

# Continuance intention to use the mobile interest-based community: An integrated theoretical model and empirical study\*

Jiming HU<sup>†</sup> & Jing YU

School of Information Management, Wuhan University, Wuhan 430072, China

Received: May, 25, 2015

Revised: Jun. 26, 2015

Accepted: Jul. 6, 2015

## Abstract

**Purpose:** This paper aims at an understanding of factors that influence the continuance intention to use mobile interest-based community applications, with a focus on the impacts of technology acceptance model (TAM) constructs and experiential value.

**Design/methodology/approach:** Taking a hybrid model combining TAM and extended expectation confirmation model (ECM) as foundation, this study integrated experiential value into the research model. A survey method was adopted and the sample was constituted by 347 Chinese undergraduates who were experienced users of mobile interest-based community applications. Structural equation modeling was used to test the research model.

**Findings:** Our findings suggest that 1) key determinants of user satisfaction with mobile interest-based community applications are confirmation, perceived usefulness (PU), perceived ease of use (PEU) and experiential value. Both satisfaction and PU are directly correlated with continuance intention; 2) PU's impact on satisfaction and continuance intention has been confirmed again in this study. Although PEU has no direct impact on satisfaction and continuance intention, it may indirectly affect them via PU; 3) all the perceived experiential values (aesthetics, playfulness, service excellence and return on investment) have a positive influence on satisfaction.

**Research limitations:** We did not examine the effects of individual user differences that may also be important for understanding satisfaction and continuance intention.

**Practical implications:** The study findings can help service providers improve the use of mobile interest-based community applications.

**Originality/value:** Our study contributes to a more systematic understanding of factors that influence continuous use of mobile interest-based community applications.

**Keywords** Mobile interest-based community; Continuance intention; Expectation confirmation model (ECM); Experiential value



CJLIS

Vol. 8 No. 2, 2015

pp 52–68

National Science Library,  
Chinese Academy of  
Sciences

\* This work is jointly supported by the National Natural Science Foundation of China (Grant No.: 71303178) and China Postdoctoral Science Foundation (Grant No.: 2015M572202).

<sup>†</sup> Corresponding author: Jiming Hu (E-mail: hujiming@whu.edu.cn).

## 1 Introduction

A mobile interest-based community is defined as an online community, accessible to mobile devices such as smart phones and tablet personal computers, which engages users with similar interests in real-time online group activities<sup>[1]</sup>. In China, as the number of people using smart phones and other mobile devices continues to increase, many online community service providers such as Renren.com and some new companies such as Feiliu.com have begun to provide mobile interest-based community applications to attract consumers<sup>[2]</sup>. When these companies have increased their investment in promoting their service amid fierce market competition, they realized that they should pay attention to fostering active users, those who are willing to continue to use the mobile applications after they have adopted the systems. As such, understanding users' continuance intention is crucial in helping mobile community service providers to increase customer viscosity.

There is not much research into factors that influence mobile users' intention to use online community applications continuously. Most studies, carried out based on expectation confirmation model (ECM)<sup>[3]</sup>, introduced new constructs such as perceived playfulness and perceived cost<sup>[4-6]</sup>. However, these studies, which focused on the effect of usefulness of information systems on continuance intention, ignored the impact of user experience. In order to have a better understanding of the influencing factors of continuance intention to use mobile interest-based community applications, we established our research model based on technology acceptance model (TAM)<sup>[7]</sup> and ECM. Our research questions are listed as follows:

- Do both perceived usefulness and perceived ease of use affect satisfaction and continuance intention?
- What is the impact of experiential value on satisfaction and continuance intention?

As college students constitute the major user group of mobile Internet applications<sup>[8]</sup>, we carried out an empirical study of Chinese college students to verify the effectiveness of the proposed research model.

