Association for Information Systems
AIS Electronic Library (AISeL)

PACIS 2010 Proceedings

Pacific Asia Conference on Information Systems (PACIS)

2010

An Empirical Study of the Impact of Trial Experiences on the Continued Usage of Mobile Newspapers

Ting Wang
Xi'an Jiaotong University, tina.wang@stu.xjtu.edu.cn

Lih-Bin Oh
Xi'an Jiaotong University, ohlb@mail.xjtu.edu.cn

Kanliang Wang
Xi'an Jiaotong University, klwang@mail.xjtu.edu.cn

Bo Zhang
Xi'an Jiaotong University, hfxyzb@gmail.com

Follow this and additional works at: http://aisel.aisnet.org/pacis2010

AN EMPIRICAL STUDY OF THE IMPACT OF TRIAL EXPERIENCES ON THE CONTINUED USAGE OF MOBILE NEWSPAPERS

Ting Wang, School of Management, Xi'an Jiaotong University, Xi'an, P.R.China, tina.wang@stu.xjtu.edu.cn

Lih-Bin Oh, School of Management, Xi'an Jiaotong University, Xi'an, P.R.China, ohlb@mail.xjtu.edu.cn

Kanliang Wang, School of Management, Xi'an Jiaotong University, Xi'an, P.R.China, klwang@mail.xjtu.edu.cn

Bo Zhang, School of Management, Xi'an Jiaotong University, Xi'an, P.R.China, hfxyzb@gmail.com

Abstract

This study explores the effects of trial experiences on users' continued mobile data services usage intention. Using the context of a mobile service with trial option, this research proposes a conceptual model by integrating perceived fee with the expectation-confirmation model of IT continuance (ECM-IT). Data was collected from 192 mobile newspaper trial users in China. Results suggest that the extent of confirmation with initial expectation affects post-adoption expectations while post-adoption expectations and confirmation positively impact satisfaction. Next, expectations, satisfaction with prior trial experience, and perceived fee positively impact continued usage of mobile newspaper. Overall, this study provides an understanding of how consumers make their purchase decision of mobile data services. Implications for researchers and practitioners are discussed.

Keywords: Mobile Data Services, Continued IT Usage, ECM-IT.

1   INTRODUCTION

The rapid advancement and ubiquity of mobile computing has made the world more connected and has changed the way information and services are delivered. (Hong et al. 2008). Mobile data services resulting from the convergence of mobile communication technologies and data services could provide a variety of innovative services ranging from productivity-oriented services to pleasure-oriented service (Kim et al. 2009).

In China, the country with the largest Internet population of 338 million as of December 2009, the usage of mobile media services has seen a rapid growth. Among the types of mobile service innovations offered by telecommunications service providers, the mobile newspaper service was found to have the highest penetration rate among all the mobile applications. Mobile newspaper is an innovative service in that it integrates mobile media with traditional publishing. As a kind of mobile commerce (m-commerce) application, mobile newspaper is distinctively different from traditional print newspaper because it is digitized and can be retrieved and forwarded to others easily. Furthermore, mobile newspaper also possesses the unique advantage of delivering breaking news to readers (Ward & Hansen 1997) and sending customized news to based on readers' preferences (Leung et al. 2003).

However, the challenge for mobile service providers and operators is to get an in-depth appreciation of the adoption behaviors of mobile users in order to offer services that are profitable. Existing research on mobile data services are primary technology-oriented focusing on the hardware/software development (Imielinski & Badrinath 1994), and research on consumer behaviors towards mobile data services is scarce (Hong et al. 2008). In view of the limited understanding on this topic, this research attempts to contribute to the mobile data services literature by investigating the decision process of mobile users' decision to continue using a service after a trial usage period. Prior research on attitude-behavior consistency has found that in a marketing situation, attitudes based on the trial predict purchase much better than attitudes based on advertising do (Smith & Swinyard 1983). The overriding objective of this study is to understand what drives users to continue paying for a mobile service by examining their attitudes on the trial experience. We use the mobile newspaper as our research context to investigate consumers' mobile data service adoption from a trial marketing perspective. Findings from this study can offer insights to mobile service providers to market and manage the process of delivery mobile service innovations.

The paper is structured as follows. We first introduce the mobile newspaper and its development in China and other parts of the world before providing a literature review of IT innovations acceptance and continuance. Next, we propose our research model and the hypotheses. This is followed by a description of our research method and presentation of the data analysis and results.

