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A Short Review on the Trend of Mobile Commerce Continuance Intention Studies and Its Underlying Model

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Abstract:

The purpose of this article is to provide a general overview on mobile commerce research with a focus on mobile commerce continuance usage intention studies. It highlights the phenomenon of mobile commerce industry as well as the conceptual definition of mobile commerce itself. It is then followed by a discussion on selected previous mobile commerce studies. In order to bridge the gap in the current literature, this paper offers significant implication in terms of understanding the need for conducting more research on mobile commerce continuance intention. This article reviews approximately seventy journal articles on mobile commerce which are published from 2004 until 2014 from selected journal publications. A brief discussion on the underlying model for mobile commerce continuance usage intention studies follows suit.

Keywords: *Consumers' confirmation, Consumers' continuance intention, Consumers' satisfaction, Mobile commerce, Perceived usefulness*

1 Introduction

In recent years, extensive research has been done in the areas of customer retention strategies in the telecommunication industry (Peng, Quan & Zhang, 2013). Many agree that the ultimate goal is to obtain as many loyal customers as possible. Nevertheless, the prevalence of electronic commerce or e-commerce makes the retention of existing customers even more difficult (Tamaddoni Jahromi, Sepehri, Teimourpour & Choobdar, 2010). Peng et al. (2013) assert that with competition just ''one click away'' and unprecedented customer empowerment, the churn rate of customers is likely to increase. Apart from that, the point that e-commerce users are bound by geographical constraint further evoke the need for mobility and broad reach of conducting e-commerce transactions ubiquitously. Since then, the world welcomes the technology of mobile commerce.

The proliferation use of mobile gadgets such as smartphones and tablet computers has made mobile commerce to grow at an explosive rate. Mobile commerce, better known as m-commerce, is undeniably one of the fastest growing technologies after the birth of the Internet.

Unlike its predecessor which is e-commerce, consumers all over the world are no longer restricted to geographical constraints in order to engage in mobile commerce activities.

The fact that mobile commerce provides ubiquity, which means that consumers can conduct transactions anytime, anywhere over wireless telecommunications networks, further boost up the number of mobile phone subscribers throughout the world. In addition, the worldwide mobile phone users are recorded as 3 billion in 2007, more than 4 billion in 2013 and is now expected to cross 5.1 billion by 2017 (Richter, 2013). A report by International Telecommunication Union states that the number of mobile subscribers reached 6.8 billion and there are as many as 2.1 billion mobile broadband subscriptions worldwide by end of 2013 (International Telecommunication Union, 2013). Undeniably, mobile technology acts as a key driver for speedy information communication technology (ICT) growth in many world regions. Hence, the escalation in wireless and mobile communications worldwide has significantly changed the way individuals communicate, access, and share information (Sultan, Rohm & Gao, 2009).

Surprisingly, the prevalence of mobile commerce markets in the Asian region far surpassed its counterparts in the United States and Europe. China and India both account for 1.854 billion mobile subscribers out of 6.835 billion mobile subscriptions worldwide (MobiThinking, 2013). Moreover, it is reported that Asian countries such as Korea, Japan, Taiwan, and Singapore appear to be more matured in terms of their mobile commerce market compared to those of many other countries (Zhang, Zhu & Liu, 2012).

The impact of mobile phone technologies are vast, among which are accounting for the greater than ever accessibility, frequency and speed of communication (Balasubramanian, Peterson & Jarvenpaa, 2002), creating new markets and opportunities, as well as changing the competitive landscape of business, existing community and market structures (Stewart & Pavlou, 2002). This phenomenon has made consumers becoming more and more sophisticated in their daily life and the demand for a better mobile commerce service would increase along with their mobile commerce usage. Nevertheless, the post-adoption behavioural intention studies which include satisfaction and continuance intention in mobile context gain less attention among researchers as opposed to the pre-adoption and the actual usage studies (Chong, 2013c).

