The Moderating Roles of Income and Age in Mobile Commerce Application

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ABSTRACT
Mobile commerce is becoming a major aspect of our human endeavors with the advancements in wireless technology and services. This article examines key factors that influence mobile commerce adoption, and the moderating roles of age and income. The conceptual framework is underpinned on an extended technology acceptance model. The survey data was collected from participants selected from Malaysia. The analysis was based on 260 valid responses, and the findings reveal that age and income moderate perceptions on behavioral intention to adopt mobile commerce. Different age groups exhibit different perceptions. Further, cost and social influence become more important as age increases, while perceived usefulness becomes more significant as age decreases. In addition, perceived usefulness emerges as the most important factor for participants earning low income, and social influence is the most important factor for participants earning high income. Surprisingly, high-income earners indicate that cost is an important factor. The contributions to research and practice including suggestions for future studies are discussed.

Keywords: Acceptance Model, Cost, Mobile Commerce, Social Influence, Survey, Wireless Technology

INTRODUCTION
Mobile phones are now a global communication and business device. The adoption of mobile phones tends to lead to an increase in the demand for mobile content. The initial products purchased through mobile devices were ringtones and games. However, with the diffusion of smartphones, consumers could now gain access to mobile Internet easily, compared to a feature phone. As electronic commerce (e-commerce) evolves, mobile commerce (m-commerce) progresses with advancements in mobile Internet platforms (for example, high speed 3G and 4G mobile Internet technologies). M-commerce is characterized by unique location-based services delivered by a variety of handheld terminals (Dholakia & Dholakia, 2004). While the advancement of mobile technologies facilitates m-commerce, and there are potentials for a huge increase in transactions over mobile platforms, m-commerce activities...
among consumers, however, are still evolving (Sadi & Noordin, 2011; Grau, 2009). In fact, the diffusion of m-commerce could be extensive if factors affecting consumers’ adoption of m-commerce are researched extensively.

The research history of information technology acceptance indicates that knowledge of a system, assessment, and support, as well as system characteristics, are important factors affecting the usage of a technology. These factors are synthesized from established theories, such as Technology Acceptance Model (TAM) by Davis (1989) or the theory of Diffusion of Innovations by Rogers (1995) and Moore and Benbasat (1991). In this article, we extended the technology acceptance model to examine specific factors that could influence the intention to use m-commerce among Malaysians. The objectives of this article include determining the moderating roles of age and income in the influence of perceived trust, personal innovativeness, perceived cost, perceived ease of use, perceived usefulness, and social influence on consumers’ adoption of m-commerce. We also extended the existing theoretical framework and literature by integrating constructs relevant to m-commerce.

In addition, there are extensive studies on m-commerce in Europe, North America, Australia, New Zealand, and other Asian countries such as Japan, South Korea, and China (Davis, 2010; Coursaris et al, 2003; Chang, et al 2009; Min & Ji, 2011; Zhou & Lu, 2011). However, prior studies on m-commerce in Malaysia appear limited (Wei, Marthandan, Ooi, & Arumugam, 2009; Sreenivasan & Noor, 2010; Li & Lv, 2007; Eze & Poong, 2013), particularly studies focusing on young adults. In addition, prior research on m-commerce in Malaysia has focused mainly on assessing the infrastructure and growth of the phenomenon with less emphasis on dynamics exhibited among those willing to experience m-commerce. This article focuses on young adults’ perspective on the contextual emergence of m-commerce adoption when demographic factors are considered. This article also focuses on m-commerce for both physical and non-physical goods. The findings in this article would contribute in several ways to knowledge as it extends the application of TAM to the mobile arena and provides additional information based on the factors considered critical to the development and advancement of m-commerce. The findings would also be useful to the industry as companies associated with m-commerce explore avenues to attract more clients.

**BACKGROUND**

It is crucial for a developing country such as Malaysia to exploit the potentials of wireless broadband technologies to enhance its social and industry capabilities including national competitiveness, which may enable the attraction of Foreign Direct Investment. These possibilities prompted the establishment of the National Broadband Initiative, which targeted and achieved 50% of broadband penetration by the end of 2010. Efforts to enable the deployment of broadband include enhancing wireless broadband by upgrading mobile operators’ infrastructure to provide 3G and high-speed packet access connection from mobile devices. A summary statistics published by the MCMC (Malaysian Communications and Multimedia Commission) (2011) demonstrates strong growth in both broadband and mobile cellular subscriptions. Given the availability of mobile Internet infrastructure, IDC (2010) sees an initial wave of m-commerce usage in Malaysia between 2010 and 2014, which could provide many research and business opportunities.

With over 28 million people and about 11.3 million mobile subscribers in Malaysia, there is a significant market opportunity for m-commerce (IDC Malaysia, 2010). Celcom (M) Sdn Bhd., a Malaysian telecommunication company, offers its customers more m-commerce services such as parking payment and purchasing movie tickets (Yeap, 2001). Maxis Sdn Bhd., a leading mobile services operator in Malaysia, collaborated with Paybox Mobile Wizard in 2006.
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