2   CONCEPTUAL BACKGROUND

2.1   Mobile Newspaper

Mobile newspaper, as its name suggests is a kind of newspaper distributed via mobile communication technology and read on mobile devices. A recent market study across six countries (US, UK, France, Germany, Italy and Spain) has revealed that 16.9% of consumers using mobile devices get news and information either via micro-browser, Short Messaging Service (SMS) or downloaded applications (NAA 2008). Overall, there are two modes that users can use to subscribe to mobile newspapers: 1) to read the newspaper by taking the initiative to visit the newspaper websites via mobile device ("pull-mode"); 2) the newspaper is sent to users via mobile devices in the form of SMS or Multimedia Messaging Service (MMS) ("push-mode") (CNNIC 2009). The model of mobile newspaper in China is implemented using the MMS push-mode whereby a selection of key news article abstracts is sent to the users' cell phone.

China Mobile, the biggest telecommunication operator in China, officially introduced the MMS based mobile newspaper service named M-News as one of his value added services (Chinamobile

2007). Consumer could subscribe and cancel the subscription to this service for a certain newspaper by sending short messages to China Mobile customer service center. If users have subscribed to a particular newspaper, a MMS-based mobile newspaper would be sent up to twice a day for a fee from 5 to 25 RMB (equivalent to USD 0.73 to 3.67) per month. The most basic M-News service costs 5 RMB/month and typically contains about 10-15 pages of the latest headline news, weather and photos from across China and around the world (China Mobile, 2007). To rapidly expand the market for this service, China Mobile bundles a basic version of M-News in some of its service package for new users, and provides a two-month free trial of this basic vision for most existing users. Our research focuses on the effect of prior trial experience of mobile newspaper on the intention to continue using and paying for the service.

2.2　　　Previous Research on IT Innovations Continuance

The Information System (IS) literature is rich in studies investigating the determinants of users' adoption of information technology innovations. And this issue has been studied from various theoretical perspectives, such as technology acceptance model (Davis 1989, Van der Heijden 2004), theory of reasoned action (Fishbein & Ajzen 1975), innovation diffusion theory (Moore & Benbasat 1991), theory of planned behavior (Ajzen 1991) and the unified theory of acceptance and use of technology (Venkatesh et al. 2003). The success of a new technology to a large extent is determined by its continued use (Bhattacherjee 2001b), which determines the financial viability of subscription-based services (Hong et al. 2006). Furthermore, the cost of acquiring a new customer is five times the cost of retaining an existing customer (Bhattacherjee 2001b). Thus, there is no doubt that understanding IS continuance is an important research topic for new services innovation management.

Most prior studies on IT adoption view continuance as an extension of acceptance behavior (e.g. Cooper & Zmud 1990), and employ adoption models to analyze the processes of continued usage decision without considering the differences between adoption and continued usage (Davis et al. 1989). While research on consumer purchase behavior has provided theoretical support for the differences in consumer perceptions between the initial adoption and the continued usage (e.g. Howard & Sheth 1969), studies that questioned the belief that the continued usage is similar to initial adoption have been done in recent years (Hong et al. 2006). New perspectives addressed the distinctions between adoption and post-adoption behaviors have been proposed to explain the continued IT usage behavior by adapting the expectation-confirmation paradigm, which is widely used in consumer behavior literature to study consumer satisfaction and repurchase decision in various post-purchase (Yi 1990) and IS contexts (Bhattacherjee 2001b, Thong et al. 2006).

Thong et al. (2006) extended the expectation-confirmation model of IT continuance (Bhattacherjee 2001b) by expanding the set of post-adoption beliefs with perceived usefulness, perceived ease of use, as well as perceived enjoyment. This expanded expectation-confirmation model has proven to be successful across mobile Internet service context (Thong et al. 2006) and other mobile services (Wang et al. 2008). Figure 1 presents the expectation-confirmation model of IT continuance (ECM-IT).

Figure 1.　　　*Expectation-Confirmation Model of IT Continuance*

3 RESEARCH MODEL AND HYPOTHESES

In our research context, a basic mobile newspaper is either bundled to the mobile communication service package for free for certain service subscription tier or is freely available for two months trial before offering users the option to pay to continue receiving the M-news. In this study, we are interested in finding out answers to these two situations: 1) for those who acquire the trial of newspaper via bundled service packages, will this trial experience drive them to subscribe other mobile newspapers? 2) for those who receive the trial service for two months, will this trial experience drive them to subscribe to the basic or other mobile newspapers? Given that prior experience is a critical reason leading to the differences between adoption and post-adoption behavior, we regard these issues as relating to the continued usage after a trial experience.

3.1 Continuance Intention

Continuance intention refers to the intention to continue using a product or service. Satisfaction with prior use is the major factor leading to the repurchase or continued use of that product or service (Spreng et al. 1996). ECM-IT posits that user's IS continuance intention is determined primarily by their satisfaction with prior IS use (Bhattacherjee 2001a), and this relationship between satisfaction and continuance intention has also been established in other contexts (Karahanna et al. 1999). Thus, we expect that:

H1: Users' satisfaction with their mobile newspaper trial experience is positively related to their continued mobile newspaper usage intention.