## 2 Theoretical background and hypotheses

### 2.1 Expectation confirmation model

Expectation confirmation theory (ECT)<sup>[9,10]</sup> is a cognitive theory which aims to explain post-purchase or post-adoption satisfaction. Bhattacharjee<sup>[3]</sup> extended the ECT to examine the continued usage of information systems. He put forward the extended expectation confirmation model (ECM), which posits that user satisfaction



affects their intention to continue to use information systems through prior information system use and perceived usefulness. According to the ECM, satisfaction and perceived usefulness are two important factors affecting continuance intention; satisfaction is affected by perceived usefulness and confirmation; perceived usefulness is influenced by confirmation. Since the ECM was proposed, it has been applied in various studies on topics such as mobile searching, online learning and the use of blogs<sup>[11-15]</sup>. These studies have demonstrated the validity of the ECM in predicting a user's continuance behavior.

In our study, satisfaction refers to the extent to which a person is pleased or contented with mobile interest-based community applications after having used these technologies. Deng et al.<sup>[16]</sup> and Zhou & Li<sup>[17]</sup> found that satisfaction has a positive impact on user loyalty to information services. In the context of this study, users are more likely to continue to use mobile community applications when they are satisfied with the use of the applications. Thus, the following hypothesis is proposed:

H1: Satisfaction has a positive effect on continuance intention to use mobile interest-based community applications.

User perceptions will be different between expectations of mobile interest-based community applications and experiences of the actual performance of these applications. Their confirmation with the use of these applications indicates their satisfaction with the use of the information systems. Thus:

H2: Confirmation has a positive effect on satisfaction with mobile interest-based community applications.

## 2.2 Incorporating TAM into ECM

Technology acceptance model (TAM) is an influential and widely applied model to explain the acceptance of information systems. It puts forward two main factors for determining the technology adoption level: 1) perceived usefulness and 2) perceived ease of use. Perceived usefulness is defined as "the degree to which a person believes that using a particular system would enhance his or her job performance" and perceived ease of use is defined as "the degree to which a person believes that using a particular system would be free of effort"<sup>[7]</sup>.

Some studies<sup>[18]</sup> integrated TAM with ECM to have a better understanding of users' continuance intentions. Hong et al.<sup>[19]</sup> demonstrated that TAM is suitable for study of both users' initial adoption behavior and their continued information technology usage intention.

In this study, perceived usefulness refers to the degree to which a person believes that using the mobile interest-based community applications would enhance his or her job performance. Perceived ease of use is defined as the degree to which a



person believes that the mobile interest-based community applications are easy to use and not much effort is required. A lot of studies<sup>[3,5,20,21]</sup> have found that perceived usefulness and perceived ease of use can have a positive impact on user satisfaction. In the context of this study, users will be satisfied with the mobile interest-based applications if they find these applications both useful and easy to use. Thus, we state the following hypotheses:

H3: Perceived usefulness has a positive effect on satisfaction with mobile interest-based community applications.

H4: Perceived ease of use has a positive effect on satisfaction with mobile interest-based community applications.

Research based on extended ECM posits that confirmation of expectations has a positive effect on perceived usefulness and perceived ease of use<sup>[22-25]</sup>. In the context of this study, users are likely to perceive the usefulness and ease of use of the mobile community applications if they find the actual performance of the applications consistent with or even better than their expectations. Thus, the following hypotheses are stated:

H5: Confirmation has a positive effect on perceived usefulness of mobile interest-based community applications.

H6: Confirmation has a positive effect on perceived ease of use of mobile interest-based community applications.

Recent mobile information system studies<sup>[18,25,26]</sup> indicate that perceived usefulness and perceived ease of use positively affect users' initial and continuance intention, and perceived ease of use positively influences perceived usefulness. In this study, users who perceive the easiness to use mobile community applications or learn to use a new version of the technologies are likely to continue to use the mobile applications. In the meanwhile, they probably will have a positive intention to continue their usage based on the perception of the usefulness of the mobile applications in meeting their interests and needs more efficiently. Therefore, we state the following hypotheses:

H7: Perceived ease of use has a positive effect on perceived usefulness of mobile interest-based community applications.

