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Intention to Use Mobile Payment System: A Case of Developing Market by Ethnicity

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Abstract

Due to the rapid rise of communication technologies, mobile payment system has emerged as a popular method to facilitate payment transactions. Notwithstanding its widespread use, what affects intention of mobile users towards paying through mobile phones and why in the context of developing market remain largely unanswered. Moreover, little is done to articulate the implication of ethnicity on payment behaviours. By using the theory of planned behaviour as the underlying basis, this study aims to investigate the effects of attitude, subjective norm and perceived behavioural control on intention towards the use of mobile payment system among Malays and Chinese in Malaysia. Beliefs are included as antecedent variables in the framework so as to enhance understanding of the subject matter. Quantitative approach by means of questionnaire-based survey is adopted. 450 copies of questionnaire are distributed throughout the country, and 311 usable copies are subsequently collected. In addition to descriptive analysis, multiple linear regression and independent sample t-test are utilized to perform tests of association and difference. The findings show that attitude, subjective norm and perceived behavioural control are positively predicted by their respective belief factors, and they also have positive effect on intention to use mobile payment system. However, subjective norm and perceived safety are found to be significantly different between Malays and Chinese. As a result, the intention of the two ethnic groups is also found to be different. The study highlights the need to understand what contributes to users' intention towards mobile payment system in developing markets. It also underlines the importance to know what is shared and what is not in multi-ethnic and cultural countries like Malaysia. It therefore provides insights into effective service operation and marketing of mobile payment system so as to utilize such communication technology and achieve service excellence.

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1. Introduction

The emergence of e-commerce has revolutionized financial requirements which traditional payment system could not deliver. It has generated opportunities to power self-service technology (Castro, Atkinson, & Ezell, 2010). It gives rise to electronic payment (e-payment) system which allows consumers to transfer money or make payment online conveniently. Despite early concern about alleged risk when making online transaction, it has gradually turned out to be a favourable method in contemporary setting. It accelerates operations and improves quality of life in terms of its ease of use, usefulness and convenience. Specifically, mobile payment (m-payment) system using mobile devices is introduced to facilitate payment for merchandises and services.

M-payment system is becoming a well-liked payment trend, not only in developed countries but also in developing markets such as Malaysia (Kim, Tao, Shin, & Kim, 2009; Lallmahamood, 2007). It is reported that over 20 million Malaysian consumers are Internet users (The Star Online, 2015). Moreover, about half of Malaysians own more than one mobile device, and almost a quarter of them use Internet through their phones (The Star Online, 2014). Although not every mobile user pays using their mobile phones, the number of m-payment system users is projected to increase significantly in the coming years (Wong, 2014). Given the prevalent use of mobile devices and Internet, m-payment system is proving to be a well-accepted paying method for individual consumers, and a useful mechanism to expedite payment for government bodies and business organizations (Ondrus & Pigneur, 2006).

Notwithstanding abundance of studies on e-commerce and e-payment, little is done to comprehend specific responses of mobile users in developing markets to m-payment system (Amin, 2008). Whether consumers' intention towards e-payment can be construed to m-payment remains largely unknown. As a result, the understanding of mobile users' intention to adopt m-payment system in these regions is still found wanting. Since Malaysia is a multi-ethnic and cultural country, there is an extreme lack in literature that articulates intention towards m-payment system across ethnic groups (Mohd Suki & Ramayah, 2010). Hence, the objectives of the study are firstly, to determine the effect of antecedent variables on intention towards m-payment system using the theory of planned behaviour (TPB) and past literature as the underlying basis, and secondly, to assess the difference between two most dominant ethnic groups in the country, namely Malays and Chinese, on the subject matter.