It is important to note that consumer would have to bear the additional subscription fee for the continued usage of mobile newspaper after the trial. A cost-benefit calculation would be performed in the process of continued use decision after the trial has ended and this play an important role in consumers' decision making (Thaler 1985). Subjective perceived prices is an indicator of the amount of sacrifice related to the purchase of a product (Monroe & Krishnan 1985), and perceived monetary value affects consumers' intention to use a product (Cronin et al. 2000) as well as the continued usage intention (Hong et al. 2008). Thus, perceived fee is an important variable that needs to be taken into account as a determinant of continued usage after the trial. Perceived monetary value is positively related to the consumers' willingness to continued usage (Hong et al. 2008). Consistent with this perspective, the more reasonable the perceived fee of mobile newspaper is, the more customers are willing to subscribe to mobile newspaper service after trial.

H2: Perceived fee of mobile newspaper has a positive influence on users' continued mobile newspaper usage intention.

3.2 Satisfaction

According to the ECM model, consumers would arouse the feelings of satisfaction when their perception of a product's performance meets or exceeds their expectations (Spreng et al. 1996). Thus, the confirmation of initial expectations following the actual use would determine consumer satisfaction (Bhattacherjee 2001b, Hung et al. 2007). As mobile newspaper is a service that results from the convergence of traditional newspaper with mobile communication technologies, initial expectations would be formed after the users compare the mobile newspaper with print and online newspaper. The confirmation/disconfirmation of these expectations would definitely influence the satisfaction with mobile newspaper, i.e., higher confirmation would naturally induce higher satisfaction. Furthermore, according to the cognitive dissonance theory (Festinger 1957), if consumers' initial expectations are disconfirmed during actual use, consumers would experience cognitive dissonance (Bhattacherjee 2001b). To eliminate this dissonance, consumers would modify their expectations according to their experience: i.e., elevated if initial expectations are confirmed, lower if disconfirmed.

H3: Users' extent of usage confirmation is positively related to their satisfaction with mobile newspaper.

H4: Users' extent of usage confirmation is positively related to their post-adoption expectations with mobile newspaper.

3.3 Expectations

In the ECM-IT model, expectation refers to the post-adoption expectation, and is defined as individual beliefs or sum of beliefs (Bhattacherjee 2001b). Bhattacherjee (2001b) uses perceived usefulness as the measure of expectation to conceptualize the ECM-IT model since perceived usefulness is a cognitive belief most consistent and salient to IS use. Van der Heijden (2004) points out that the affective beliefs (perceived enjoyment) play a more important role in hedonic IS usage, and expands the technology acceptance model (TAM) by integrating perceived enjoyment. A comparison of ECM-IT, TAM and extended ECM-IT (integrating ECM-IT and TAM) in the context of mobile Internet reveals that the extended ECM-IT has the highest explanatory power on continued IT usage (Hong et al. 2006). Thus, perceived ease of use and perceived enjoyment should also be used to measure the expectation besides perceived usefulness to gain a more comprehensive understanding of continued IT usage intention (Thong et al. 2006). Therefore, we conceptualized expectations as a second-order construct comprising three first-order reflective constructs: perceived usefulness, perceived ease of use, and perceived enjoyment.

User's expectations of using IT will be constantly updated depending on their experience gained from using it. Supported by the adaptation level theory (Helson 1964), ECM-IT posits that the post-adoption expectations of IT would also positively affect consumers' satisfaction (Bhattacherjee 2001b). Expectations based on consumers' direct experience were found to be the major determinants of consumer satisfaction (LaTour & Peat 1980).

H5: Users' post-adoption usage expectations of mobile newspaper are positively related to their satisfaction with mobile newspaper.

Perceived usefulness and perceived ease of use are fundamental salient beliefs in the TAM and have been investigated and replicated during the past decades and have been validated in different individual IT adoption situations (Chin & Todd 1995). Furthermore, perceived enjoyment has been shown to be a stronger belief in predicting the intentions to use hedonic IS compared to perceived usefulness (Van der Heijden 2004). In addition, recent works have found TAM be reasonable to explain IS continuance (Premkumar & Bhattacherjee 2008). Therefore, we expect that usage expectations, comprising of perceived usefulness, perceived ease of use, and perceived enjoyment to directly affect users' continued usage intention.

H6: Users' post-adoption usage expectations of mobile newspaper are positively related to their continued mobile newspaper usage intention.

