



# Cloud computing: A social cognitive perspective of ethics, entrepreneurship, technology marketing, computer self-efficacy and outcome expectancy on behavioural intentions



Vanessa Ratten

*La Trobe Business School, La Trobe University, Melbourne, Victoria 3125, Australia*

## ARTICLE INFO

### Article history:

Received 20 December 2011

Revised 23 February 2013

Accepted 27 February 2013

Available online 30 April 2013

### Keywords:

Technology marketing

Ethics

Entrepreneurship

Digital technology

Learning

Mobile technology

Technological innovation

Social cognitive theory

Technology innovation

Higher education

Cloud computing

Adoption behaviour

Computer based learning

e-Learning

## ABSTRACT

Cloud computing is one of the most important trends in technology innovation but its widespread adoption by individual's remains unexplored. The main purpose of this paper is to examine behavioural intentions towards cloud computing in an educational setting through the use of social cognitive theory. A survey questionnaire was tested amongst a sample of young consumers to develop an understanding of entrepreneurial inclination, ethical tendencies, technology marketing, computer self-efficacy and outcome expectancy on behavioural intention and learning effectiveness of cloud computing technology. The results indicated that ethical tendencies and technology marketing are indicators of behavioural intention to adopt cloud computing as an educational learning resource. The statistical analysis conducted supports the view that social cognitive theory can help to understand the main internal and external drivers of increasing an individual's intention to adopt cloud computing as a learning instrument. This paper contributes to the interactive technology, educational and technology marketing literature by integrating social cognitive theory with cloud computing services to highlight the importance of individual's learning about innovations and adopting them in a higher educational setting.

© 2013 Australian and New Zealand Marketing Academy. Published by Elsevier Ltd. All rights reserved.

## 1. Introduction and background

Cloud computing is a dynamic technology platform that addresses a wide range of needs by providing cyber-infrastructure to maintain and extend information storage capabilities. Cloud computing provides access to software and hardware without large capital outlays and provides easier access to applications and services that can be realized with minimal service provider interaction (Yang et al., 2011). This has enabled cloud computing to develop as a technological innovation that can handle large amounts of information that are transferred and stored via electronic applications (Leymann et al., 2011). The increased usage worldwide of the internet has resulted in cloud computing providing immediate access to resources without high upfront costs that can lower the barriers to innovation and afforded better scalability of technology services (Marston et al., 2011).

Cloud computing is a service-oriented technology that incorporates both hardware and software delivered on-demand through a network regardless of time and location (Marston et al., 2011). A number of different services are integrated within cloud computing including infrastructure as a service, platform as a service, software as a service, utility computing and web services (Chonka et al., 2011). Cloud computing enables multiple applications as single application software services multiple people and usages. This presents a comprehensive computing platform to users of cloud computing making the technology better utilized as the digital ecosystem of information is constantly changing (Karakas and Manisaligil, 2012). Cloud computing has changed the way information technology services are developed and maintained as it allows for updating of information that can be readily deployed to multiple users (Marston et al., 2011).

Technological innovations have given rise to ethical issues from the transferring of electronic information (Altschuller and Benbunan-Fich, 2009). In addition, there are decision making concerns that focus on ethical issues in the online environment (McMahon and Cohen, 2009). As the mass usage of cloud computing is rela-

E-mail address: [v.ratten@latrobe.edu.au](mailto:v.ratten@latrobe.edu.au)

tively new there are a number of ethical issues created by the technological innovation (Bradshaw et al., 2011). These ethical issues relate to privacy, security and anonymity (Jaeger et al., 2008). Privacy issues concern cloud computer service providers managing data and keeping data confidential (Bradshaw et al., 2011). As many cloud computer service providers are private companies like Amazon.com and Salesforce.com this could create ethical problems in the future about data mining. In addition, recent news about the group Anonymous, which is an online group have focused on the issue of ethical downloading of confidential information. Security issues concern illegal access to data that may include cybercrimes (Ratten and Ratten, 2007). These security concerns may result in computer system crashes as data protection and system management is enabled by the cloud computer service provider (Jaeger et al., 2008).

As the cloud computing infrastructure is managed by a third party there could involve potential security issues raised by conducting information process-intensive activities via a large data centre (Bradshaw et al., 2011). Reliability issues concern maintaining the electronic information requiring storage (Lundvall and Borras, 1999). Cyber-infrastructure is the system that stores information, which is built on grid and utility computing service orientated architecture (Vouk, 2008). This enables more flexibility and on-demand services with reduced technology overheads (Cantisani, 2006). In addition, the complex internet applications that require vast amounts of information are important prerequisites for the reliable maintenance of cloud computing services.

Cloud computing has increased in popularity as more mobile commerce (m-commerce) and electronic commerce (e-commerce) innovations have taken place. M-commerce enables electronic transactions for business purposes to occur through mobile wireless devices. *M-commerce* makes use of wireless technology to access information in a free-space environment thereby saving time and monetary costs (Aungst and Wilson, 2005). *E-commerce* includes any business transactions that are conducted electronically (Harris et al., 2005). This mobility of communications has allowed storage of data from any location and enabled greater access to information by individuals and companies (Lu et al., 2003).

