Chapter 12
Exploring Barriers Affecting the Acceptance of Mobile Commerce

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ABSTRACT

With the continuous increase in numbers of users of mobile devices, the adoption of M-commerce is still far from reaching its full potential. There are various barriers that hinder the proliferation of m-commerce such as mobile devices inefficiency, lack of consumer’s trust, incompatible networks, poor network coverage, limited bandwidth, low speed, lack of security & privacy, high cost of handsets and cost of establishing the necessary wireless infrastructure and lack of awareness. Perceived usefulness, perceived ease of use and gender differences were other influential factors in m-commerce. Recently, Mobile Payment (m-payment) is a promising and exciting domain that has been rapidly developing. However, Consumer adoption of mobile payment (m-payment) solutions is low compared to the acceptance of traditional forms of payments. The chapter discusses these above m-commerce’s barriers in details.

INTRODUCTION

M-commerce is a new business opportunity that designates the use of wireless handheld devices such as cellular telephones, personal digital assistants, and pocket and tablet computers to make business transactions such as product ordering, fund transferring and sending or receiving of messages through communications networks that interface with these devices. M-commerce refers to the market activities where wireless devices (particularly mobile phones) are exploited to conduct electronic business transactions, such as product offering, fund transfer, and stock trading (Kalakota and Robinson, 2001). Its unique characteristics are anytime anywhere faster access to applications by its users. It enable millions of people to access information where they are without being confined to static terminal of PC and fixed networks. Easy expansion, quick design and cost efficient implementation in the areas with difficult geography or poor economic conditions are the advantage of mobile network over fixed network (Dholakia

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and Dholakia, 2004). With the rapid increase in the use of mobile devices and anytime-anywhere connectivity leads to significant growth of M commerce. A huge number of applications can be imagined for mobile commerce, including banking, shopping, betting, trading, ticketing, entertainment, gaming, and logistics. A lot of these applications will have one thing in common is the consumer has to pay for services he has used or goods he has purchased. Karnouskos and Fokus (2004) say that “Any payment where a mobile device is used in order to initiate, activate, and/or confirm this payment can be considered a mobile payment”. The impact of mobile payment has a noticeable effect on mobile commerce. However, mobile payments face a number of problems, both from a technological and business point of view. This may affect the consumer adoption of m commerce. Here author studied several factors affecting the use of M commerce and m-payments by consumers.

**Devices Incompetence**

The major differences between traditional PC and Handheld or phone devices is latter’s smaller screen sizes and limited input capabilities (Tarasewich et al., 2002). Based on their study of Finland, Carlsson and Walden (2002) opined that limited screen size is a barrier in growth of m-commerce. Many handheld devices display few lines of text and do not have traditional keyboards. Devices with small screen size cannot display information rich content in a useful way. The lack of space on smaller screens means that the search for the dynamic organization of space is one of the most challenging tasks to the design process (Zwick and Schmitz, 2005). There are various techniques emerged to increase the display size. These techniques include zooming, panning and dialogue boxes. Apart from size of screen of mobile devices, resolution and color capabilities are usually less than those found on desktop computers (Tarasewich, 2003). These limitations make it difficult to display graphic-based output (e.g., maps, charts, or Web pages). There are also tradeoffs in improving the screen characteristics of mobile devices. Increasing screen size will increase the size and weight of a device.

Many mobile devices usually rely on a more limited keypad for input. They use a standard 12-button numeric keypad augmented by several special purpose keys such as “clear” and “ok”. The problem with this keypad is that a user must adjust to smaller keys, oftentimes learning to type messages with both thumbs. Data entry and error rates can suffer with smaller keys as well. One way to eliminate the use of a keypad is to use a stylus to write input directly on the screen of the device (a process known as gesture recognition) or use a virtual keyboards, with each key being “pushed” by touching it with a stylus. Such keyboards are implemented in section to save screen space as well.

Mobile devices are suffered from lack of memory, disk capacity and less computational power than traditional computing devices. Other limitation is that their operations rely on finite energy provided by batteries. The advantage of small mobile devices, such as portability and small size, become the biggest disadvantage when they are lost or stolen (Tarasewich, 2003). Venkatesh et al. (2003) also argues that limitations of screen size/resolution and cumbersome input mechanisms hinder customers’ shopping experience and lead to a major setback in many m-commerce applications. In using mobile internet, all lists of available options cannot be drawn within the small screen’s display area cause user to repeatedly scroll through the menu list, select an option, scroll through a sub-menu, select an option, and so on. They are required to perform multiple key presses and may commit numerous navigation errors (Albers and Kim, 2000). Chae and Kim (2004) investigate how screen size of mobile devices and information structure affect user navigation activities and perceptions as well as identify the moderating effect of