Telematics and Informatics 33 (2016) 34–47

Contents lists available at ScienceDirect

Telematics and Informatics

journal homepage: www.elsevier.com/locate/tele

An expectation-confirmation model of continuance intention to use mobile instant messaging

Apollos Patricks Oghuma [a], Christian Fernando Libaque-Saenz [b], Siew Fan Wong [c], Younghoon Chang [c,*]

[a] Federal Ministry of Communication Technology, Department of Spectrum Management, Radio Frequency Monitoring and Survey Division, Federal Secretariat Complex, Shehu Shagari Way, PMB 12578 Abuja, Nigeria
[b] Engineering Department, Universidad del Pacífico, Av. Salaverry 2020, Jesús María, Lima 11, Peru
[c] Department of Computing & Information Systems, Sunway University, No. 5 Jalan Universiti, Bandar Sunway, 47500 Selangor Darul Ehsan, Malaysia

ARTICLE INFO

Article history:
Received 24 February 2015
Received in revised form 7 May 2015
Accepted 9 May 2015
Available online 27 May 2015

Keywords:
Expectation-confirmation model
Continuance intention to use
Perceived usability
Perceived service quality
Mobile instant messaging (MIM) application
Perceived security

ABSTRACT

Stiff competition in the mobile instant messaging (MIM) market underscores the importance of continuance use of MIM to ensure sustainable growth of service providers. This paper investigates the impact of perceived usability, perceived security, perceived service quality, and confirmation on users' continuance intention to use MIM. A research model based on the expectation-confirmation model was built and empirically tested using data from 334 MIM users in South Korea. The results showed that perceived service quality and perceived usability significantly affect user satisfaction and continuance intention to use MIM. Perceived service quality also influences confirmation, which in turns affects perceived usability. The effect of perceived security on user satisfaction, however, is not significant. The findings provide insights to service providers when strategizing to increase customers' continuance intention to use MIM.

1. Introduction

Wide penetration of smartphones and mobile broadband access has increased the competitiveness of mobile instant messaging (MIM) as a significant communication alternative to the traditional short messaging system (SMS) (Ha et al., 2015). As a global phenomenon, MIM is trendy, rapidly-evolving, and has amassed millions of users. It allows users to send and receive messages, pictures, videos, and audios for free. Most MIM applications such as KakaoTalk, WhatsApp, and LINE also work on practically every smartphone and on diverse mobile platforms (e.g., iOS, Android, Symbian, and Windows). This feature improves its adoption rate. The dynamics of the mobile communication landscape have also led MIM to become the platform for entertainment, commerce, and work (Wu and Lu, 2013).

The MIM sector is very competitive with many applications already operating in the market and new ones are being introduced frequently. Attracting first time users is not as difficult as retaining existing customers (Chang et al., 2014a) because users are always willing to try out new technology products. However, preventing existing users from moving onto new MIM and abandoning the old ones is a challenging task. The task is further complicated by common features shared across all MIM applications that significantly reduce user switching cost (Deng et al., 2010; Zhou and Lu, 2011). Therefore, it is imminent

* Corresponding author.
E-mail addresses: oghumapatricks.apollos@ties.itu.int (A.P. Oghuma), christianlibaque@gmail.com (C.F. Libaque-Saenz), siewfanw@sunway.edu.my (S.F. Wong), younghoonc@sunway.edu.my (Y. Chang).

http://dx.doi.org/10.1016/j.tele.2015.05.006
0736-5853/

that MIM providers understand the factors that influence users' decision to continue using an MIM so that effective strategy can be put in place to increase consumers' continuance intention to use MIM.

The information system (IS) literature (Davis, 1989; Venkatesh et al., 2003) has covered technology adoption and use extensively. It has also investigated continuance technology use (Bhattacherjee, 2001; Bhattacherjee and Hikmet, 2008; Venkatesh et al., 2011). However, the characteristics of technology examined are different from that of an MIM. MIM is a new form of communicative technology with specific objectives and unique features (Yang, 2013). Before MIM, each individual online service requires its own domain. With MIM, this need is no longer present as the application can serve as the platform and hub for online services. MIM applications use their network effect, mobility and ubiquity to connect various services in one single platform. Using MIM, users are able to update real-time information anywhere, anytime. Since MIM is different from other online services (Ogara et al., 2014; Schneider and Goto-Jones, 2014), the factors that influence user continuance intention to use MIM will likely be different from the technology examined previously, and therefore should be investigated.