2 Mobile Commerce

Many prominent authors and researchers in the previous studies consider mobile commerce as an extension of e-commerce and is, to a certain extent, similar to electronic commerce (Chong, Chan & Ooi, 2012; Rainer & Cegielski, 2013). The only difference is that mobile commerce transactions are wirelessly conducted with the use of mobile devices. However, Feng, Hoegler and Stucky (2006) argue that there is much more in mobile commerce than merely an extension of electronic commerce. They claim that mobile commerce has different interactions with users, usage pattern, and value chain, thus offering business models that are not available to electronic commerce. Apart from that, Goi and Ng (2011) simply define mobile commerce as any

transaction with monetary value that is conducted via a mobile network. Tiwari and Buse (2007), on the other hand, provide a clear distinction between mobile commerce and electronic commerce by viewing mobile commerce as mobile business and expanding its scope beyond monetary transactions. This is supported by Mohamed Khalifa, Cheng and Shen (2012), and together they define mobile commerce as conducting any transaction which involves the transfer of ownership or rights to use goods and services which is initiated and / or completed by using mobile access to computer-mediated networks with the help of an electronic mobile device.

From practitioner's point of view, Mobile Marketing Association (2013) define mobile commerce as the one or two-way exchange of value facilitated by a mobile consumer electronic device (e.g. mobile handset) which is enabled by wireless technologies and communication networks. The exchange of value in the definition could be in the form of purchasing of goods or services (digital content, physical goods, etc.), purchasing of perishable goods or services (tickets, vouchers, bill payment, remittances, etc.) and transferring of value or money (person to person, donations, etc.). Table 1 summarises the selected definitions discussed above.

Table 1. Selected definitions of mobile commerce

Source	Concept	Description
Feng, Hoegler and Stucky (2006)	Mobile commerce	Mobile commerce has different interactions with users, usage pattern, and value chain, thus offering business models that are not available to electronic commerce.
Tiwari and Buse (2007)	Mobile commerce	Mobile commerce as any transaction, involving the transfer of ownership or rights to use goods and services, which is initiated and / or completed by using mobile access to computer-mediated networks with the help of mobile devices.
Goi and Ng (2011)	Mobile commerce	Mobile commerce refers to any transaction with monetary value that is conducted via a mobile network.
Chong, Chan and Ooi	Mobile commerce	Mobile commerce is an extension of e-commerce and is similar to

(2012)		electronic commerce with the difference that the transactions in mobile commerce are conducted wirelessly using a mobile device.
Mohamed Khalifa, Cheng and Shen (2012)	Mobile commerce	Mobile commerce refers to conducting any transaction, involving the transfer of ownership or rights to use goods and services, which is initiated and / or completed by using mobile access to computer-mediated networks with the help of an electronic device.
Rainer and Cegielski (2013)	Mobile commerce	Mobile commerce refers to electronic commerce transactions that are conducted in a wireless environment, especially via the Internet.
Mobile Marketing Association (2013)	Mobile commerce	Mobile commerce is the one or two-way exchange of value facilitated by a mobile consumer electronic device (e.g. mobile handset) which is enabled by wireless technologies and communication networks.

2.1 Previous Studies on Mobile Commerce

Ever since its emergence in the late 1990s, numerous studies have been done on mobile commerce. Varnali and Toker (2010) classify mobile commerce research into four major categories, namely theory, strategy, consumer behaviour and legal and public policy. Scholars all over the world have put much interest in studying the consumer behaviour category to develop models pertaining to perceived consumer value in the mobile context (Kim, Chan & Gupta, 2007; Magura, 2003; Mahatanankoon, Wen & Lim, 2005; Bauer, Reichardt, Exler & Tranka, 2007; Bruner & Kumar, 2005), m-commerce adoption and acceptance (Bhatti, 2007; Hsu, Lu & Hsu, 2008; Khalifa & Shen, 2008; Luarn & Lin, 2005; Chong et al., 2012; Ibrahim M. Al-Jabri & M. Sadiq Sohail, 2012; Chung & Holdsworth, 2012; Gao, Rohm, Sultan & Pagani, 2013; Chong, 2013b; Chong, 2013c), attitude towards m-commerce (Bauer, Reichardt, Barnes & Neumann, 2005; Okazaki & Mendez, 2013), role of trust (Karjaluoto, Lehto, Leppäniemi & Jayawardhena, 2008; Zhang & Mao, 2008; Lee, 2005), and satisfaction and continuance intention (Pura, 2005; Pihlström, 2007; Chae, Kim, Kim & Ryu, 2002; Magura, 2003; Cyr, Head & Ivanov, 2006; Chiu, Wang, Fang & Huang, 2012; Hung, Yang & Hsieh, 2012; Chong, 2013a;

Hsiao & Chang, 2013; Lu, 2014; Kim, Kang & Jo, 2014). Table 2 below summarises the selected studies on mobile commerce context.