2. Literature review

2.1. Mobile payment system

E-payment is generally defined as payment processed and received electronically (Humphrey, Pulley, & Vesala, 1996). It is a global phenomenon that allows individuals to carry out online transactions anywhere and anytime (Weir, Anderson, & Jack, 2006), hence reinforcing both domestic and global trade (He, Duan, Fu, & Li, 2006; Ho & Wu, 2009). Its popularity is mainly due to flexibility and convenience, thanks to rapid technological development (Lee, 2009). M-payment, which is a particular form of e-payment, utilizes communication technology by enabling mobile users to make payment using Internet-connected mobile devices (Dahlberg, Mallat, Ondrus, & Zmijewska, 2006). It further intensifies the ease of online transaction. Past studies have shown that the independence of time and location is the main attribute influencing the adoption of mobile technologies and services (Carlsson, Walden, & Bouwman, 2006; Jarvenpaa & Lang, 2005). M-payment system takes advantage of wireless and communication technologies since it allows payment to be made via SMS message, WAP online billing, PIN number transmission, Mobile Web, direct-to-subscriber bill and direct to credit cards transaction through mobile phones (Kim, Mirusmonov, & Lee, 2010). Due to its usefulness, mobile users are found to be increasingly in favour of m-payment methods (Dewan & Chen, 2005; Kreyer, Pousttchi, & Turowski, 2003).

2.2. Intention to use mobile payment system

Past research has established that beliefs and attitudes are predictors of behavioural intention (Wang, Sun, Lei, & Toncar, 2009). Intention is often used to understand how attitude can have an effect on actual behaviour (Huang, Lee, & Ho, 2004), and how negative attitude would lead to unfavourable intention and behaviour (Stevenson, Bruner, & Kumar, 2000). Past studies have also provided empirical evidence about favourable intention of mobile

users towards mobile technology when they hold positive beliefs about it (Au & Kauffman, 2008; Mallat, 2007; Ondrus & Pigneur, 2006). It is asserted that the understanding of antecedents provides better forecasts than a simple extrapolation from past sales trends (Armstrong, Morwitz, & Kumar, 2000). A recent study on Malaysian market indicates that 4 out of 10 online shoppers are willing to make a purchase through their mobile phones (Goh, 2011). Hence, it is imperative to know what causes local mobile users to be willing to use m-payment system.

2.3. Ethnicity and culture

Ethnicity involves a common cultural heritage, a sense of belongingness that is passed from one generation to another (Renzetti & Curran, 1998). Culture, in turn, reveals patterns of human thoughts and relations (Legoh'ere, Dauc'e, Hsu, & Ranchhold, 2009). It is described as beliefs or standards shared by groups that have an impact on behaviours of individuals. Since ethnicity is a dominant embodiment of culture (Usunier, 2000), it is evident that beliefs, attitudes and behavioural intentions of individuals hinge upon their ethnicity (Legoh'ere *et al.*, 2009). Hence, cultural value priorities can be seen in the manner of living in each ethnic group, and they become guiding principles to advocate the manner of their lives (Schwartz, 1999). This provides the basis to look into how ethnicity affects mobile users' responses towards m-payment system.

2.4. Underlying theory

Theory of planned behaviour (TPB) is an extension of theory of reasoned action (TRA) to explain consumer behaviour (Ajzen, 1991). TPB posits three conceptually independent determinants of intention, and they are attitude, subjective norm and perceived behavioural control. These three determinants are in turn predicted by three distinctive beliefs respectively, namely behavioural beliefs, normative beliefs and control beliefs. They serve as antecedent variables in this study. TPB is adopted as the underlying theory due to its validated variables and relevance in understanding human behaviour (Shankar & Balasubramanian, 2008; Yang & Zhou, 2011).

2.5. Conceptual framework and hypothesis development

In order to enhance the explanatory capacity of TPB on the intention towards m-payment system, the three salient beliefs are decomposed into belief factors in accordance to past literature. Therefore, behavioural belief is made up by perceived usefulness, perceived ease of use, trust and perceived safety (Kim, *et al.*, 2009, Poustchi, 2003; Siau, Sheng, Nah, & Davis, 2004). Normative belief is composed of two factors, namely interpersonal influence and external influence (Chibber, 2012; George, 2004). Lastly, control belief is also made up by two factors, and they are self-efficacy and facilitating condition (Carlsson, *et al.*, 2006; Jeong & Yoon, 2013). All belief factors serve as antecedents in the model, while attitude, subjective norm and perceived behavioural control are constructed as independent variables. Intention is the only dependent variable in the model.

