Behavioral Intentions to Adopt Technological Innovations: The Role of Trust, Innovation and Performance

Vanessa Ratten
La Trobe University, Australia

ABSTRACT

Cloud computing services are a prominent innovation that has changed consumer behaviours towards adopting new technological services. Despite the popularity of this technological innovation the underlying factors that contribute to a consumer’s intention to adopt cloud computing services has not been well researched. This paper builds upon the well-known behavioural intention theories of the technology acceptance model and social cognitive theory to develop and test a number of hypotheses designed to understand the factors influencing intention to use cloud computing services. The research hypotheses in the paper propose that perceived usefulness, consumer innovation attitude, social norms, performance expectancy and trust influence behavioural intentions of consumers towards cloud computing services. The hypotheses are tested in a sample of United States and Chinese consumers to understand whether there are differences in behavioural attitudes towards technological innovations. The paper identifies research limitations, practical implications and future research suggestions.

INTRODUCTION

Cloud computing is a technological innovation that is being adopted at a fast rate by consumers due to the increased usage of information services and need to store information in an online environment (Alshamaila & Papagiannidis, 2013). Cloud technology enables consumers to use existing information technology services by reducing upfront costs associated with buying hardware and software services (Marston, Li, Bandyopadhyay, Chang & Ghalsasi, 2011). Consumers also use cloud computing services as this emerging technology can be integrated within existing technology practices (Wang & Lin, 2012). The main advantage for consumers using cloud computing...
technology is that information can be accessed in any time and geographic location (Stein, Ware, Laboy & Schaffer, 2013).

In the past consumers could only access online information via certain technology devices (Leyman, Fenling, Mietzner, Novak & Dustdar, 2011). The advances in technology innovations made possible by cloud computing has led to consumers having better convenience to online data via numerous computing devices that encourages sharing and uploading of real time information via cyber networks (Ojala & Puhakka, 2013). Consumers using cloud computing services can access online information in a self-service format with minimal interaction with the service provider (Chonka, Xiang, Zhou & Bonti, 2011). Previously this human-computer interaction was only possible to consumers who had access to large data servers that required money to update and use (Basri, 2013).

Despite the common usage of the term ‘cloud computing’ there is a lack of consensus about its correct definition. This is due to cloud computing referring to software as a service, platform as a service and web services depending on the type of computing usage (Chonka, 2011). In addition, the increase in usage of big data and grid computing has lead to cloud computing referring to any technology service being delivered via the internet. In this paper, due to the focus on consumer behaviour the definition of cloud computing adopted is the use of remote online computer servers over the internet to provide on-demand access and usage of information technology (Alshamaila & PapaGiannidis, 2013).

Consumers can use cloud computing services as a comprehensive technological innovation that can be accessed on-demand. This encourages consumers to use computer infrastructure as a way to generate information that is constantly expanded and converged (Karakas & Manisaligil, 2012). The digital ecosystem of information provided by online services enables multiple usages of technology services that vary depending on consumer needs and usage requirements (Yuruv, Greenstein, Shanley & Potter, 2013).

This paper is structured as follows. First, the theoretical premise of the paper is discussed, which focuses on innovation theory. Second, the research hypotheses are developed from the technology acceptance model and social cognitive theory and related to consumer’s intention to use cloud computing services. Third, the research method is explained and the analysis results stated. This leads to a discussion on the managerial and practical implications of cloud computing by consumers in both the United States and China. Finally, the limitations and future research suggestions are highlighted.

THEORETICAL PREMISE

Innovation Theory

Innovations are an important change to existing products or services, which influence consumer behaviour (Damanpour, 1991). Consumers adopt innovations as they involve time, efficiency or design advantages over existing products or services existing in the marketplace (Doong & Wang, 2011). The key feature of innovation is newness that incorporates idea generation and development (Raza & Standing, 2010). Innovation helps consumer’s access new ideas and processes that create better technology devices (Den Hertog et al., 2010). Technology innovation is the focus of this paper as an emerging service in the form of cloud computing services are analysed. This paper defines technology innovation as new computer software services that help consumers make better decisions (Thong & Yap, 1995).

The process approach to innovation is utilized in this paper as it focuses on the adoption and implementation of a technology service (Rogers, 1995). The process approach enables an evaluation of
Related Content

Semantic Cloud: Building Dynamic Mashup in Cloud Environment
[www.igi-global.com/article/semantic-cloud/103164?camid=4v1a](www.igi-global.com/article/semantic-cloud/103164?camid=4v1a)

Employing Graph Network Analysis for Web Service Composition
[www.igi-global.com/article/employing-graph-network-analysis-web/2635?camid=4v1a](www.igi-global.com/article/employing-graph-network-analysis-web/2635?camid=4v1a)

Genome Sequencing in the Cloud
[www.igi-global.com/chapter/genome-sequencing-in-the-cloud/140796?camid=4v1a](www.igi-global.com/chapter/genome-sequencing-in-the-cloud/140796?camid=4v1a)

The Role of Cloud Computing in Global Supply Chain
[www.igi-global.com/chapter/the-role-of-cloud-computing-in-global-supply-chain/140865?camid=4v1a](www.igi-global.com/chapter/the-role-of-cloud-computing-in-global-supply-chain/140865?camid=4v1a)