H8: Perceived usefulness has a positive effect on continuance intention to use mobile interest-based community applications.

H9: Perceived ease of use has a positive effect on continuance intention to use mobile interest-based community applications.

### 2.3 Incorporating experiential value into ECM

Johnson et al.<sup>[27]</sup> summarized two different perspectives of customer satisfaction in the literature: 1) transaction specific and 2) cumulative aspects. The former is concerned with a customer's evaluation of his or her experience with a particular product transaction or service process and the latter focuses on the customer's



overall experience with a product or service with the passage of time. Some researchers<sup>[28]</sup> noted that customers can obtain experiential value from their experiences of using a particular product or service. Mathwick et al.<sup>[29]</sup> pointed out that experiential value perceptions are based on “interactions involving either direct usage or distanced appreciation of goods and services”.

There are relatively few studies that have investigated experiential value and its effect on user satisfaction and intention to continue using a Web-based information system or service. Tang & Chiang’s study<sup>[5]</sup> is one of them. They incorporated experiential value into the ECM and studied its impact on a person’s satisfaction and intention to continue to use a blog system. But they did not investigate the impacts of different aspects of experiential value on satisfaction and continuance intention.

Mathwick et al.<sup>[28,29]</sup> devised an experiential value scale (EVS) for measuring four sub-dimensions of customer experiential value: 1) aesthetics, 2) playfulness, 3) service excellence, and 4) return on investment. In the Internet and catalog shopping context, their predictive model indicated that the EVS can be used to assess the preferences of multi-channel retail systems from these four dimensions. Keng & Ting<sup>[30]</sup>’s study on blog acceptance demonstrated that a positive correlation exists between user attitude toward reading blogs and their experiential value in aesthetics, playfulness, and service excellence. Verhagen et al.<sup>[31]</sup> confirmed that experiential value is a strong and direct determinant of user satisfaction with a virtual world.

We adopted Mathwick et al.’s EVS in measuring the four dimensions of experiential value. In our study, an aesthetic response refers to a reaction to the salient visual elements of the mobile interest-based community applications, such as the design and physical attractiveness of user interface; playfulness is the perception that the use of mobile applications is funny and pleasant. They are sources of intrinsic value as they offer instant pleasure, irrespective of the achievement of tasks<sup>[31]</sup>. It is possible that users are satisfied with the mobile community applications when they can perceive the aesthetics and playfulness of the applications.

Furthermore, in our study service excellence reflects users’ appreciation of the functions of mobile community applications. Return on investment (ROI) refers to users’ perception of investment of cognitive, behavioral or financial resources that potentially yield a return. They are sources of extrinsic value<sup>[32,33]</sup>. Specifically, users tend to be satisfied with mobile community applications because of favorable, dependable and high-quality services, such as perfect functions, quick reaction, instant updating of contents, desirable customized settings, etc. In using mobile interest-based applications, users spend time, effort, and even money, and they also estimate investment returns. Their confirmation will increase their satisfaction with the service.



In short, four hypotheses relating to experiential value and customer satisfaction were put forward as follows.

- H10a: Perceived aesthetics has a positive effect on satisfaction with mobile interest-based community applications.
- H10b: Perceived playfulness has a positive effect on satisfaction with mobile interest-based community applications.
- H10c: Perceived service excellence has a positive effect on satisfaction with mobile interest-based community applications.
- H10d: Perceived return on investment has a positive effect on satisfaction with mobile interest-based community applications.

Based on above literature review and hypotheses, we designed our research model which is illustrated in Fig. 1.

