

AN EXAMINATION OF THE DETERMINANTS OF MOBILE SHOPPING CONTINUANCE

Ming-Chien Hung¹, Shih-Ting Yang^{1*} and Ting-Chu Hsieh²

¹*Department of Information Management,
Nanhua University*

Chiayi (622), Taiwan (ROC)

²*Department of Electronic Commerce,
WuFeng University*

Chiayi (621), Taiwan (ROC)

ABSTRACT

While mobile shopping (m-shopping) is convenient in the age of mobile commerce, many people still discontinue their shopping using mobile devices even though they have the experience. Therefore, it is important for the m-shopping providers to understand the determinants of m-shopping continuance. This study extended Expectation-Confirmation Model (ECM) to examine the determinants of m-shopping continuance by incorporating trust. There were 244 effective questionnaires obtained for survey analysis. The results showed that trust can overcome the limitations of ECM on predicating m-shopping continuance and improve the explanatory power of initial ECM.

Keywords: Continuance, Expectation-Conformation Model, Mobile Commerce, Mobile Shopping, Trust

1. INTRODUCTION

Mobile shopping (M-shopping) has become a popular approach for modern consumers to order or pay for goods using mobile devices. Also the continuously increasing number of hand-held devices makes the m-shopping a new business opportunity. M-shopping providers can offer a large number of advanced services to mobile users via those hand-held devices. However, many people who have m-shopping experience are unwilling to continuously use mobile devices to do the shopping and that makes the growth of m-shopping relatively slow [2]. Thus it is important for the m-shopping providers to understand the determinants of consumers' continuance of m-shopping.

Expectancy Confirmation Model (ECM) is the first model used to explain the continuance behavior [4, 5] in electronic commerce. While ECM is based on the extrinsic motivations (i.e., satisfaction and usefulness), it ignores intrinsic motivation in explaining users' continuance behavior [12]. Recently, the predicting ability of user satisfaction which reveals the strained linkage with the consumer behavior has been questioned [8, 26]. While ECM can explain "why some users discontinue the use of IS after they have pre-accepted it [4]," it is still insufficient in explaining why users discontinue their

use even though they are satisfied with their post-use experience [12].

Malhotra et al. [16] suggest that people simultaneously have both intrinsic and extrinsic motivation that associates with their behavioral outcome. In the m-shopping context, consumers' perception of satisfaction and usefulness of m-shopping also can make them continue using mobile devices to do the shopping. But they often discontinue m-shopping for the doubt about privacy and security. In other words, they don't put their trust on m-shopping approach.

In mobile commerce context, most consumers can be classified into mobile shoppers (m-shoppers) (i.e., those who use their mobile devices to buy something) and mobile users (i.e., those who use their mobile devices for communication purpose only) [24]. This paper incorporates trust as the intrinsic motivation into ECM and focuses on the determinants of m-shoppers' continuance behavior.

2. LITERATURE REVIEW

2.1 M-shopping

Mobile commerce (M-commerce) is growing rapidly around the world. Chan et al. [6] summarize the definitions of m-commerce and state that "m-commerce as the use of wireless technology, particularly handheld mobile devices and mobile Internet, to facilitate transaction, information search

*Corresponding author: stingyang@mail.nhu.edu.tw

and user task performance in consumer, business-to-business, and intra-enterprise communications.” Barnes [3] defines m-commerce as “any transaction with a monetary value - either direct or indirect - that is conducted over a wireless telecommunication network.”

While mobile technologies and applications are rapidly and widely utilized in business, it is important to understand the consumer shopping behavior [27] that offers the opportunities to allow the m-commerce providers to achieve strategic goal by delivering downstream activities through the direct interaction with their customers [17]. Therefore, Understanding the consumer behavior is critical for successful management and development of m-shopping [27].