A conceptual framework for the study is developed as shown in Figure 1. Accordingly, seven hypotheses are formulated to address research problems and objectives. The first three hypotheses are related to the effect of belief factors on attitude, subjective norm and perceived behavioural control towards m-payment system. These hypotheses are as follows:

- H₁ Behavioural belief (perceived usefulness, perceived ease of use, trust and perceived safety) will have positive effect on attitude towards m-payment system.
- H₂ Normative belief (interpersonal influence and external influence) will have positive effect on subjective norm towards m-payment system.
- H₃ Control belief (self-efficacy and facilitating condition) will have positive effect on perceived behavioural control towards m-payment system.

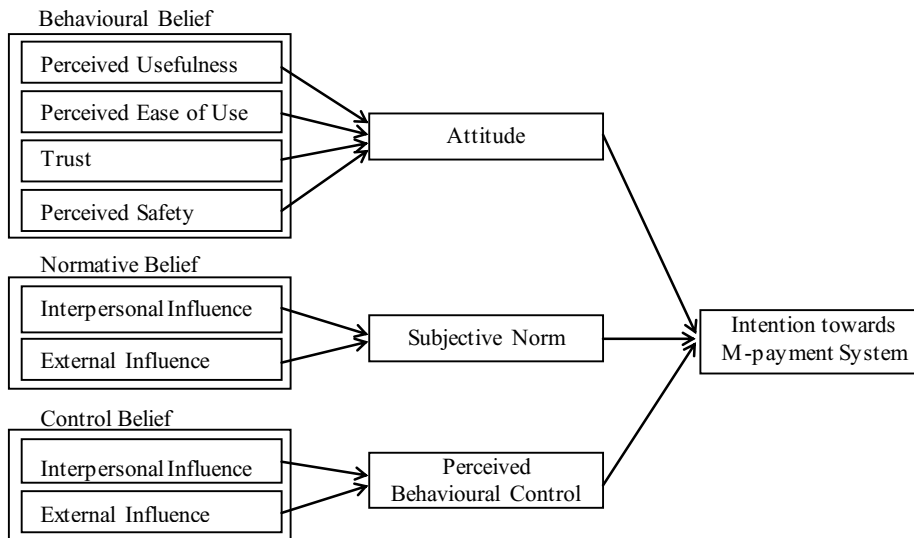


Fig. 1. Conceptual framework of the study.

The fourth to the sixth hypothesis are the focus on the study as they are aimed to test the effect of attitude, subjective norm and perceived behavioural control on behavioural intention towards m-payment system. They are developed as follows:

- H₄ Attitude will have positive effect on intention towards m-payment system.
- H₅ Subjective norm will have positive effect on intention towards m-payment system.
- H₆ Perceived behavioural control will have positive effect on intention towards m-payment system.

In addition to relationship between variables, the test of difference is included to investigate how two ethnic groups in Malaysia, namely the Malays and Chinese, respond to m-payment system. As such, the last hypothesis is developed as follows:

- H₇ Behavioural responses to m-payment system will be significantly different by ethnicity.

3. Methodology

As one of the leading developing countries in Asia, Malaysia was selected as the research site. Mobile users were the target population. Non-probability sampling using purposive sampling technique was used to sample Malays and Chinese who owned mobile devices. A sample size of 300 respondents was predetermined based on the type of analysis, number of variables and adequacy of effect size (Hair, Black, Babin, Anderson, & Tatham, 2006). Quantitative approach via self-administered questionnaire was adopted (Roland & Bee, 1999). A pre-test was conducted to ensure the questionnaire was well designed. 450 copies of questionnaire were distributed in December 2014, and 351 copies were collected after a month. The response rate of over 70% indicates response error was not a concern (Nulty, 2008). After initial screening, 311 copies were retained for data entry and subsequent analysis.

Aside demographic section, the questionnaire contained statements about the seven variables in the study, as shown in Figure 1. Each of the variables, including the decomposed variables, was measured with multiple items to ensure data reliability. 7-point Likert scale was adopted to assess respondents' agreement due to its discriminative power among responses (Hair, *et al.*, 2006). Collected data were then tested using multiple linear regressions and independent sample t-test in Statistical Package for the Social Sciences (SPSS) 22.0 to determine the effect of antecedent variables on independent and dependent variables, and the difference between Malay and Chinese.

4. Findings and discussions

Demographic details of 311 respondents are shown in Table 1. As the study looks at the responses of the Malays and Chinese to m-payment system, other ethnic groups are excluded. Although there are 66 respondents who have never used online payment, they are included because the study does not assess their actual behaviours.