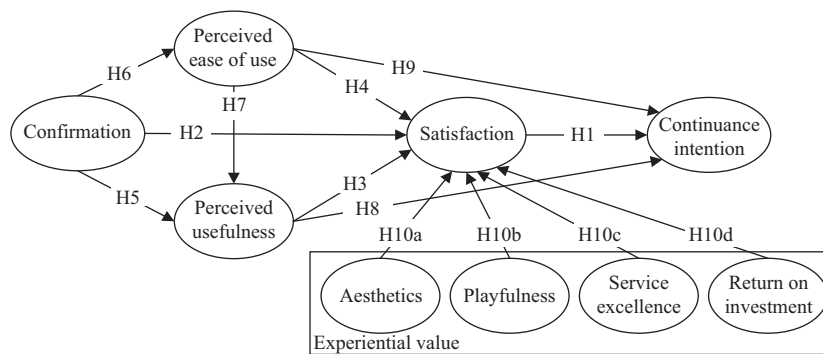


Fig. 1 Proposed theoretical model and research hypotheses.

### 3 Methodology

#### 3.1 Instrument development and pilot test

All measurement items were adapted from prior studies although some terms were changed to fit the specific research context<sup>[34]</sup>, as shown in Table 1.

The questionnaire contains two parts. The first part includes items to measure the constructs in the research model, while the second part collects the respondents' demographic data, including gender, age, etc. In the first part, each item corresponding to the constructs was measured using a five-point Likert scale, with answer choices ranging from “strongly disagree” (1) to “strongly agree” (5).

After the questionnaire was drafted, it was first sent to 3 experts and 2 doctoral students who major in management of information systems for checking the content and then 30 experienced users of mobile interest-based community applications were invited to do a pilot testing. According to their comments and suggestions, we revised some items to make the questionnaire more precise and understandable.



Table 1 Measurement of the variables

Constructs	Items	Sources
Continuance intention (CI)	1 I intend to use the mobile interest-based community application on a regular basis in the future.	Bhattacharjee <sup>[3]</sup> , Deng et al. <sup>[16]</sup>
	2 I will frequently keep using the mobile interest-based community application in the future.	
	3 I will continue using the mobile interest-based community application rather than any alternative service in the future.	
Satisfaction (SAT)	1 My decision to use the mobile interest-based community application is wise.	Bhattacharjee <sup>[3]</sup> , Zhou <sup>[35]</sup>
	2 Compared with other interest-based community applications, I am more satisfied with mobile interest-based community applications.	
	3 Overall, I am satisfied with the experience of using mobile interest-based community applications.	
Confirmation (CF)	1 My experience of using mobile interest-based community applications is better than what I expected.	Bhattacharjee <sup>[3]</sup> , Kim et al. <sup>[36]</sup>
	2 The service level provided by the mobile interest-based community service is better than what I expected.	
	3 My gains from using mobile interest-based community applications are better than what I expected.	
	4 Overall, most of my expectations of mobile interest-based community applications are confirmed.	
Perceived usefulness (PU)	1 Using mobile interest-based community applications enables me to have communication with others more effectively than other ways.	Bhattacharjee <sup>[3]</sup> , Hsu et al. <sup>[25]</sup>
	2 Using mobile interest-based community applications meets my needs more effectively than other ways.	
	3 Using mobile interest-based community applications enhances my communication and interaction with others.	
	4 Overall, the mobile interest-based community is useful for my life and satisfies my interests.	
Perceived ease of use (PEU)	1 It is easy for me to become skillful at using the mobile interest-based community application.	Venkatesh & Davis <sup>[37]</sup> , Liébana-Cabanillas et al. <sup>[38]</sup>
	2 It is easy for me to learn to operate the new version of the mobile interest-based community application.	
	3 It is easy for me to use the mobile interest-based community application to complete what I want to do.	
	4 Overall, the mobile interest-based community application is easy to use.	
Perceived aesthetics (PA)	1 The mobile interest-based community application has a good interface to communicate my needs.	Mathwick et al. <sup>[28,29]</sup>
	2 The organization of functions and contents on the mobile interest-based community application is clear.	
	3 The mobile interest-based community application presents the interesting information and related contents in an appropriate format.	
	4 Overall, the screen of the mobile interest-based community application is aesthetic.	
Perceived playfulness (PP)	1 When using the mobile interest-based community application, I often feel time flies or forget about time.	Mathwick et al. <sup>[28,29]</sup> , Verhagen et al. <sup>[31]</sup>
	2 When using the mobile interest-based community application, I often concentrate my attention on it.	
	3 Using the mobile interest-based community application is a pleasure for me.	
	4 Overall, I feel enjoyable in the process of using mobile interest-based community applications.	