In electronic market, consumer trust plays the role as a foundation for the diffusion and acceptance of electronic commerce [21]. Wu and Wang [27] found the privacy protection is criteria for consumers to do the m-shopping. Meanwhile, the efforts to increase the security of e-commerce systems will prove to be of advantage for both consumers and providers [21]. Liu et al. [15] noted that privacy which is involved with security may influence their trust toward behavior intention. While m-shopping is dependent on the trustworthy behavior of consumers’ privacy protection and the security of electronic transaction systems, trust can be seen as a mechanism to reduce the uncertainty and complexity of transactions and relationships in electronic markets [21]. Velmurugan [23] argues that trust is an important factor of e-business success. Therefore, this study regards trust as an important criterion in predicating m-shopping behavior.

2.2 ECM

After summarizing three major debates on Expectation Disconfirmation Theory (EDT) which claims that user satisfaction is the primary motivation for its continuance to repurchase a product or service [19], Bhattacharjee [4] modified EDT by replacing the variable of expectation with perceived usefulness, which is known as ECM (see Figure 1). These three debates addressed are: 1) Consumers’ consumption experience may change their expectations, and these changes may impact their subsequent cognitive process. 2) There are varying and conflicting conceptualizations of satisfaction construct in initial EDT studies. Some authors view satisfaction as synonymous with attitude and emotion. While attitude is an emotion, others argue that satisfaction is an evaluation of the emotion. 3) There are also different conceptualizations of expectation across the EDT studies. Some authors explain expectation as the pre-consumption beliefs about overall performance and operationalize it as anticipated performance. But others explain expectation as beliefs about the level of produce or service attributes, and operationalize, it as

either individual beliefs or the summation of such beliefs.

To apply ECM to IS context, Bhattacharjee [4] further argues that IS users’ continuous decisions is similar to consumers’ repurchasing decisions because both decisions: 1) follow an initial (acceptance or purchase) decisions, 2) are influenced by the initial use experience, and 3) can potentially lead to an ex post reversal of the initial decision.

However, ECM still predicts the users’ continuance behavior based on extrinsic motivations (i.e., satisfaction and perceived usefulness). Unfortunately, high user satisfaction scores coincide with declining market share [8] and repeated purchases of a product with a low satisfaction score could occur [25]. Seddon [20] also argued that “no matter how good a system has been in the past, past benefit is not a sufficient condition for future use; future use must be based on expectations of future benefit.” Therefore, the motivation to continue m-shopping is future benefit instead of consumer perception of usefulness. In m-shopping context, privacy and security are involved with consumers’ benefits. Consumers may put their trust in the machines of m-shopping service with high privacy and security to get benefits via m-shopping.

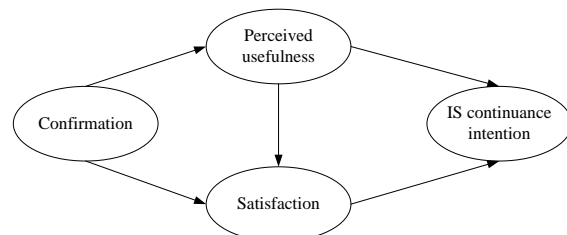


Figure 1: Initial ECM (Source: Bhattacharjee [4])

3. RESEARCH METHODOLOGY

3.1 Research Model and Hypotheses

Based on the literature review, our research model was developed as Figure 2 which incorporated trust variable into initial ECM. In electronic markets, two types of uncertainty are system-dependent and transaction-specific uncertainty [21]. The risk of disclosing personal information or credit card numbers publicly during or after consumption may make them lose the confidence in electronic transactions [23]. Trust is defined as ‘a group of beliefs held by a person derived from his or her perceptions about certain attributes’ [9], and can be used to reduce the uncertainty and complexity of electronic transactions [21]. Therefore, we regarded trust as an intrinsic motivation to determine the m-shopping continuance.