Based on the above discussions, the research model is presented in Figure 2.
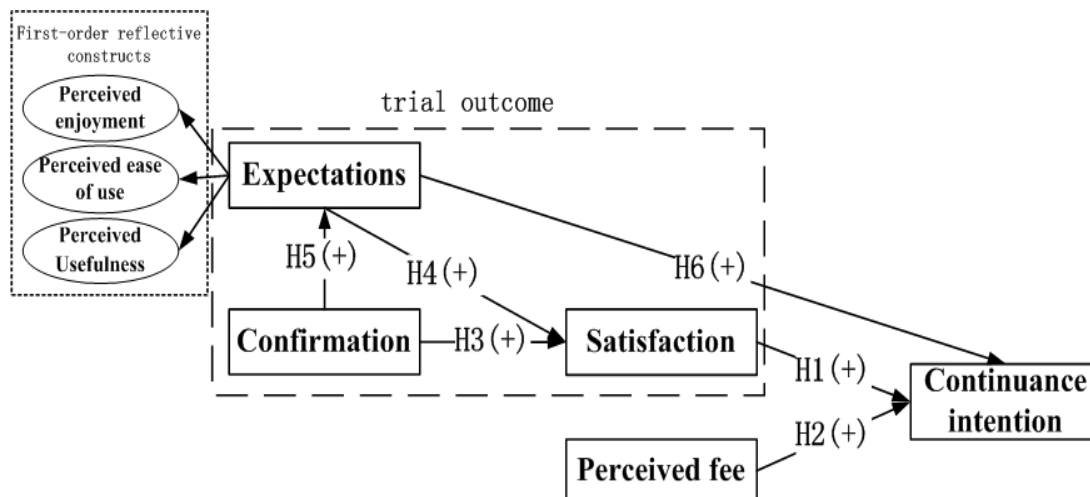
Figure 2．   Research Model

4   RESEARCH METHOD

4.1   Data Collection

Empirical data for this study was collected via a field survey of mobile newspaper trial users. 200 undergraduate students from four large universities in Northwestern China responded participated in our study. Each of the respondents received a small gift as an incentive. A total of 192 usable responses were received, representing a 97.4% response rate. 68.6% of the respondents were male. 94.8% of the respondents have used mobile newspaper more than three months, and 67.5% have subscribed more than two kinds of mobile newspapers. 71.3% have spent more than 5 RMB per month on mobile newspaper, suggesting that these users have proceeded to pay for the service beyond the trial experience.

4.2   Construct Operationalization

There are five constructs measured in this study: mobile newspaper continuance intention, satisfaction, perceived fee, expectations, and confirmation. Multiple-item scales used to measure these constructs were either adopted or adapted from extant validated scales found in IS use or ECM research. All the constructs were measured using a seven-point Likert scales anchored between "strongly disagree" and "strongly agree", except for the satisfaction items, which were based on seven-point semantic differential scales.

We adapted the scale of continuance intention from Bhattacherjee (2001b) and Thong, Hong, and Tam (2006). For satisfaction, we adapted the measurement items from Bhattacherjee (2001a; 2001b). Perceived fee was adapted from Sweeney and Soutar (2001), Petrick (2002), and Kim et al. (2007), while confirmation was adopted from Bhattacherjee (2001b). As we conceptualized expectations as a second-order construct made up of three first-order reflective constructs: perceived usefulness, perceived ease of use, and perceived enjoyment, we first adapted perceived usefulness, perceived ease of use items from Davis (1989) and Moon and Kim (2001), and adapted perceived enjoyment from Moon and Kim (2001) and Thong et al. (2006), then followed the approach in Yi and Davis (2003, p160) to derive the indicators for expectations.

A double-translation procedure was employed for the questionnaire development. The questionnaire was pre-tested through focus-group interviews of 10 students. The questionnaire was revised according to the feedback, and then a pilot testing of the survey was conducted with 40 mobile newspaper users.

5 DATA ANALYSIS AND RESULTS

The proposed model and hypothesis testing were conducted using Smart-PLS software version 2.03 (Ringle et al. 2005). Partial Least Squares (PLS), has been widely used in recent IS studies. PLS approach can assess measurement model parameters and structural path coefficients simultaneously just as other structural equation modeling techniques. It is suitable for this study that represents an early attempt to explore the effect of the trial experience on continuance intention in the new mobile newspaper context.

5.1 Assessment of Measurement Model

To assess the measurement model is to assess the construct validity, which includes the assessment of convergent validity and discriminant validity.

As shown in Table 1, all the items loadings to their corresponding latent variables are above 0.7, indicating that the item reliability is judged to be adequate (Fornell et al. 1982). Results of the internal consistency (construct reliability) of the five constructs which were examined using Composite Reliability and Average Variance Extracted (AVE) are presented in Table 1, Cronbach's Alpha scores for every construct were also shown in Table 1 for a comparison. All constructs had high internal consistency exceeding Nunnally's (1978) criterion of 0.7, AVE of each construct was above 0.5. and Cronbach's Alpha scores ranged from 0.73 to 0.95, which is also well past the threshold recommended by Rivard and Huff (1988) and Nunnally (1978). Thus, every latent construct is deemed reliable.

