A Conceptual Framework on Mobile Commerce Acceptance and Usage Among Malaysian Consumers

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Abstract: - The aim of this conceptual paper is to investigate the mobile commerce acceptance among Malaysian consumers. With mobile commerce or m-commerce technology, consumers can use mobile phones, Personal Digital Assistant (PDA) and laptop computers to access the internet, send and receive messages and make transactions at any time from any places without having tied to a particular location. This new electronic marketing concept has broadened the scope of service for consumers. M-commerce facilitates to offer great experience to consumers to shop at their own time and from any place. Entrepreneurs, on the other hand, are able to obtain numerous benefits related to customization of products and services based on the location of the consumer. However, with the abundance of access to information system and high frequency of exposure to mass media, consumers are now becoming more concerned about the fraudulent issues that appear in electronic marketing. Therefore, considerations must be given to the implications of privacy and trust in m-commerce, if utilization and mutual benefits is to be derived on a lasting basis between consumers and entrepreneurs. It is very important to examine the privacy and trust elements to understand the acceptance and use of m-commerce thus formulate a new model of m-commerce acceptance and use behaviour. This conceptual paper is engrossed to examine the influence of trust on behavioural intent and specifies a model for the acceptance and use of m-commerce. The contribution of this research will bring benefits to entrepreneurs to gain strategic competitive advantage from economic and business information system point of view.

Key-Words: - Mobile Commerce, Consumer acceptance, Privacy, Trust.

1 Introduction

The rapid development and application of electronic commerce and wireless technology has given birth to a new electronic marketing concept known as mobile commerce (m-commerce). There are various definitions describing m-commerce. However, in the simplest form, m-commerce is recognized as the use of wireless devices, like mobile phones and personal digital assistance (PDAs), to connect to the internet for the purpose of communicating or conducting business without location restriction.

Mesmerized by the introduction of m-commerce to the electronic marketing system, entrepreneurs and consumers are becoming attuned to growing issues regarding the ethical use of customer’s personal data, the protection of their privacy, and the serious effect that misuse could have on customer’s ultimate decisions to use the m-commerce. While business ethics and personal privacy are not new issues in the world of business, the rapid evolution of new application of wireless technology and m-commerce is now bringing these issues to the forefront in this industry.

Therefore, it is certainly timely to understand the privacy and trust issues in Malaysian context, which may become the thrust to the acceptance and use of m-commerce. A good platform is needed in order to
provide a new model of m-commerce acceptance and use behaviour.

2 Problem Statement
Today, most adult mobile phone users are technically sophisticated. They use computers and the Internet to purchase products, send and receive e-mail and play games on-line (McFarland 2002). However, with a huge number of mobile phone subscribers and ready for the next generation of e-commerce, what could be deterring this new global phenomenon from reaching its full potential?

Still in its introductory stage in some countries including Malaysia, m-commerce is currently experience some growing pains. While its gift of mobility offers new-found freedom for some, others are wary that this freedom comes at a price too great to pay. Their privacy is threatened and their trust is at stake. For that reason, understanding m-commerce acceptance and usage among Malaysian consumers’ has become a very interesting topic to explore.

In order to derive an interesting theoretical framework, the research will be built upon the Unified Theory of Use and Acceptance of Technology (UTAUT) Model, developed by Venkatesh et al. (2003), which combines views from eight different acceptance theories.

3 Research Objective
The main research objectives for this paper will be:
• to identify user beliefs concerning the effects of discovery, use, and redistribution of location information on personal privacy and trust,
• to determine the effects of information privacy sensitivity on a customer’s willingness to participate in m-commerce, and
• to identify a model for use in determining user’s acceptance and willingness to use m-commerce.

4 Literature Review
A considerable amount of research has been conducted over the past few decades in the area of trust, privacy and the use of information technology, with customers having been the primary focus. Trust has repeatedly been deemed critical to the development of relationships between customers and businesses (Friedman et al 2000; McKnight et al 2001).

While findings have revealed trust to be a central issue in the acceptance and use of e-commerce (Gefen et al 2003), this issue is perceived to be, but has not been specifically, addressed as a major issue in the success of m-commerce (Deans 2002; Dogac et al 2002). Customer concern over the collection of personal data, its ownership, and its subsequent use has been the driving force for investigation related to privacy issues (Boncella 2001). In some country, personal privacy issues on the Internet and e-commerce have become such a major problem that forced the government to impose law for privacy protection. A study by Sylvie et al (2005) on consumer attitude towards online and mobile banking in China identifies security issues to be the most important factor that motivated Chinese consumer adoption. Philip (2005) in his findings identified the inefficiency existing within the wireless ecosystem as the main barrier to the widespread consumer adoption of mobile internet.