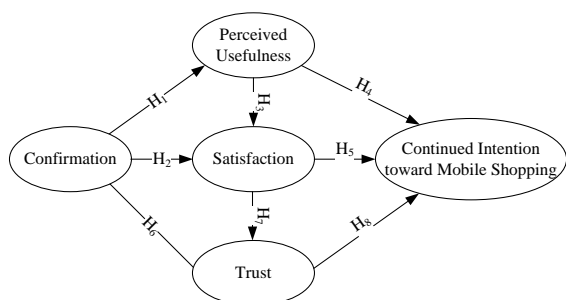


Figure 2: Research model

As Bhattacharjee [4] regards the IS users' continuous decisions as consumers' repurchasing decisions, the m-shopping stages can be explained as same as the purchasing activities. In the purchasing process, consumers' purchasing activities can be classified into three stages, namely, pre-purchase, purchase, and post-purchase [12]. Aladwani and Aladwani [1] found that consumers may tend to follow the same purchasing steps, namely awareness, information search, and product/service evaluation and purchase in the first two stages of Frambach et al. [10] In this study, the main purpose is to explore the continuance of m-shopping that focused on the post-purchase stage, and the hypotheses suggested are to reflect the users' behavior toward the repurchasing activities of m-shopping.

To explain the concept of our research model in m-shopping context, the following examples described. Oliver [19] regards satisfaction as a function of expectation and disconfirmation. In m-shopping activities, expectations provide a baseline to gauge the level of satisfaction. M-shoppers form expectations about specific products or services prior to purchase. Consumption then reveals the perceived performance of such purchases, which are influenced by their expectations. The perceived performance of m-shoppers may either confirm or disconfirm pre-purchase expectations. These m-shoppers with cognitions on the usefulness of such purchases and satisfaction are positively affected by the confirmation of expectations and usefulness. Then, they will establish their trust on the purchasing experience. Finally, repurchasing activities will be derived from the m-shoppers' cognition of usefulness, satisfied experience with purchased products or services, and their higher trust on experienced shopping activities.

In ECM, the relationships between confirmation and perceived usefulness, confirmation and satisfaction, perceived usefulness and satisfaction, and satisfaction and continued intention toward IS use were verified in electronic commerce context [4,5]. Based on our research model, eight hypotheses were suggested for m-shopping.

H₁: M-shoppers' confirmation has a positive influence on their perceived usefulness of m-shopping.

H₂: M-shoppers' confirmation has a positive influence on their satisfaction of m-shopping.

H₃: M-shoppers' perceived usefulness has a positive influence on their satisfaction of m-shopping.

H₄: M-shoppers' perceived usefulness has a positive influence on their continued intention toward m-shopping.

H₅: M-shoppers' satisfaction has a positive influence on their continued intention toward m-shopping.

Confirmation described behavior or expectation that was confirmed [19]. In m-shopping context, if the protection of individual privacy and security of electronic transactions can be confirmed by consumers, there could be existing trust in adopting m-shopping. Therefore, the hypothesis was addressed below.

H₆: M-shoppers' confirmation has a positive influence on the degree of their trust.

The relationship is found between trust and user satisfaction. In mobile bank context, Lee and Chung [14] found qualities of system, interface design, and information can influence the trust and user satisfaction simultaneously. They further stated that user satisfaction could impact on the trust. However, in the study of website loyalty, Flavia'n et al. [9] found trust was dependent on the user satisfaction. As user satisfaction belongs to individual emotion that occurs after consumption or use of products or services. Trust may accrue from such satisfaction emotion. Therefore, we hypothesized:

H₇: M-shoppers' satisfaction has a positive influence on the degree of their trust.

Trust is an important determinant of behavioral intention to IS use [22]. Liu et al. [15] suggested a "privacy-trust-behavioral intention model" to understand the consumers' behavior of electronic commerce. Liu et al. [15] further stated that one of primary reason for many people not to do the online shopping is a lack of trust in electronic transactions. Thus we believed that trust will influence the m-shopping continuance and suggested a hypothesis as:

H₈: M-shoppers' trust has a positive influence on their continued intention toward m-shopping.

