

Chapter 100

Exploring the Use of Cloud Computing Systems in Tertiary Education: The Lived Experiences of Faculty Members

Joseph Kwame Adjei

School of Technology, Ghana Institute of Management and Public Administration, Accra, Ghana

ABSTRACT

Research on cloud computing systems has largely focused on the technology and security issues at the expense of understanding users' experiences with the technology. Through a phenomenological approach, this study explored the lived experiences of faculty members of tertiary institutions with respect to their use of cloud computing systems. We carried out an in-depth phenomenological interview among faculty members of selected tertiary institutions in Ghana. We explored their lived experiences on the use of cloud computing systems for academic activities. The results point to tensions between faculty members' identity and information privacy on one hand, and the requirement to effectively execute their academic and professional responsibilities. We conclude that while cloud computing systems enhance the reach and richness of academic information dissemination and academic interactions, faculty members must establish personal and professional boundaries in order to derive meaningful benefits from the use of such systems

INTRODUCTION

Educational institutions are constantly evolving in their quest to respond to technological developments and to stay relevant (Siemens & Matheos, 2012). Cloud computing is one such technological innovation that has attracted enormous attention of educational institutions, lecturers and researchers. The cloud is acclaimed to offer users; on-demand self-service, ubiquitous network access, location-independent resource pooling, rapid resource elasticity, usage-based pricing, and transference of risk (Mell & Grance, 2011). Such phenomenal technological development has been attributed in part to computing and telecom-

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munication convergence (Caytiles & Park, 2013), ubiquitous mobile devices and the downward trend of broadband costs. Cloud computing is also very appealing to users, given the flexibility of on-demand and real-time access to information resources and the relief from the burden of storage management, whilst exercising universal data access irrespective of the temporal or the spatial state of the user or the data, and avoidance of capital expenditure on hardware, software and maintenance cost (Mell & Grance, 2011).

The cloud also presents opportunities and affordances for teaching and learning, and spaces for educational collaboration (Barnes & Tynan, 2007), beyond the social spaces (Lenhart, Purcell, Smith, & Zickuhr, 2010). Educational institutions have embraced a variety of cloud computing systems in teaching, learning and for professional development purposes. For instance, lecturers and researchers of many tertiary institutions have signed up to cloud based systems like Dropbox and Google Drive for collaboration and for managing personal and corporate information of various degrees of sensitivity. Cloud based bibliographic systems, and systems for data analyses and editorial services are also very popular among academic researchers. Hanson, (2009) posited that technology adoption and use research in higher education must examine the ‘academic self’ more deeply, taking into consideration the professional and personal values of faculty members (Hanson, 2009). They also observed that individual faculty members can act as agents of change, supporting or hindering technology use in education (Hanson, 2009).

Various studies on privacy, security and trust issues in cloud computing have been carried out. However, the use of cloud computing systems in education have attracted limited research attention. Even more significant is the dearth of literature on the lived experiences of faculty members of tertiary institutions, especially from the perspective of developing countries (Pearson & Benameur, 2010). The study found it fit to explore the gap in our understanding of how faculty members actually use cloud computing systems by examining their lived experiences and how it influences their choices on the cloud. We examined the personal versus professional uses of cloud computing systems by faculty members and developed a model for clarifying the factors that inform user choices of cloud computing systems. The study also explains why and how faculty members of tertiary institutions use cloud computing systems for academic activities; their views on the use of such systems and the impact of the systems on their contribution to the scholarly profession.

A qualitative research approach using empirical data from phenomenological interviews conducted among faculty members of major tertiary institutions in Ghana was deemed most suitable approach for this study. The interviews focused on their lived experiences of using cloud computing systems for academic activities. The interviews were undertaken from December 2014 to August 2015. The paper argues that faculty members must establish their personal and professional boundaries in order to obtain meaningful benefits from the uses of such applications. Subsequent sections of the paper are organized as follows; the literature review and expose of contextual issues. We then proceed to the methodology followed by the interviews and discussions of the findings. Our research contributions and suggestions for further studies are presented in the concluding section of the paper.

LITERATURE REVIEW

Internet use in tertiary education has seen a dramatic improvement since the 1980s. A number of university faculty have signed up to a variety of technologies to enhance their academic activities (Baldwin, 1998). McKinsey Global Institute’s disruptive technologies report predicted that, cloud delivery of computing and Internet services would be a common phenomenon by the year 2025, with many organi-

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