In m-commerce, while some research has delved into privacy issue associated with mobile communication (Duri et al 2002), the impact of location identification on user trust and willingness to use the technology has received very little attention. Only slight interest has been directed to determine the effect of trust on the use of technology, especially mobile technology, other than through customer relationship management. Also only a nominal amount of study has been undertaken concerning the impact of the use of location technology on the use and acceptance of m-commerce even though it has been identified as a major issue on several planes (Tarasewich et al 2002).

4.1 Privacy
Insofar, the use of the Internet for e-commerce has greatly enhanced the capability of businesses to collect personal information through the use of online forms required to complete purchase transactions, online surveys about user preferences, and click stream data. Now, technological advances available through m-commerce also facilitate the capture of the user’s physical location. However, the ease of data collection through the Internet and ready access to data for analysis has increased the potential to abuse individual rights to privacy. While some action has been taken toward efforts to regulate the use of location data in m-commerce (CTIA 2000), there is no evidence of empirical research in the area.

4.2 Trust
As technology evolves and privacy issues become more prevalent when doing business on the internet, the trust relationship between the customer and the
organization becomes significantly more important (Gefen 2002). The location information available in m-commerce gathered through the use of GPS and mobile technology, allows personalization based on the user’s specific location. Consequently, the more customized the service offered by the business, the more personal information the business has to collect about a customer. Customers are wary of providing too much personal information lest it be misused or disclosed without the individual’s specific consent. Due to that reason, a framework is essential for building customer trust in m-commerce (Grabner-Kraeuter 2002).

Based on the aforementioned literature, the researcher believes that developing trust is essential to the success of m-commerce. Therefore, the element of location, trust and privacy should be modelled for future references to ensure business longevity and survival.

5 Research Questions
In examining the use and the acceptance of m-commerce, three questions will be posed for this research to help focus the hypothesis and assist in the development of the methodology:

- to what degree is trust a factor in an individual’s decision to commit to use m-commerce?
- to what degree does the ability of mobile technology to discover and track a user’s location affect the customer’s trust and use of m-commerce?
- to what degree do company and government privacy protection policies affect the customer’s trust and commitment to use m-commerce?

6 Research Hypothesis
The research hypothesis will be as follows:

H1 : Performance expectancy will have a significant positive effect on customer intention to use m-commerce for the purchase of products and services,

H2 : Effort expectancy (ease of use) will have a significant positive effect on customer intention for the purchase of products and services,

H3 : Social influence will have a significant positive effect on customer intention for the purchase of products and services,

H4 : Facilitating conditions will have a significant positive effect on customer intention for the purchase of products and services,

H5 : Trust will have a significant positive effect on customer intention for the purchase of products and services,

H6 : Businesses that are perceived as treating personal information in an opportunistic manner will negatively affect customer trust,

H7 : Unauthorized disclosure of customer location data to third parties will negatively affect trust of m-commerce,

H8 : The use of unsolicited e-mail and advertising based on customer location will negatively affect trust of m-commerce,

H9 : Business policies and government regulations that protect privacy of location will positively affect trust of m-commerce,

H10 : The influence of trust on behavioural intention will be moderated by gender, age and experience.

H10A : The effect will be more positive for females,

H10B : The effect will be more positive for older individuals,

H10C : The effect will be more positive for more experienced technology users.

H11 : Individuals with a high sensitivity to privacy will require a higher degree of trust to participate in m-commerce.

7 Significance of the Research
This study continues in the tradition of contributing to the stream of research in Business Information System. It also provides guidelines to people who have the intention to become entrepreneur using m-commerce as a strategy for competitive advantage with regards to the relationship marketing so as to increase demand towards products and services.

Research in the area of m-commerce is still at the infancy stage, thus, the fundamental theories underlying the acceptance and use of the m-commerce business model are not yet fully developed. This is not surprising since the technology, itself, is still in early evolutionary stage.