3.2 Questionnaire Design and Sampling

The scales of confirmation and continued intention toward m-shopping were modified from Bhattacharjee [4], perceived usefulness from Davis et al. [7], satisfaction from Oliver [19], and trust from the suggestion of Liu et al. [15]. The initial instrument was pre-tested for content validity by three experienced expert to examine the instrument and modified it to be suitable for m-shopping context. All scales were showed as Table 1. The instrument was designed as seven-point of Likert scales range from 1 as "strongly disagree" to 7 as "strongly agree".

With convenience sampling, 500 college students who were all mobile phone users in Taiwan were surveyed. There were 244 effective questionnaires used for further analyzing. The demographics consisted of gender, age, education level, experience with online shopping and m-shopping.

3.3 Reliability and Validity

The value of alpha ranges from zero (unreliable) to one (perfect reliability), and a value greater than 0.70 means good reliability [11,18]. At the same time, a Cronbach's alpha value greater than 0.5 means acceptable [18]. Except continued intention toward m-shopping, the Cronbach's α of other variables are all greater than 0.7 which indicate good reliability (see Table 1).

The validity of this study was verified by exploratory factor analysis (EFA) and then by confirmatory factor analysis (CFA) (see Table 2). EFA with a varimax rotation was performed to assess the underlying factor structures of the scales. As Table 1 shows, the results of EFA expose that each of the measures shows sufficiently convergent validity because the factor loading of each item in the

construct is greater than 0.5 [11]. As for CFA, the scales were also assessed by three criteria: 1) the factor loadings of all standardized items are suggested to be higher than 0.5, 2) the composite reliability (CR) is suggested to be higher than 0.6, 3) the average variance extracted (AVE) must be higher than 0.5 [13]. The results of CFA are listed in Table 2 and show a good convergent validity.

4. RESULTS

The statistical tools SPSS 15.0 and Visual Partial Least Squares (PLS) 1.04b. were used for data analysis. Of the 244 m-shopping respondents, 56.15% were male and 43.85% were female. Respondents were mostly between ages of 21 and 30 (63.11%). Most respondents were graduated from junior college (48.36%) or college (38.53%). There were 68.44% of respondents with more than one year experience in online shopping and 40.98% in m-shopping. The detail of demographic data was stated in Table 3.

Table 1: Verification of reliability and validity by EFA

Variables	Measured items	Factor loading	Eigen-values	% of Var	Cronbach's α value
Confirmation (CON)	CON2: The service level provided by m-shopping provider is better than what I expected.	.891			
	CON3: Overall, most of my expectations of m-shopping approach are confirmed.	.841	2.639	72.771	.813
	CON1: My experience of doing m-shopping is better than what I expected.	.826			
Perceived usefulness (PU)	PU6: Overall, m-shopping is useful to personal shopping activities.	.774			
	PU3: Doing m-shopping enhances my shopping effectiveness.	.772			
	PU2: Doing m-shopping reduces the time spent on those useless shopping activities.	.766	4.679	56.961	.848
	PU4: Doing m-shopping increases my shopping productivity.	.762			
	PU5: Doing m-shopping increases the shopping easiness.	.745			
	PU1: M-shopping approach can support more shopping activities for me	.707			
	SAT2: My choice to continue doing m-shopping is wise.	.847			
Satisfaction (SAT)	SAT1: I am satisfied with my decision to continue doing m-shopping.	.795	2.889	65.696	.740
	SAT3: I think I did the right thing by deciding to continue doing m-shopping.	.788			
	TRU2: The policy of m-shopping stores on how it would use any personal information about me makes me feel that the shopping store is trustworthy.	.806			
Trust (TRU)	TRU1: The privacy policy of m-shopping stores on the notices of personal information collection makes me feel that the shopping store is trustworthy.	.801			
	TRU3: The security policy of m-shopping stores makes me feel that the shopping store is trustworthy.	.724	3.307	55.728	.734
	TRU4: The policy of m-shopping stores on how they will share my personal information with third parties makes me feel that the shopping store is trustworthy.	.643			
	CII2: My intentions are to continue doing m-shopping than other approach.	.856	2.303	69.121	.555
Continued intention toward m-shopping (CIMS)	CII1: I intend to continue doing m-shopping rather than discontinue it.	.807			

