples of cloud computing services are storage and database systems, servers, software and development platforms (Saini & Kaur, 2017; Muhairat et al., 2019). An example pertaining to cloud computing for education is Google Apps for Education, which is a suite of applications that Google permits schools and other educational institutions to use free of charge. Higher education institutions, like colleges and universities, implement three kinds of cloud computing models, that is private clouds where institutions establish their own cloud computing environment, whilst governments have capitalized in shared clouds for universities. Additionally, universities acquire cloud services from third-party cloud service providers (Ali, 2019). Cloud computing for educational purposes have various associated benefits and challenges when deployed (Arpaci, Kilicer, & Bardakci, 2015). The apparent benefits associated with the adoption of cloud computing by higher education institutions are quality services, cost reductions, rapid advancements in technologies, customisability of cloud services and improved efficiency (Ali, 2019).

The factors that influence the adoption and use of cloud services are: accessibility of online applications, flexibility of learning environments, mobile learning support, availability of specialized software applications, cloud-based computing, cost reductions of hardware, software and operations, collaborative working, virtualisation,

Related Content

The Role of ICT in Utilization of Teff Technologies in Enebsie Sar Midir District, East Gojjam Zone, Ethiopia
Wondmeneh Getnet Walelign, Jemal Yousuf Hassenand Endalew Getnet Walelign (2016). *International Journal of ICT Research in Africa and the Middle East (pp. 1-14).*
www.irma-international.org/article/the-role-of-ict-in-utilization-of-teff-technologies-in-enebsie-sar-midir-district-east-gojjam-zone-ethiopia/163392

Project Quality of Off-Shore Virtual Teams Engaged in Software Requirements Analysis: An Exploratory Comparative Study
Dhruv Nath, Varadharajan Sridhar, Monica Adyaand Amit Malik (2010). *Technological Advancement in Developed and Developing Countries: Discoveries in Global Information Management (pp. 132-153).*
www.irma-international.org/chapter/project-quality-off-shore-virtual/39435

Participatory Monitoring and Evaluation of ICTs for Development
Ricardo Ramírez (2011). *ICTs and Sustainable Solutions for the Digital Divide: Theory and Perspectives (pp. 65-85).*
www.irma-international.org/chapter/participatory-monitoring-evaluation-icts-development/46711

Emerging Information and Communication Technology Policy Framework for Africa
Saul F.C. Zulu (2010). *International Journal of ICT Research and Development in Africa (pp. 46-64).*
www.irma-international.org/article/emerging-information-communication-technology-policy/51589

Public Acceptance of M-Government Services in Developing Countries: The Case of Jordan