Young consumers who have grown up with new technologies are one of the most prolific users of m-commerce and e-commerce due the internet being part of their everyday lives (Parycek et al., 2011). Previous research suggests that electronic learning technologies should have acceptance and support from the wider community before they are integrated into university programs (e.g. Zacharis, 2012). Young consumers at university have the access to electronic technology services and have the technology experiences to use them (Saatchi and Saatchi, 1999). In addition, young people are associated with fast adoption of digital media technologies (Parycek et al., 2011). This is due to young people integrating technology into their lifestyles as a way to access information. The processing of information quickly in a technologically advanced environment has meant that young people have more of an affinity for technology than previous generations (Ma et al., 2012). This technologically savvy nature of young people has led to technology being part of their social and cultural being (McNeill et al., 2011).

Cloud computing enables young consumer's flexibility in the way they use learning instruments as they can access information through a variety of sources depending on their individual learning style. Educational resources that can be used independently by young consumers at any geographic or time location can enhance their learning experience (Schiffman and Kanuk, 2000). Young consumers can access information via cloud computing relevant to their needs and interests, which encourages a process of learning integral to the fulfillment of their educational development goals. To encourage learning activities more universities are undertaking multi-media projects to facilitate multitasking young consumers

who are often working in addition to studying (Zacharis, 2012). The increase of mobile technologies and use of the internet has enabled higher educational institutions to use more technological innovations that deliver advanced information content that is more accessible to young consumers (Zacharis, 2012). Mobile technology provides young consumers with the benefits of flexibility and accessibility (Aungst and Wilson, 2005). These benefits of mobile technology lead to young consumers taking a more active and engaged learning model to the previous passive educational system (King, 2011). The young consumers learning experience is enhanced by the mobile technology as it enables interaction with educational resources, which encourages a more proactive approach to learning (Scutter, 2011). This has led to an increasing interest in the educational applications of cloud computing as a way to provide more engagement with young consumers and provide better learning opportunities.

Informal learning activities can take place through mobile technology as young consumers create and share course content online (Woodward et al., 2007). Moreover, active learning takes place in digital technology through the use of podcasts, discussion forums and vidcasts. Digital technology also allows young consumers to interact with class material by sharing their experiences, which results in more feedback occurring between students and teachers. The successful implementation of innovative technologies can be judged on their trustworthiness, ease of use and degree of fashionability (Keegan, 2004).

The purpose of this paper is to explore the relationship between ethics, entrepreneurship and marketing with computer self-efficacy and outcome expectancy about the adoption of cloud computing technology. The aim of this paper is to contribute to a better understanding of the drivers of young consumer's adoption of educational cloud computing services. Through a literature review on technological innovation adoption theories, social cognitive theory is found to be the theoretical foundation to understand the antecedent factors to an individual adopting cloud computing services. The main research question of the study addressed in this paper is: What influences an individual's intention to adopt cloud computing?

The structure of this paper is as follows. First, the literature on technological innovations is reviewed with social cognitive theory selected as being the most suitable for this paper. The conceptual framework is then developed based on improving our understanding of individual's attitudes towards adopting cloud computing as a service innovation. Next, hypotheses are derived from the conceptual framework to focus on the role of ethical inclination, entrepreneurship capability, technology marketing, outcome expectancy, computer self-efficacy and behavioural intention. This paper concludes by extending social cognitive theory to improve our understanding of consumer attitudes to service innovation by focusing on the importance of individuals having both an entrepreneurial orientation and ethical inclination to the adoption of technological innovations. Practical managerial implications and suggestions for further research are stated, which stress the significance of cloud computing as a educational technological innovation. The next section will discuss the different technology innovation theories found in the literature concerning technology adoption and behaviour intention.

## 2. Theoretical underpinnings: Technology innovation theories

Cloud computing is a technological innovation that has increased in usage as more individuals take advantage of mobile communications technology. There are a number of theories that have been used to describe the process of adopting a technology (Harris et al., 2005). This is due to some theories being combined

متن کامل مقاله

دریافت فوری ←

**ISI**Articles

مرجع مقالات تخصصی ایران

- ✓ امکان دانلود نسخه تمام متن مقالات انگلیسی
- ✓ امکان دانلود نسخه ترجمه شده مقالات
- ✓ پذیرش سفارش ترجمه تخصصی
- ✓ امکان جستجو در آرشیو جامعی از صدها موضوع و هزاران مقاله
- ✓ امکان دانلود رایگان ۲ صفحه اول هر مقاله
- ✓ امکان پرداخت اینترنتی با کلیه کارت های عضو شتاب
- ✓ دانلود فوری مقاله پس از پرداخت آنلاین
- ✓ پشتیبانی کامل خرید با بهره مندی از سیستم هوشمند رهگیری سفارشات