Table 2: Results of convergent validity

Variables	Items	Standardized loading	Mean	Standard error	t-value* (for λ)	CR ^b	AVE ^a
CON	CON1	0.828	4.344	0.026	31.774	0.889	0.728
	CON2	0.880	4.193	0.016	53.896		
	CON3	0.850	4.508	0.022	39.429		
PU	PU1	0.697	4.574	0.040	17.358	0.889	0.572
	PU2	0.717	4.558	0.049	14.708		
	PU3	0.778	4.598	0.039	20.085		
	PU4	0.778	4.451	0.035	22.296		
	PU5	0.760	4.570	0.040	18.931		
	PU6	0.803	4.660	0.037	21.600		
TRU	TRU1	0.784	3.779	0.036	21.734	0.835	0.562
	TRU2	0.792	4.377	0.032	25.111		
	TRU3	0.772	4.332	0.045	17.314		
	TRU4	0.638	4.307	0.049	13.007		
SAT	SAT1	0.820	4.283	0.032	26.000	0.852	0.658
	SAT2	0.813	4.094	0.042	19.632		
	SAT3	0.800	4.373	0.038	21.020		
CIMS	CI1	0.841	4.799	0.038	21.905	0.818	0.692
	CI2	0.823	4.020	0.036	22.988		

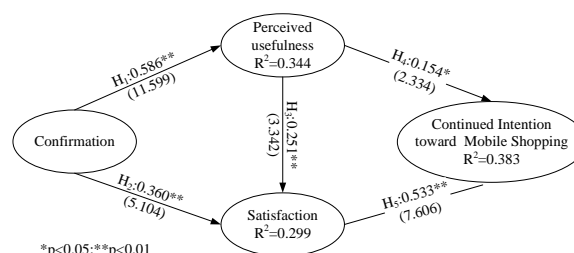
Note: CR = Composite reliability; AVE = Average variance extracted

Table 3: Demographic analysis

Item	No.	%	Item	No.	%
Gender			Experience with online shopping		
Male	137	56.15%	Below 1 year	77	31.56%
Female	107	43.85%	Year 1-2	80	32.79%
Age			Year 3-4	72	29.51%
Below age 20	62	25.41%	Above 4 years	15	6.14%
Age 21-30	154	63.11%	Experience with m-shopping		
Age 31-40	22	9.02%	Below 1 year	144	59.02%
Above age 41	6	2.46%	Year 1-2	67	27.46%
Education level			Year 3-4	28	11.47%
High school	32	13.11%	Above 4 years	5	2.05%
Junior college	118	48.36%			
College/university	94	38.53%			

Sample size=244

In structural model analysis by PLS, we examined the path coefficients and t-value of each hypothesized association in initial ECM, modified research model and explained (R² value) variance of each dependent variable. Figure 3 shows the significance of initial ECM. Hypotheses H₁, H₂, H₃, and H₅ were significant at p<0.01, and H₄ was significant at p<0.05. Additionally, the explanatory power of continued intention toward m-shopping was 38.3%, perceived usefulness 34.4%, and the satisfaction 29.9%.



*p<0.05;**p<0.01

Figure 3: Original research model

Figure 4 shows the significance of our modified ECM. Hypotheses H_1 , H_2 , H_3 , H_5 , H_6 , H_7 , and H_8 were significant at $p < 0.01$, and H_4 was insignificant. Further, continued intention toward m-shopping was explained with 43.3% that can be directly predicted by satisfaction ($\beta = 0.426$), perceived usefulness ($\beta = 0.044$), and Trust ($\beta = 0.290$) together. Similarly, satisfaction was explained with 30% under the direct effects of perceived usefulness ($\beta = 0.251$), and confirmation ($\beta = 0.361$). Perceived usefulness was explained with 34.4% by confirmation($\beta = 0.587$) directly. Trust was explained with 54.4% through satisfaction($\beta = 0.244$) and confirmation($\beta = 0.583$).