Table 1. Respondents' demographic details.

Variable		Count	Percentage
Gender	Male	119	38.3
	Female	192	61.7
Ethnicity	Malay	126	40.5
	Chinese	185	59.5
Education Level	Primary level	2	0.60
	Secondary level	37	11.9
	Tertiary level	247	82.9
	Others/Not stated	25	4.6
Online Payment Frequency	Never	66	21.2
	Rarely, only when necessary	99	31.8
	Once per month	71	22.8
	Once per week/fortnight	36	1.6
	Few times per week	39	12.5

Table 2. Mean, standard deviation and reliability values.

Variable	Items	Mean	S.D.	α
Perceived Usefulness	4	5.181	1.230	94.5
Perceived Ease of Use	3	5.383	1.133	86.8
Trust	3	4.325	1.311	89.8
Perceived Safety	3	3.918	1.222	80.0
Interpersonal Influence	3	4.558	1.337	90.4
External Influence	3	4.579	1.141	81.2
Self-efficacy	3	5.192	1.124	85.9
Facilitating Condition	3	4.979	1.150	87.7
Attitude	3	5.222	1.214	93.5
Subjective Norm	3	4.497	1.346	90.6
Perceived Behavioural Control	3	5.159	1.142	87.5
Intention	3	5.057	1.366	95.2

S.D refers to standard deviation whereas α refers to Cronbach alpha.

Mean and standard deviation (S.D.) values are presented as shown in Table 2. Cronbach alpha values (α) are also provided to indicate data reliability. Since Cronbach alpha values of 0.7 and above are commonly accepted, the findings show that the data collected for each variable are reliable for further analysis (Streiner & Norman, 2008).

Tables 3 to 5 present the findings pertaining to the effect of behavioural, normative and control beliefs on attitude, subjective norm and perceived behavioural control respectively. As these three salient beliefs are decomposed into antecedent variables, they provide more explanation. All belief variables are found to be positively related to independent variables. The three R^2 values also suggest strong explanatory capacity in the models. Thus, hypotheses 1 and 2 in relation to relationships between antecedent and independent variables are supported.

Table 3. Effect of behavioural beliefs on attitude towards m-payment system.

Variable	Beta	t value	Sig.
(Constant)	0.203	0.784	0.434
Perceived Usefulness	0.362	6.894	0.000**
Perceived Ease of Use	0.242	4.593	0.000**
Trust	0.335	8.113	0.000**
Perceived Safety	0.110	3.063	0.001**

$R^2 = 0.621$, Adjusted $R^2 = 0.616$, F value = 125.452, Sig. = 0.000, Durbin Watson = 1.833

* indicates $p < 0.05$; ** indicates $p < 0.01$ (one-tailed)

Table 4. Effect of normative beliefs on subjective norm towards m-payment system.

Variable	Beta	t value	Sig.
(Constant)	0.114	0.606	0.545
Interpersonal Influence	0.321	6.237	0.000**
External Influence	0.539	10.465	0.000**

$R^2 = 0.657$, Adjusted $R^2 = 0.655$, F value = 294.628, Sig. = 0.000, Durbin Watson = 2.067

* indicates $p < 0.05$; ** indicates $p < 0.01$ (one-tailed)

Table 5. Effect of control beliefs on perceived behavioural control towards m-payment system.

Variable	Beta	t value	Sig.
(Constant)	0.550	3.022	0.003
Self-efficacy	0.586	13.342	0.000**
Facilitating Condition	0.307	7.001	0.000**

$R^2 = 0.685$, Adjusted $R^2 = 0.683$, F value = 334.832, Sig. = 0.000, Durbin Watson = 2.138

* indicates $p < 0.05$; ** indicates $p < 0.01$ (one-tailed)

Table 6. Effect of attitude, subjective norm and perceived behavioural control on intention towards m-payment system.