Table 2. Selected studies on mobile commerce

Author	Constructs Studied	Major Findings
Ahasanul Haque (2004)	Gender, types of information, and m-commerce adoption	Significant difference in terms of male and female's perception on mobile commerce. Types of information do not influence m-commerce adoption among groups.
Cyr, Head and Ivanov (2006)	Design aesthetics, usefulness, ease of use, enjoyment, and m-loyalty	Usefulness and enjoyment significantly influence m-loyalty.
Li and Yeh (2010)	Design aesthetics, usefulness, ease of use, customization, and m-trust	Design aesthetics, ease of use, usefulness, and customization significantly influence m-trust.
Wang and Li (2012)	Usability, personalization, identifiability, perceived enjoyment, brand loyalty, perceived quality, brand awareness, brand association, and purchase intention	All significant except usability and personalization (on brand association).
Shih and Chen (2011)	Task requirements, tool experience, tool functionality, task technology fit, perceived ease of use, perceived usefulness, attitude, and behavioural intention	The explanatory power of the integrated model (R^2_{BI} = 76%) exceeds either TAM (R^2_{BI} =66%) or TTF (R^2_{BI} =67%) alone.
Zhou and Lu (2011)	Extraversion, agreeableness, openness, conscientiousness, neuroticism, trust,	All supported. Trust and perceived usefulness mediated the

	perceived usefulness, and behavioural intention	effects of personality traits on behavioural intention.
Hung and Hsieh (2010)	Power distance, uncertainty avoidance, individualism, masculinity, long-term orientation, functional value, social value, emotional value, epistemic value, conditional value	Two types of correlation between cultural influencers and mobile consumption values: Achievement-facilitated relationship and relationship-maintained relationship.
Md. Aminul Islam, Mohammad Aktaruzzaman Khan, Ramayah and Muhammad Muazzem Hossain (2011)	Awareness and knowledge, convenience, pricing and cost, security and privacy, rich and fast information, perceived usefulness, self-efficacy, and adoption of m-commerce	Pricing and cost, rich and fast information, security and privacy significantly influence adoption of m-commerce. Self-efficacy moderates the relationship between rich and fast information and adoption of m-commerce.
Zhou (2011)	System quality, information quality, service quality perceived ease of use, perceived usefulness, trust, and satisfaction	Perceived ease of use, perceived usefulness, and trust significantly influence satisfaction.
Chung and Holdsworth (2012)	Perceived risk, trustworthiness, observability, compatibility, complexity, trialability, relative advantage, culture and behavioural intent to adopt m-commerce	All supported. Culture moderates in Kazakhstan and Morocco.
Ibrahim M. Al-Jabri and M. Sadiq Sohail (2012)	Perceived risk, observability,	Observability, compatibility, and

	compatibility, complexity, trialability, relative advantage, and mobile banking adoption	relative advantage positively influenced mobile banking adoption. Perceived risk negatively influenced mobile banking adoption.
Hung, Yang and Hsieh (2012)	Confirmation, perceived usefulness, satisfaction, trust, and continued intention	Trust can overcome the limitations of ECM (lacking in intrinsic motivation) and improve the explanatory power of initial ECM.
Zhang, Zhu and Liu (2012)	Perceived behavioural control, subjective norm, perceived usefulness, perceived ease of use, innovativeness, compatibility, attitude, perceived cost, perceived risk, trust, perceived enjoyment, culture, behavioural intention, and actual use	Culture has specific effect on mobile commerce adoption.
Li, Dong and Chen (2012)	Convenience, media richness, subjective norms, self-efficacy, emotion, and consumer experience	Emotion significantly influences consumer experience. Media richness and subjective norms are equally important.
Chan and Chong (2013)	Age, educational level, gender, perceived enjoyment, perceived ease of use,	Different demographic, motivation, and security perception variables have different relationships with the types of m-commerce