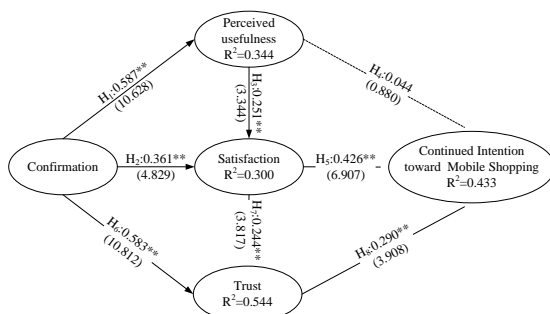


Figure 4: Modified research model

5. DISCUSSION

In this study, there are two main goals. The first is to extend the continuance model of ECM which is based on extrinsic motivations (i.e., satisfaction and perceived usefulness). The second is to understand the determinants of m-shopping continuance. Comparing Figure 3 and Figure 4, the explanatory power of continued intention toward m-shopping has increased from 38.3% to 43.3%. Although the increasing rate is only 5% of explanatory power, we can find the path coefficient of H_4 in Figure 3 is significant. However, the path coefficient of H_4 in Figure 4 is insignificant. This implies that the effect of perceived usefulness on users' continued intention toward m-shopping is reduced. By contrast, the effect of trust on users' continued intention toward m-shopping is strengthened. Therefore, the explaining ability of trust on users' continued intention toward m-shopping could be verified. In sum, the predicting ability of initial ECM can be extended by the intrinsic motivation of trust.

Despite the R^2 value (0.544) of trust shows that trust is an important role of intrinsic motivation explained by confirmation and satisfaction. However, the low R^2 value of perceived usefulness (0.344), satisfaction (0.300), and continued intention toward m-shopping (0.433) indicates that there are other important variables not included in this study that might influence the m-shopping continuance.

The results of this study show that the repurchasing activities of m-shoppers are primarily dependent on their trust followed by their satisfaction with the purchased products or services. To enhance the continuance of m-shopping, the trust existed in the m-shopping environment which includes privacy and security, quality of purchased products or services must be created and provided. Besides trust, the expectation of products or services performance should be improved in the m-shopping environment.

There are many limitations in our study. First, although the modified model demonstrates the importance of intrinsic motivation in predicting the m-shopping continuance, our samples are not selected randomly and therefore may not represent the population adequately. Second, the m-shopping experience of most respondents (59.02%) are shorter than one year. Thus, the surveyed data might result in bias for our research, and more experienced m-shoppers will be needed. And finally, the respondents are all young students from university or college who usually have better capability to accept and use advanced technology. This will also result in unnecessary bias in our study.

6. CONCLUSIONS

Although ECM is used popularly in predicting IS continuance, it is often questioned for the lack of intrinsic motivation. This study tries to use trust as an intrinsic motivation to extend ECM. Our study finds that trust could be a good intrinsic motivation in strengthening the explaining ability of ECM in m-shopping context. Additionally, we also find the perceived usefulness is not a significant variable in determining the m-shopping continuance, which is similar to Seddon [20] and Hung et al. [12] who hold that past perceived usefulness can not be a motivation for future use of IS.

The results of our study indicate that the variables of trust and satisfaction are major determinants of m-shopping, but other variables still have indirect influence on m-shopping continuance. Because of the insignificance of the path coefficient of perceived usefulness, we find that the m-shopping continuance could be directly determined by satisfaction and trust of m-shoppers. While confirmation can be an important determinant of perceived usefulness, satisfaction, and trust, we believe confirmation also has important influence on m-shopping continuance. On the other hand, we also contend the determinants of m-shopping continuance in this study are not complete for the lower explanatory power of continued intention toward m-shopping. Therefore, other intrinsic or extrinsic motivations should be included in the future study.

The results of this study also contribute to the m-commerce providers to establish a friendly

m-shopping environment. First, they can use this modified continuance model to understand the determinants of m-shoppers' intention of repurchase. Though many m-shopping providers give more attention on the quality of products or services, this study shows that the m-commerce providers should focus more on the establishing of a trustworthy shopping environment first. After a trustworthy transaction mechanism has been established, the m-shopping providers can then improve the performance of their products and services, and in turn, satisfy the m-shoppers.