Furthermore, a review of the MIM literature shows that existing studies focus mostly on network effects and value factors leading to the intention to use and satisfaction. For example, Jiang and Deng (2011) studied the adoption of MIM by extending the Technology Acceptance Model (TAM) to include perceived synergy value. Zhou and Lu (2011) investigated how network externality and flow experience affect usefulness and satisfaction. Deng et al. (2010) examined the relationship between satisfaction and various value factors such as perceived customer value, service quality, functional value, and emotional value. Since there is lack of study that examines usability and security factors that may affect users' continuance intention to use MIM, we attempted to fill this research gap. Building on the expectation-confirmation model, we incorporated perceived usability and perceived security into the web of factors that may influence users' continuance intention to use MIM. The understanding achieved is valuable to MIM providers when they strategize to increase consumers' continuance intention to use MIM.

2. Literature review and theoretical model

2.1. The South Korea MIM market

South Korea is a vibrant mobile telephony market. Its citizens' creativity, eager embracement, and swift adoption of new technology trends position the country as a leader in the global mobile technology and services market (Ha et al., 2015). Several popular MIM applications such as KakaoTalk and MyPeople are developed in Korea and are widely used both within and outside of the country. Today, about 90% of the Korean population use MIM services via smartphones (DMC, 2014).

Among all the MIM, KakaoTalk is the most popular application in Korea. KakaoTalk was launched in 2010. It runs on various mobile operating systems. In 2012, KakaoTalk had 57 million registered users worldwide (Min, 2014). By January 2014, the number has more than doubled to over 150 million registered users (Min, 2014). The number of messages sent on KakaoTalk averaged 13 billion per day (Min, 2014).

KakaoTalk started as a communication and interaction channel for users to send messages and photos. Today, it has morphed into a platform for many social activities such as entertainment, social networking, and e-commerce (DMC, 2014; Ha et al., 2014). To lead the transition into a social platform, Kakao ensures it stays at the forefront of service updates. For example, it frequently enhances its gaming platform to make it more enjoyable, easy, and convenient for users to play games with friends. Its agility in riding the technology wave is evident in the domination of KakaoGames within the mobile game platform sector in Korea (Min, 2014). In fact, reports show that Kakao is leading the domestic mobile game industry (Min, 2014).

Just as any other MIM applications, KakaoTalk adopts an advertisement-based business model. In 2012, one third of its US$46 million revenue came from advertisements (Acuña, 2013). In this business model, the more the number of users and the longer they stay with a company, the higher and the more stable is the revenue generation stream. Therefore, MIM providers need users to continue using their services in order to achieve sustainable business growth.

2.2. Expectation-confirmation model (ECM)

The overarching theory of this study is the expectation-confirmation model (ECM). This model has gained acceptance in explaining user satisfaction and IS continuance intention to use (Bhattacherjee, 2001; Chiu et al., 2005; Halilovic and Cicic, 2013; Venkatesh et al., 2011). Expectation Confirmation Theory (ECT), which is the basis of the ECM has been used extensively in the marketing domain to gauge consumer satisfaction and post-purchase behavior. According to the ECT, consumers follow a process sequence to reach repurchase intention. The process begins prior to purchase where consumers form an initial expectation of the product or service. After the initial consumption, they form perceptions about the performance of the product or service and compare it with their original expectation (Halilovic and Cicic, 2013). The level at which the expectation meets their perceived performance will determine their level of satisfaction. Satisfied customers form a repurchase intention while dissatisfied customers discontinue subsequent use.

Bhattacherjee (2001) extended ECT to build the ECM of IS continuance. He likened IS users' continuance decision to that of consumers' repurchase decision because both follow the sequences of (1) making initial acceptance or purchase decision, (2)