Variable	Beta	t value	Sig.
(Constant)	-0.388	-1.868	0.063
Attitude	0.410	8.080	0.000**
Subjective Norm	0.155	3.845	0.000**
Perceived Behavioural Control	0.378	8.175	0.000**

$R^2 = 0.703$, Adjusted $R^2 = 0.700$, F value = 241.807, Sig. = 0.000, Durbin Watson = 1.970

* indicates $p < 0.05$; ** indicates $p < 0.01$ (one-tailed)

Table 6 presents the effect of attitude, subjective norm and perceived behavioural control on intention towards m-payment system. The findings show that all independent variables are positively related to intention with more than 70 percent variance explained. Hence, hypotheses 4 to 6 are also supported. It also underscores the validity of TPB in understanding intention towards the use of m-payment system in developing markets like Malaysia.

Findings of t-test using ethnicity as grouping sample are shown in Table 7. It is evident that there are differences in perceived risk, interpersonal and external influences, subjective norm and intention between Malays and Chinese. It is surmised that normative beliefs and subjective norm play a key part in distinguishing the intention of Malays from Chinese. This corresponds to past findings that Malays are more concerned with social relationships and receiving approval from others than other groups in Malaysia (Lim, 2001; Storz, 1999). Although safety plays a vital role in payment choice (He, Huang, & Wright, 2008), the Chinese are found to have distinctive belief about it. This is largely due to the fact that they are known to be more wary of uncertainty (Lim, 2001). They are more willing to adopt m-payment system if safety is assured or improved. Ultimately, the difference in intention between Malays

and Chinese towards the use of m-payment system further elucidates the distinction between two ethnic groups and their cultures. Hence, the last hypothesis about their presupposed difference is also supported.

Table 7. Difference of all antecedents, independent and dependent variables by ethnicity.

Variable	Malays		Chinese		Sig.
	Mean	S.D.	Mean	S.D.	
Perceived Usefulness	5.282	1.215	5.112	1.240	0.233
Perceived Ease of Use	5.516	1.060	5.292	1.174	0.087
Trust	4.428	1.244	4.254	1.354	0.251
Perceived Safety	3.693	1.207	4.070	1.212	0.007**
Interpersonal Influence	4.892	1.152	4.332	1.408	0.000**
External Influence	4.897	0.960	4.363	1.205	0.000**
Self-efficacy	5.320	1.075	5.105	1.152	0.097
Facilitating Condition	5.004	1.101	4.963	1.186	0.759
Attitude	5.389	1.142	5.108	1.252	0.045
Subjective Norm	4.933	1.141	4.200	1.395	0.000**
Perceived Behavioural Control	5.301	1.018	5.063	1.212	0.071
Intention	5.273	1.240	4.910	1.430	0.021*

* indicates $p < 0.05$; ** indicates $p < 0.01$ (two-tailed)

5. Managerial implications and conclusion

The present study meets the objectives by showing not only the positive and significant effect of preceding variables on intention towards m-payment system, but also providing insights into the difference of innate responses between two ethnic groups. Notwithstanding a developing market, Malaysian mobile users are beginning to accept m-payment system as a convenient and effective option to perform payment transaction. Hence, government bodies and business organizations can further utilize m-payment system to complement existing payment methods and augment consumers' payment behaviour. Moreover, it is mandatory that managers and marketers recognize the implication of cultural values on intention towards m-payment system. Although past studies have suggested the sharing of some cultural values in Malaysia (Fontaine & Richardson, 2005), Malays are more inclined to comply with what their families and peers do, and Chinese are more cautious about uncertainty. Understanding what is shared and what is not will ensure effective service operation and marketing campaign.

Due to the limitations of SPSS, four separate models are required to run regressions to explain relationships between variables under investigation. Moreover, when performing group comparison by ethnicity, the scope is delimited to Malays and Chinese. Hence, future studies can be conducted using Structural Equation Modeling (SEM) to better explain intention towards m-payment system in a single structural model. Furthermore, cross-country studies using multi-group analysis in SEM can also be done to provide a more in-depth understanding about the subject matter. As such, knowledge about service operation and Internet marketing can be extended and pragmatically applied for the betterment of the society in developing markets.