REFERENCES

1. Aladwani, A. M. and Aladwani, C. D. A. M., 2002, "The development of two tools for measuring the easiness and usefulness of transactional web sites," *European Journal of Information Systems*, Vol. 11, No. 3, pp. 223-234.
2. Anil, S., Ting, L. T., Moe, L. H., and Jonathan, G. P. G., 2003, "Overcoming barriers to the successful adoption of mobile commerce in Singapore," *International Journal of Mobile Communications*, Vol. 1, No. 1/2, pp. 194-231.
3. Barnes S. J., 2002, "The mobile commerce value chain: Analysis and future developments," *International Journal of Information Management*, Vol. 22, No. 2, pp. 91-108.
4. Bhattacharjee, A., 2001a, "Understanding information systems continuance: An expectation-confirmation model," *MIS Quarterly*, Vol. 25, No. 3, pp.351-370.
5. Bhattacharjee, A., 2001b, "An empirical analysis of the antecedents of electronic commerce service continuance," *Decision Support Systems*, Vol. 32, No. 2, pp. 201-214.
6. Chan, S. S., Fang, X., Brzezinski, J., Zhou, Y., Xu, S. and Lam, J., 2002, "Usability for mobile commerce across multiple form factors," *Journal of Electronic Commerce Research*, Vol. 3, No. 3, pp. 187-199.
7. Davis, F. D., Bagozzi, R. P. and Warshaw, P. R., 1989, "User acceptance of computer technology: A comparison of two theoretical models," *Management Science*, Vol. 35, No. 8, pp. 982-1003.
8. Eggert, A. and Ulaga, W., 2002, "Customer perceived value: A substitute for satisfaction in business markets?" *Journal of Business and Industrial Marketing*, Vol. 17, No. 2/3, pp. 107-118.
9. Flavia'n, C., Guinali' u, M. and Gurrea, R., 2006, "The role played by perceived usability, satisfaction and consumer trust on website loyalty," *Information & Management*, Vol. 43, pp. 1-14.
10. Frambach, R. T., Roest, H. C. A. and Krishnan, T. V., 2007, "The impact of consumer Internet experience on channel preference and usage intentions across the different stages of the buying process," *Journal of Interactive Marketing*, Vol. 21, No. 2, pp. 26-41.
11. Hair, J. F., Anderson, R. E., Tatham, R. L. and Black, W. C., 1998, *Multivariate Data Analysis*. Prentice Hall, New Jersey.
12. Hung, M. C., Hwang, H. G. and Hsieh, T. C., 2007, "An exploratory study on the continuance of mobile commerce: An extended expectation-confirmation model of information system use," *International Journal of Mobile Communications*, Vol. 5, No. 4, pp. 409-422.
13. Jöreskog, K. G., and Sörbom, D., 1993, *LISREL8: Users' Reference Guide*. Scientific Software International, Chicago.
14. Lee, K. C. and Chung, N., 2009, "Understanding factors affecting trust in and satisfaction with mobile banking in Korea: A modified DeLone and McLean's model perspective," *Interacting with Computers*, Vol. 21, pp. 385-392.
15. Liu, C., Marchewka, J. T., Lu, J. and Yu, C. S., 2005, Beyond concern: A privacy-trust-behavioral intention model of electronic commerce," *Information & Management*, Vol. 42, pp. 289-304.
16. Malhotra, Y., Galletta, D. F. and Kirsch, L. J., 2008, "How endogenous motivations influence user intentions: Beyond the dichotomy of extrinsic and intrinsic user motivations," *Journal of Management Information Systems*, Vol. 25, No. 1, pp. 267-299.
17. Mylonakis, J., 2004, "Can mobile services facilitate commerce? Findings from the Greek telecommunications market," *International Journal of Mobile Communications*, Vol. 2, No. 2, pp. 188-198.
18. Nunnally, J. C., and Berstein, I. H., 1994, *Psychometric theory*. McGraw-Hill, New York.
19. Oliver, R. L., 1980, "A cognitive model for the antecedents and consequences of satisfaction," *Journal of Marketing Research*, Vol. 17, No. 4, pp. 460-469.
20. Seddon, P. B., 1997, "A respecification and extension of the DeLone and McLean model of IS success," *Information Systems Research*, Vol. 8, No. 3, pp. 240-253.
21. Sonja, G.K., 2002, "The role of consumers' trust in online-shopping," *Journal of Business Ethics*, Vol. 39, No. 1, pp. 43-50.
22. Tung, F. C., Chang, S. C. and Chou, C. M., 2008, "An extension of trust and TAM model with IDT in the adoption of the electronic logistics information system in HIS in the medical industry," *International Journal of Medical Informatics*, Vol. 77, pp. 324-335.