The square root of AVE of each construct is used to examine the construct discriminant validity by comparing with the correlation of that construct with other constructs. As shown in Table 2, the square root of AVE is greater than all of the inter-construct correlations, showing evidence of sufficient construct discriminate validity (Fornell & Larcker 1981). Therefore, our model exhibits satisfactory discriminate validity (Barclay et al. 1995).

Second-order latent variables

Variable	Confirmation			Expectation			Satisfaction						Perceived fee					Continuance intension		
Item	CON1	CON2	CON3	W_PE	W_PEO	W_PU	SA1	SA2	SA3	SA4	SA5	SA6	PF1	PF2	PF3	PF4	PF5	CUI1	CUI2	CUI3
Loading	0.90	0.93	0.90	0.81	0.77	0.84	0.92	0.92	0.87	0.94	0.88	0.88	0.90	0.92	0.92	0.92	0.87	0.92	0.92	0.92
Composite Reliability (Cronbach α)	0.94 (0.90)			0.85 (0.73)			0.96 (0.95)						0.96 (0.95)					0.94 (0.90)		
AVE	0.83			0.65			0.81						0.84					0.82		

First-order latent variables

Variable	Perceived enjoyment						Perceived ease of use						Perceived usefulness				
Item	PE1	PE2	PE3	PE4	PE5	PE6	PEOU1	PEOU2	PEOU3	PEOU4	PEOU5	PEOU6	PU1	PU2	PU3	PU4	PU5
Loading	0.87	0.87	0.87	0.88	0.83	0.90	0.81	0.81	0.88	0.80	0.81	0.93	0.86	0.84	0.81	0.90	0.83
Composite Reliability (Cronbach α)	0.95 (0.94)						0.94 (0.92)						0.93 (0.90)				
AVE	0.76						0.71						0.72				

Table 1. *Convergent Validity of Constructs*

Second-order Latent Variables					
	Confirmation	Expectations	Satisfaction	Perceived fee	Continuance intention
Confirmation	**0.91**				
Expectations	0.71	**0.81**			
Satisfaction	0.67	0.78	**0.9**		
Perceived fee	0.52	0.61	0.61	**0.91**	
Continuance intention	0.59	0.69	0.65	0.57	**0.92**
First-order Latent Variables					
	Perceived enjoyment	Perceived ease of use	Perceived usefulness		
Perceived enjoyment	**0.87**				
Perceived ease of use	0.42	**0.84**			
Perceived usefulness	0.52	0.49	**0.85**		

[a]diagonals are square root of AVEs; off-diagonals are inter-construct correlations

Table 2．   Discriminant Validity of Constructsa

5.2   Assessment of Structural Model

   After assuring the good psychometric properties in the measurement model, we assessed the structural model to determine its explanatory power and the significance of the hypothesized paths. Figure 3 shows the results of the PLS analysis of research model. Our model could explain 53% of total variability of continuance intention to use mobile newspaper, 64% of total variability of user satisfaction and 50% of total variability of post expectations. As R^2 of endogenous construct (continuance intention to use in our model) used to assess the explanatory power of estimated model is 0.53 has exceeded the threshold recommended by Falk and Miller (1992), nomological validity of our research model is satisfactory. As recommended by Chin and Todd (1995), bootstrapping was performed to test the statistical significance of each path coefficient. As shown in Table 3, all of the path coefficients were significant at the 1% significance level, and all the hypotheses were supported.
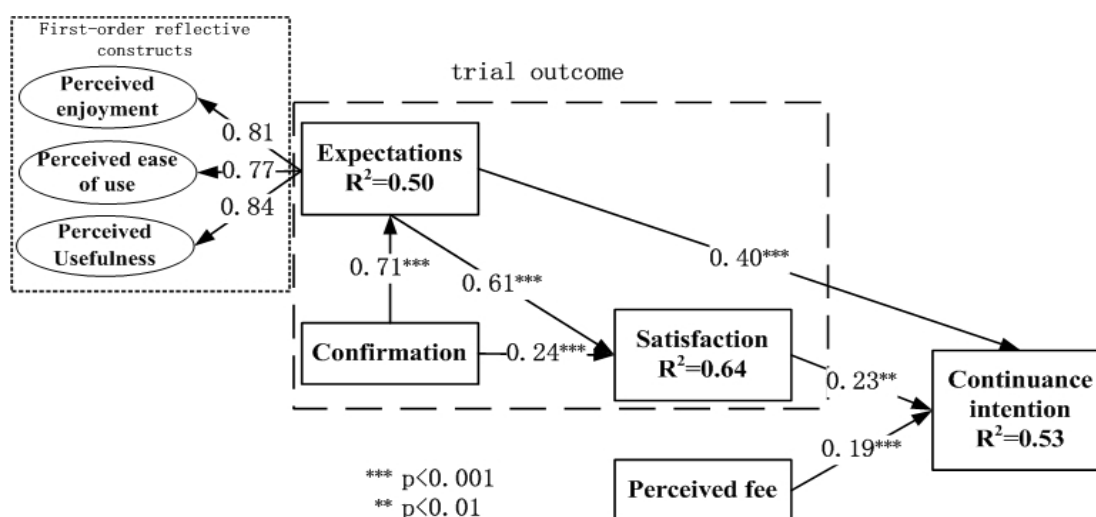