	perceived usefulness, social influence, perceived security risk, and m-commerce usage activities	usage activities.
Chong (2013b)	Trust, performance expectancy, effort expectancy, perceived value, perceived enjoyment, personal innovativeness, facilitating conditions, social influence, and m-commerce adoption	The neural network model is able to offer a more accurate prediction of the determinants of m-commerce adoption.
Yan, Dong, Niemi and Yu (2013)	Personal motivation, brand impact, perceived quality, personality, using behaviour, reflection behaviour, correlation behaviour, and trust behaviour	Users' trust behaviour is composed of 3 principal constructs- using behaviour, reflection behaviour and correlation behaviour.
AbdulMohsin Alkhunaizan and Love (2013)	Gender, age, education, and actual use.	Age significantly influence actual use.
Gao, Rohm, Sultan and Pagani (2013)	Perceived ease of use, perceived usefulness, innovativeness, risk avoidance, attachment, attitude, mobile marketing activities, and permission-based acceptance	All supported except risk avoidance on attitude in US sample.
Chong, Chan and Ooi (2012)	Trust, cost, social influence, variety of services, perceived ease of use, perceived usefulness, trialability, gender, age,	Age, trust, cost, social influence and variety of services significantly influence Malaysian consumers to adopt. Trust, cost, and social

	educational level and consumer intention to adopt	Influence significantly influence Chinese consumers to adopt.
Okazaki and Mendez (2013)	Portability, interface design, usability, simultaneity, speed, searchability, convenience, and gender	There is a link between interface design and usability among females' use of m-commerce.
Thakur and Srivastava (2013)	Perceived usefulness, perceived ease of use, social influence, facilitating conditions, security risk, privacy risk, and intention to use	Perceived usefulness, perceived ease of use and social influence positively influence intention to use. Security risk and privacy negatively influence intention to use. Facilitating conditions do not have significant impact on intention to use.
Chong (2013c)	Age, educational level, gender, perceived usefulness, perceived ease of use, perceived enjoyment, and m-commerce usage activities	Age negatively related with activities. Educational level, perceived usefulness, perceived ease of use and perceived enjoyment positively related with activities. No difference between men and women in activities.
Hsiao and Chang (2013)	Perceived value, perceived trust, confirmation, perceived usefulness, satisfaction, and continuance intention	All supported except perceived trust do not significantly related to satisfaction.
Chong (2013a)	Perceived ease of use, perceived usefulness, perceived enjoyment, trust,	Perceived ease of use, perceived usefulness, perceived enjoyment, trust,

	perceived cost, confirmation satisfaction, and continuance intention	perceived cost, satisfaction significantly influence continuance intention. Perceived ease of use and perceived cost have no significant relationship with satisfaction.
Lu (2014)	Social influence, personal innovativeness, perceived usefulness, perceived ease of use, mobile commerce continuance intention	Personal innovativeness and perceived usefulness significantly influence continuance intention. Social influence and perceived ease of use have no significant relationship with continuance intention.
Kim, Kang and Jo (2014)	Confirmation, perceived usefulness, perceived enjoyment, perceived switching costs, user satisfaction, continuance intention	User satisfaction and perceived switching costs significantly influence continuance intention. Perceived usefulness and perceived enjoyment do not influence continuance intention.

2.2 Mobile Commerce Continuance Usage Intention Studies

Regardless of massive attention on consumers' behavioural intention and actual usage of mobile services, not much research has been done on customer satisfaction and continuance intention (Varnali & Toker, 2010). The focus on post-adoption or post-purchase behaviour has been somewhat deserted even though there are past studies that stress on the importance of understanding the continuance usage intention (Varnali & Toker, 2010; Chong, 2013a). Mobile commerce users are irregular in their actions, and they may not return to the activity once they leave (Lin, Wu & Tsai, 2005). Therefore, attracting users and maintaining their continuance usage is crucial for the success of mobile commerce (Chong, 2013a).

Continuance intention is a post-acceptance construct that is posited in the original Expectation-Confirmation Model by Bhattacherjee (2001). As it is a construct measured after the actual usage has taken place, some studies operationalised continuance usage intention as the act of loyalty intention. Table 3 summarises selected studies on mobile commerce continuance usage intention.