References

- Ajzen, I. (1991). The theory of planned behaviour. *Organizational Behaviour and Human Decision Process*, 50, 179-211.
- Amin, H. (2008). Factors affecting the intentions of customers in Malaysia to use mobile phone credit cards. *Management Research News*, 31(7), 495-503.
- Armstrong, J.S., Morwitz, V.G., & Kumar, V. (2000). Sales Forecasts for Existing Consumer Products and Services: Do Purchase Intentions Contribute to Accuracy? *International Journal of Forecasting*, 16(3), 383-397.
- Au, Y. A., & Kauffman, R. J. (2008). The economics of mobile payments: Understanding stakeholder issues for an emerging financial technology application. *Electronic Commerce Research and Applications*, 7, 141-164
- Carlsson, C., Walden, P., & Bouwman, H. (2006). Adoption of 3G+ services in Finland. *International Journal of Mobile Communications*, 4(4), 369-385.
- Castro, D., Atkinson, R. D., & Ezell, S. J. (2010). Embracing the Self-Service Economy. *Social Science Research Network*. Doi: <http://dx.doi.org/10.2139/ssrn.1590982>
- Chibber, A. (2012, March 5). *Malaysian Government to Test Mobile-Payment Acceptance*. Available at <http://www.paymentssource.com/news/Malaysian-Government-To-Test-Mobile-Payment-Acceptance-3009834-1.html>