23. Velmurugan, M. S., 2009, "Security and trust in e-Business: Problems and prospects," *International Journal of Electronic Business Management*, Vol. 7, No. 3, pp. 151-158.
24. Vrechopoulos, A. P, Constantiou, I. D. and Sideris, I., 2002, "Strategic marketing planning for mobile commerce diffusion and consumer adoption," *M-Business 2002 Conference*.
25. Weiner, B., 2000, "Attributional thoughts about consumer behavior," *Journal of Consumer Research*, Vol. 27, No. 3, pp. 382-387.
26. Woodroof, J. and Burg, W., 2003, "Satisfaction/dissatisfaction: Are users predisposed?," *Information and Management*, Vol. 40, No. 4, pp. 317-324.
27. Wu, J. H. and Wang, Y. M., 2006, "Development of a tool for selecting mobile shopping site: A customer perspective," *Electronic Commerce Research and Applications*, Vol. 5, pp. 192-200.

ABOUT THE AUTHORS

Ming-Chien Hung is an assistant professor of the Department of Information Management at Nanhua University, Taiwan. His research interests are information management, hospital information systems management, and electronic commerce. His published articles have appeared in *Information & Management*, *Decision Support Systems*, *Expert systems with Applications*, *International Journal of Mobile Communications*, *Telemedicine and e-Health*, *Journal of Medical Systems*, *Technovation*, *International Journal of Medical Informatics*.

Shih-Ting Yang is an assistant professor in the Department of Information Management at Nanhua University. Dr. Yang received his Ph.D. in Industrial Engineering and Engineering Management at National Tsing-Hua University and his research interests are knowledge management and mobile commerce.

Ting-Chu Hsieh is an assistant professor in the Department of E-Commerce at WuFeng University, Taiwan. He received his Ph.D. from National Taiwan University. His research interests include information technology (IT) acceptance and use, IT-enabled organizational change, and socio-cognitive processes in systems development. His prior research has been published in *Journal of Information Management* and *International Journal of Mobile Communications*.

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影響行動購物持續使用因素之研究

洪銘建¹、楊士霆^{1*}、謝定助²

¹南華大學資訊管理學系

嘉義縣大林鎮中坑里南華路一段 55 號

²吳鳳科技大學電子商務學系

嘉義縣民雄鄉建國路二段 117 號

摘要

行動購物在行動商務的時代下非常方便，雖然許多人已經有行動購物的經驗，但其仍然未能持續使用行動設備來進行購物，因此對行動購物服務的提供者而言，了解持續使用行動購物的影響因素非常重要。期待確認模式常被用來探討資訊科技的持續使用行為，然其發展著重於人的外顯動機而忽略了人的內在動機。本研究基於行動交易之隱私與安全性考量，將信賴與期待-確認模式結合以探討持續性行動購物的行為，並使用 244 份有效問卷進行分析，結果顯示信賴可以改善原有期待-確認模式對持續性行動購物的解釋能力。

關鍵詞：持續性、期待-確認模式、行動商務、行動購物、信賴

(*聯絡人：stingyang@mail.nhu.edu.tw)