Figure 3．   PLS Results of Structural Model

Hypotheses	Casual Path	Path Coefficient	T-Values	Supported[a]
H1	Satisfaction –> Continuance intention	0.23	3.17[**]	Yes
H2	Perceived fee -> Continuance intention	0.19	3.47[***]	Yes
H3	Confirmation -> Satisfaction	0.24	5.00[***]	Yes
H4	Expectations -> Satisfaction	0.61	12.54[***]	Yes
H5	Confirmation -> Expectations	0.71	21.35[***]	Yes
H6	Expectations -> Continuance intention	0.40	6.48[***]	Yes

[a]Hypotheses were tested at 1% level of significance. [***]Significant at 0.1% level of significance [**]Significant at 1% level of significance

Table 3.   Results of Hypotheses Testing

6   DISCUSSION AND IMPLICATIONS

6.1   Key Findings

In this study, a conceptual model for a mobile data service trial marketing context has been proposed and empirically tested. Results of this study are in line with prior research employing expectation-confirmation paradigm to investigate IT service continuance. Both satisfaction and post-adoption expectations are significant determinants of user's continued IT usage intention, and users' satisfaction is significantly affected by the extent of confirmation and the perceptions of post-adoption expectations. The perceptions of post-adoption expectations are strongly influenced by the extent of confirmation. Mobile newspaper users would modify their post-adoption expectations of whether mobile newspaper is useful, easy to use and enjoyable based on the degree to which their initial expectations are confirmed during the trial of mobile newspapers.

Interestingly, we found that post-adoption expectations is a stronger predictor of both satisfaction and continuance intention relative to other predictors (confirmation for satisfaction, satisfaction and perceived fee for continuance intention) in mobile newspaper context. This is different from previous findings in other contexts. One possible reason for this finding could be attributed to the nature of mobile devices and the existing mobile technology. As consumers' initial expectations of mobile newspaper are formed via second-hand information from referent others (print and online newspaper), popular media or other sources (Bhattacherjee 2001b), restricted by the nature of mobile devices (e.g., small screen, small and inconvenient input method) and existing mobile technology (e.g., small bandwidth, instability), consumer would have a very low expectation of mobile newspaper compared to print and online newspaper. While with the increase in first-hand experience with mobile newspaper through the trial, the innovative mobile newspaper solution can provide disconfirmations to the initial low expectations and would greatly affect the adjustment of post-adoption expectations. This is because the extent of confirmation strongly influences the post-adoption expectations. Supported by previous finding that high expectation induce high satisfaction (Oliver & DeSarbo 1988) and consumers' direct experience is the major determinants of consumer satisfaction (LaTour & Peat 1980), consumers' post-adoption expectations could better predict the consumer satisfaction than confirmation.

6.2   Limitations

Before going into the implication section, we have to acknowledge some limitations of this research. First, our study is cross-sectional, but not longitudinal, we could not capture consumers' perceptions prior to the trial process to do comparative pre-and-post trial analysis to fully understand the effect of trial promotion practice on continued usage of mobile newspaper. Second, we did not separate the free trial users under bundled services packages with two-month trial users. Although both of types of user would gain trial experiences before they make the continued usage decision, there might still a difference between them. Since the primary purpose of this research is to investigate how the trial promotion practice would affect consumers' continued mobile data services

usage, we believe that it is acceptable to combine these two groups of users.

6.3 Implications

6.3.1 Theoretical implications

From a theoretical point of view, this study has served to broaden our understanding of consumer behaviors on mobile data services from the perspective of decision making process by emphasizing the important role of previous experience. It investigated how consumers' trial experience affects their continued usage intention of mobile data services (mobile newspaper). This helps us to gain a comprehensive understanding of mobile data services purchase behavior. Furthermore, this study expands on the ECT-IT model in the context of mobile data services via integrating the perception of the usage fee. As discussed above, ECT-IT model is particularly useful for understanding the continued IT usage as it has acknowledged and considered the differences of consumers' perceptions between the initial adoption and the continued usage behavior due to the prior experience. Our results suggest that ECT-IT is suitable to be used to understand and predict the continued usage of mobile data services. This is because monthly subscription is one of the most common business models of mobile data services and the subscription behavior is to a large extent dependent on the perceptions of prior subscription. While mobile data services is priced based on the usage, which is different from many free or one-time payment IS, perceived fee would be a critically important factor that needs to be taken into account in order to investigate the acceptance and continued usage of mobile data service. The results of this study reveal that perceived fee would directly and significantly influence consumers' continued mobile data service usage intention.