To the entrepreneur, understanding the degree of the influence of trust on the acceptance and the use of m-commerce is essential to its success and business longevity. It is a fact that m-commerce customers vary in age, experience level, gender and culture. Thus, their requirements for trust vary as well. Understanding these variations in the degree of trust will help entrepreneurs with the assistance of IS
specialist to develop location-based applications that support the customer’s trust level, enable businesses to provide their customers with better customized products while collecting essential data, and accommodate them in the delivery of their messages to targeted customers.

8 Scope of the Research
The scope of this research will be the students at various universities in Malaysia. This is due to the reason that university students were found to have a high penetration rates for mobile phone usage due to high quality telecommunication infrastructure (McFarland et al 2002). This is due to the reason that both graduate and undergraduate business student populations from Malaysian universities represented diversity in gender, age and culture, and were deemed likely to have experience with mobile commerce. The researcher presumes that the university students will provide a wide cross section of experience with m-commerce as well as diversity in age and sex. The group also provide wide cross section of race and culture. Therefore, these groups will become the respondents for this research.

9 Research Methodology
As mentioned earlier, this research will be built upon the Unified Theory of Use and Acceptance of Technology (UTAUT) Model, developed by Venkatesh et al. (2003), that combines views from eight different acceptance theories. While it explains a user’s acceptance of new technology introduced into an organization, the UTAUT model does not address technologies such as e-commerce and m-commerce that represent a relationship and commitment between the business and the user. By expanding from an e-commerce acceptance model which incorporates trust as a determinant of intention use into the Technology Acceptance Model, the research model developed through this research will depict the influence of trust as a determinant of behavioural intention.

Appendix 1.0 indicates the proposed research model in this study. The dashed rectangle indicating the items added to the UTAUT model. In this model, four factors are predicted directly affect trust in m-commerce: the perception that a business does not behave opportunistically in the use of customer location and other personal information (ethical behaviour); the perception that the business posts and follows its policy concerning the use of location data (privacy policy); the perception that the business uses an opt-in approach to obtain customer permission prior to any disclosure of location data to third parties including partnering organizations and government agencies (disclosure); and, the perception that the business will not send unsolicited ads and messages (unsolicited messages).

9.1 The Sampling Design
The researcher plans to have respondents from postgraduate and undergraduate students from various major universities in Malaysia to respond to the questionnaires.

9.2 Data Collection
The questionnaire will be given to the students to be completed by them in approximately 20 minutes and will be collected anonymously within the stipulated time.

9.3 Survey Instrument
The researcher plans to design questionnaire that consist of elements addressing three areas: Privacy sensitivity, as identified by Smith et al (1996); trust and m-commerce technology acceptance, identified by Gefen et al (2003) and Venkatesh et al (2003); and demographic used to identify moderating factors.

9.4 Data Analysis
Analysis of the data from the questionnaire will be performed with the use of Structural Equation Model (SEM) using Linear Structural Relations (LISREL). SEM provides a more rigorous analysis of the data than simple factor analysis, regression analysis, or multivariate analysis of variance (Gefen et al 2000) when the data is multidimensional (Hair 1998). SEM also provides tests for statistical conclusion validity (Gefen et al 2000) and parsimony (Hair 1998). In addition LISREL provides multi-sample analysis for testing differences between groups (Joreskog et al 1993).

4 Conclusion
With the concept and direction as mentioned in this paper, the researcher believes that a comprehensive m-commerce acceptance and usage model can be developed according to the Malaysian context. Undeniably, with international mobile technology converging and advancing at a greater pace, m-commerce marketing is projected to continue its growth. In Malaysia, there are still a limited number of entrepreneurs and brands employing this new electronic marketing method. Hence, the potential of this medium is very well untapped and will receive
greater attention if it is well tailored and communicated. This conceptual paper able to provide an initial platform towards a better understanding of Malaysian consumer behavior to better craft the mobile commerce marketing.

References:
Oppportunistic Behaviour (Calculative-based)
Unauthorized Disclosure (Knowledge-based)
Unsolicited Messages (Institutional-based Situational Assurance)
Privacy Policies (Institutional-based Structural Assurance)

Privacy Sensitivity
Trust
H5+
H11+
H10a
H10b
H10c

Trust
H5+
H11+

Privacy Sensitivity
H11+

Use Behaviour

Performance Expectancy
H1+

Effort Expectancy
H2+

Social Influence
H3+

Facilitating Conditions
H4+

Gender
Age
Experience


Figure 1.0: Proposed Research Model