- Dahlberg, T., Mallat, N., Ondrus, J., & Zmijewska, A. (2006). Past, present and future of mobile payments research: a literature review. *Electronic Commerce Research and Applications*, 7(2), 165-181.
- Dewan, S.G., & Chen, L. D. (2005). Mobile payment adoption in the USA: a cross-industry, cross-platform solution. *Journal of Information Privacy & Security*, 1(2), 4-28.
- Fontaine, R. & Richardson, S. (2005). Cultural values in Malaysia: Chinese, Malays and Indians compared. *Cross Cultural Management*, 12(4), 63-77.
- George, J. (2004). The theory of planned behaviour and Internet purchasing. *Internet Research: Electronic Networking Applications and Policy*, 14, 198-212.
- Goh, D. (2011, April 22). *PayPal reveals Malaysian online shopping trends*. Available at <http://www.hardwarezone.com.my/tech-news-paypal-reveals-malaysian-online-shopping-trends>
- Hair, J. F., Black, W. C., Babin, B. J., Anderson, R. E., & Tatham, R. L. (2006). *Multivariate Data Analysis (6th Ed.)*. Upper Saddle River, N.J.: Pearson Education Inc.
- He, Q., Duan, Y., Fu, Z., & Li, D. (2006). An innovation adoption study of online e-payment in Chinese companies. *Journal of Electronic Commerce in Organizations*, 4(1), 48-69.
- He, P., Huang, L., & Wright, R. (2008). Money, banking, and monetary policy. *Journal of Monetary Economics*, 55, 1013-1024
- Ho, B. C. T., & Wu, D. D. (2009). Online banking performance evaluation using data envelopment analysis and principal component analysis. *Computers & Operations Research*, 36, 1835-1842.
- Huang, J. H., Lee, C. Y. B., & Ho, S. H. (2004). Consumer attitude toward gray market goods. *International Marketing Review*, 21(6), 598–614
- Humphrey, D. B., Pulley, L. B., & Vesala, J. M. (1996). Cash, paper, and electronic payments: a cross-country analysis. *Journal of Money, Credit and Banking*, 28(4), 914-939.
- Jarvenpaa, S.L. & Lang, K.R. (2005). Managing the paradoxes of mobile technology. *Information Systems Management*, 22(4), 7-23.
- Jeong, B. K., & Yoon, T. E. (2013). An Empirical Investigation on Consumer Acceptance of Mobile Banking Services. *Business and Management Research*, 2(1), 31-40.
- Kim, C., Mirusmonov, M., & Lee, I. (2010). An empirical examination of factors influencing the intention to use mobile payment. *Computers in Human Behaviour*, 26(3), 310-322.
- Kim, C., Tao, W., Shin, N., & Kim, K. S. (2009). An empirical study of customers' perceptions of security and trust in e-payment systems. *Electronic Commerce and Research Applications*, 9, 84-95.
- Kreyer, N., Pousttchi, K., & Turowski, K. (2003). Mobile payment procedures-*Service Journal*, 2(3), 7-22.
- Lallmahamood, M. (2007). An Examination of Individual's Perceived Security and Privacy of the Internet in Malaysia and the Influence of This on Their Intention to Use E-Commerce: Using An Extension of the Technology Acceptance Model. *Journal of Internet Banking and Commerce*, 12(3), 1-25.
- Legoh'ere, P., Dauc'e, B., Hsu, C. H. C., & Ranchhold, A. (2009). Culture, Time Orientation, and Exploratory Buying Behavior. *Journal of International Consumer Marketing*, 21, 93-107.
- Lee, M. C. (2009). Factors influencing the adoption of internet banking: an integration of TAM and TPB with perceived risk and perceived benefit. *Electronic Commerce Research and Applications*, 23(4), 10-23.
- Lim, L. (2001). Work-Related Values of Malays and Chinese Malaysian. *International Journal of Cross Cultural Management*, 1(2), 209-226.
- Mallat, N. (2007). Exploring consumer adoption of mobile payments – a qualitative study. *Journal of Strategic Information Systems*, 16, 413-432.
- Mohd Suki, N. & Ramayah, T. (2010). User Acceptance of the E-Government Services in Malaysia: Structural Equation Modelling Approach. *Interdisciplinary Journal of Information, Knowledge, and Management*, 5, 395-413.
- Nulty, D. D. (2008). The adequacy of response rates to online and paper survey: What can be done? *Assessment and Evaluation in Higher Education*, 33(3), 301-314.
- Ondrus, J. & Pigneur, Y. (2006). Towards a holistic analysis of mobile payments: A multiple perspectives approach. *Electronic Commerce Research and Applications*, 5, 246-257.
- Pousttchi, K. (2003). *Conditions for acceptance and usage of mobile payment procedures*. MPRA Paper, 2912.
- Renzetti, Claire M., & Daniel J. Curran. (1998). *Living Sociology*. Boston, MA: Allyn and Bacon.
- Roland & Bee, F. (1999). *Managing information and statistics*, UK: Cromwell Press.
- Schwartz, S. H. (1999). A theory of cultural values and some implications for work. *Applied Psychology: An International Review*, 48(1), 23-41.
- Shanka & Balasubramanian, S. (2008). Mobile Marketing: Synthesis and Prognosis. *Journal of Interactive Marketing*, 23(2), 118–29.
- Siau, K., Sheng, H., Nah, F., & Davis, S. (2004). A qualitative investigation on consumer trust in mobile commerce. *International Journal of Electronic Business*, 2(3), 283-300.
- Stevenson, J. S., Bruner, G. C., & Kumar, A. (2000). Webpage background and viewer attitudes. *Journal of Advertising Research*, 40(1/2), 29-34
- Storz, M. L. (1999). Malay and Chinese values underlying the Malaysian business culture. *International Journal of Intercultural Relationship*, 23(1), 117-131.
- Streiner, D. L. & Norman, G. R. (2008). *Health measurement scales: A practical guide to the development and use (4th Ed.)*. Oxford: Oxford University Press
- The Star Online. (2014, April 13). *Bank Negara: Use online payment and mobile banking*. Available at <http://www.thestar.com.my/News/Nation/2014/04/13/Bank-Negara-Use-online-payment-and-mobile-banking/>
- The Star Online. (2015, April 3). *Good news for internet users*. Available at <http://www.thestar.com.my/News/Nation/2015/04/03/Good-news-for-Internet-users-Broadband-rates-expected-to-drop-by-more-than-6/>
- Usunier, J. C. (2000). *Marketing across cultures (3rd Ed.)*. Harlow: Prentice Hall Europe
- Wang, Y., Sun, S., Lei, W., & Toncar, M. (2009). Examining Beliefs and Attitudes toward Online Advertising among Chinese Consumers. *Direct Marketing: An International Journal*, 3(1), 52-66.
- Weir, C. S., Anderson, J. N., & Jack, M. A. (2006). On the role of metaphor and language in design of third party payments in eBanking: usability and quality. *International Journal of Human-Computer Studies*, 64(8), 70-784.
- Wong, C. K. (2014, March 5). *Understanding mobile users, m-commerce, mobile payment in Malaysia*. Available at <http://www.ecommercemilo.com/2014/03/mobile-users-mcommerce-mpayment-malaysia.html#.VLeia16PZGa>
- Yang, H., & Zhou, L. (2011). Extending TPB and TAM to mobile viral marketing: An exploratory study on American young consumers' mobile viral marketing attitude, intent and behavior. *Journal of Targeting, Measurement and Analysis for Marketing*, 19, 85-98.