6.3.2 Managerial implications

This study also provides some important implications for mobile data service practitioners. The trial promotion practice appears to be very successful since 94.8% of the respondents have used mobile newspaper more than three month in this study. Additionally, 67.5% of the respondents have subscribed to more than two kinds of mobile newspapers and 71.3% have spent more than 5 RMB per month on mobile newspaper. Mobile data service operators could follow this practice to market other mobile data services especially when these services could also be provided in other channels. Post-adoption expectations are found to be a more powerful determinant of consumer satisfaction and consumers' continued usage intention, suggesting that mobile data service practitioners should pay more attention on mobile service solutions to improve consumers' perceptions of post expectations. This research also indicates that mobile data service practitioners should understand the important role of a monetary fee. The implication is that the formulation of pricing strategy should take into consideration users' prior perceptions of the service as these have been found to also affect usage continuance intention of the mobile data service.

Acknowledgement

References

Ajzen, I. (1991). The theory of planned behavior. Organizational Behavior and Human Decision Processes, 50(2), 179-211.

Barclay, D., Higgins, C., and Thompson, R. (1995). The Partial Least Squares (PLS) Approach to Causal Modeling: Personal Computer Adoption and Use as an Illustration. Technology Studies, 2(2), 285-309.

Bhattacherjee, A. (2001a). An empirical analysis of the antecedents of electronic commerce service continuance. Decision Support Systems, 32(2), 201-214.

Bhattacherjee, A. (2001b). Understanding information systems continuance: An expectation-confirmation model. MIS Quarterly, 25(3), 351-370.

Chin, W. W., and Todd, P. A. (1995). On the Use, Usefulness, and Ease of Use of Structural Equation Modeling in MIS Research: A Note of Caution. MIS Quarterly, 19(2), 237-246.

Chinamobile. (2007). New Business: M-News, from http://www.chinamobile.com/en/mainland/products/nb09.html

CNNIC. (2009). China Mobile Media Survey Report, from http://www.cnnic.cn/uploadfiles/pdf/2009/2/19/162704.pdf

Cooper, R. B., and Zmud, R. W. (1990). Information Technology Implementation Research: A Technological Diffusion Approach. Management Science, 36(2), 123-139.

Cronin, J. J., Brady, M., and Hult, T. (2000). Assessing the effects of quality, value, and customer satisfaction on consumer behavioral intention in service environments. Journal of Retailing, 76(2), 193-218.

Davis, F. D. (1989). Perceived Usefulness, Perceived Ease of Use, and User Acceptance of Information Technology. MIS Quarterly, 13(3), 319-340.

Davis, F. D., Bagozzi, R. P., and Warshaw, P. R. (1989). User Acceptance of Computer Technology: A Comparison of Two Theoretical Models. Management Science, 35(8), 982-1003.

Falk, R., and Miller, N. B. (1992). A Primer for Soft Modeling. Akron, OH: University of Akron Press.

Festinger, L. A. (1957). A Theory of Cognitive Dissonance. Evanston, IL: Row and Peterson.

Fishbein, M., and Ajzen, I. (1975). Belief, attitude, intention, and behavior : An introduction to theory and research. Don Mills, Ontario: Addison-Wesley Pub. Co.

Fornell, C., and Larcker, D. F. (1981). Evaluating structural equation models with unobserved variables and measurement error. Journal of Marketing Research, 18(1), 39-50.

Fornell, C., Tellis, G. L., and Zinkhan, G. M. (1982). Validity Assessment: A Structural Equations Approach Using Partial Least Squares. Paper presented at the American Marketing Association Educators' Conference, Chicago.

Helson, H. (1964). Adaptation-Level Theory. New York: Harper & Row.

Hong, S.-J., Thong, J. Y. L., Moon, J.-Y., and Tam, K.-Y. (2008). Understanding the behavior of mobile data services consumers. Information Systems Frontiers, 10(4), 431-445.

Hong, S.-J., Thong, J. Y. L., and Tam, K.-Y. (2006). Understanding Continued Information Technology Usage Behavior: A Comparison of Three Models in the Context of Mobile Internet. Decision Support Systems, 42(3), 1819-1834.

Howard, J. A., and Sheth, J. N. (1969). The Theory of Buyer Behavior. New York: John Wiley & Sons.

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, 5(4), 409-422.

Imielinski, T., and Badrinath, B. R. (1994). Mobile wireless computing. Communications of the ACM, 37(10), 19-28.

Karahanna, E., Straub, D. W., and Chervany, N. L. (1999). Information Technology Adoption Across Time: A Cross-Sectional Comparison of Pre-Adoption and Post-Adoption Beliefs. MIS Quaterly, 23(2), 183-213.

Kim, B., Choi, M., and Han, I. (2009). User behaviors toward mobile data services: The role of perceived fee and prior experience. Expert Systems with Applications, 36(4), 8528-8536.

Kim, H.-W., Chan, H. C., and Gupta, S. (2007). Value-based Adoption of Mobile Internet: An empirical investigation. Decision Support Systems, 43(1), 111 –126.

LaTour, S. A., and Peat, N. C. (1980). The role of situationally-produced expectations, others' experiences, and prior experience in determining consumer satisfaction. In J. C.Olson (Ed.), Advances in Consumer Research (Vol. 7, pp. 588–592). Ann Arbor, MI: Association for Consumer Research.

Leung, C. H., Chan, Y. Y., and Chan, C. S. C. (2003). Analysis of mobile commerce market in Hong Kong. Paper presented at the The 5th International Conference on Electronic Commerce, Pittsburgh, Pennsylvania.

Monroe, K. B., and Krishnan, R. (1985). Perceived quality. In J. Jacoby andJ. Olson (Eds.), The effect of price on subjective product evaluations (pp. 209-232). Lexington, MA: Lexington Books.

Moon, J.-W., and Kim, Y.-G. (2001). Extending the TAM for a World-Wide-Web context. Information & Management, 38(4), 217-230.

Moore, G. C., and Benbasat, I. (1991). Development of an instrument to measure the perceptions of adopting an information technology innovation. Information Systems Research, 2(3), 192-222.

NAA. (2008). Statistics and Additional Resources. Retrieved January 10, 2010, from http://www.naa.org/Resources/Articles/Digital-Media-Moving-to-Mobile-Resources/Digital-Media-Moving-to-Mobile-Resources.aspx

Nunnally, J. C. (1978). Psychometric Theory (second ed.). New York: McGraw Hill.

Oliver, R. L., and DeSarbo, W. S. (1988). Response determinants in satisfaction judgments. Journal of Consumer Research, 14(4), 495-507.

Petrick, J. F. (2002). Development of a Multi-Dimensional Scale for Measuring the Perceived Value of a Service. Journal of Leisure Research, 34(2), 119-134.

Premkumar, G., and Bhattacherjee, A. (2008). Explaining information technology usage: A test of competing models. OMEGA, 36(1), 64-75.

Ringle, C. M., Wende, S., and Will, S. (2005). SmartPLS (Version 2.0 (M3) Beta). Hamburg: http://www.smartpls.de.

Rivard, S., and Huff, S. (1988). Factors of success for end user computing. Communications of the ACM, 31(5), 552-561.

Smith, R. E., and Swinyard, W. R. (1983). Attitude-Behavior Consistency: The Impact of Product Trial versus Advertising. Journal of Marketing Research, 20(3), 257-267.

Spreng, R. A., MacKenzie, S. B., and Olshavsky, R. W. (1996). A Reexamination of the Determinants of Consumer Satisfaction. Journal of Marketing Research, 60(3), 15-32.

Sweeney, J. C., and Soutar, G. N. (2001). Consumer perceived value: The development of a multiple item scale. Journal of Retailing, 77(2), 203-220.

Thaler, R. (1985). Mental accounting and consumer choice. Marketing Science 4(3), 199-214.

Thong, J. Y. L., Hong, S.-J., and Tam, K.-Y. (2006). The Effects of Post-adoption Beliefs on the Expectation-confirmation Model for Information Technology Continuance. International Journal of Human-Computer Studies, 64(9), 799-810.

Van der Heijden, H. (2004). User Acceptance of Hedonic Information Systems. MIS Quarterly, 28(4), 695-704.

Venkatesh, V., Morris, M. G., Davis, G. B., and Davis, F. D. (2003). User Acceptance of Information Technology:Toward a Unified View. MIS Quarterly,, 27(3), 425-478.

Wang, D., Xu, L., and Chan, H. C. (2008). Understanding Users' Continuance of Facebook: The Role of General and Specific Computer Self-Efficacy. Paper presented at the Twenty Ninth International Conference on Information Systems, Paris.

Ward, J., and Hansen, K. A. (1997). Search Strategies in Mass Communication. White Plains, NY: Longman.

Yi, M. Y., and Davis, F. D. (2003). Developing and Validating an Observational Learning Model of Computer Software Training and Skill Acquisition. Information Systems Research, 14(2), 146-169.

Yi, Y. (1990). A Critical Review of Consumer Satisfaction. In V. A. Zeithaml (Ed.), Review of Marketing (pp. 68-123). Chicago: American Marketing Association.