Table 1 Continued

Constructs	Items	Sources
Perceived service excellence (PSE)	1 The mobile interest-based community application provides the services that can satisfy my personal requirements.	Mathwick et al. <sup>[28,29]</sup> , Oliver <sup>[33]</sup>
	2 The mobile interest-based community application provides enough functions that help me succeed in communicating my needs and obtaining the related information.	
	3 The mobile interest-based community application updates the interesting information and related contents timely and quickly.	
	4 Overall, the mobile interest-based community provides excellent services for me.	
Perceived return on investment (PROI)	1 It is worth the money for me to use the mobile interest-based community application.	Mathwick et al. <sup>[28,29]</sup>
	2 It is worth the time for me to use the mobile interest-based community application.	
	3 It is worth the effort for me to use the mobile interest-based community application.	
	4 Overall, it is worth the investment for me to use the mobile interest-based community application.	

### 3.2 Data collection

We collected data by conducting a Web-based survey on [www.sojump.com](http://www.sojump.com). The survey lasted from April 15 to May 18, 2015. A total of 405 questionnaires from Chinese undergraduates were recovered, of which 347 valid ones remained after 58 invalid responses were discarded, yielding a response rate of 85.68%. Table 2 shows the demographic data of the respondents.

## 4 Results

A two-step procedure was adopted for data analysis<sup>[39]</sup>. We first examined the measurement model to ensure convergent and discriminant validity, and then the structural model to investigate the strength and direction of the relationships among the constructs. The data was analyzed using the partial least squares (PLS) approach, and significance of estimated path coefficients was tested using bootstrapping.

### 4.1 Reliability and validity

We conducted a confirmatory factor analysis (CFA) to examine the convergent validity and discriminant validity. Convergent validity measures whether items can effectively reflect their corresponding factor, whereas discriminant validity measures whether two factors are statistically different. The Cronbach's  $\alpha$  scores in Table 3 indicates that each construct exhibits strong internal reliability, and all the standard





Table 2 Demographic profile of all respondents

Characteristics		Frequency	Percentage (%)
Gender	Male	165	47.6
	Female	182	52.4
Education	Freshman	110	31.7
	Sophomore	81	23.3
	Junior	90	26.0
	Senior and others	66	19.0
Discipline	Natural science	78	22.5
	Engineering	67	19.3
	Humanities	69	19.9
	Social sciences	92	26.5
	Others	41	11.8
Type of mobile operation systems	Android	280	80.7
	IOS(Apple)	72	20.7
	Windows	5	1.4
	Others	3	0.9
Use experience	(0, 1] year	79	22.8
	(1,2] years	107	30.8
	(2,3] years	66	19.0
	(3,+∞] years	95	27.4
Frequency	Less than once per week	35	10.1
	Once per week	109	31.4
	2-4 times per week	101	29.1
	Once per day	60	17.3
	Several times per day	42	12.1

factor loading values in CFA of the measurement model exceed 0.5, and are significant at  $p < 0.001$ . In addition, the composite reliabilities (CR) of constructs range from 0.883 to 0.934, and the average variance extracted (AVE) is between 0.655 and 0.792. All these indicators demonstrate reliability and convergent validity<sup>[40]</sup> of our measurement model.

Discriminant validity assesses the extent to which a concept and its indicators differ from another concept and its indicators. Specifically, the correlations between any two constructs should be lower than the square root of its AVE. As shown in Table 4, each diagonal value (the square root of AVE) exceeds the inter-construct correlation, and thus the measurement model has strong discriminant validity which satisfies Fornell & Larcker's criteria<sup>[41]</sup>.

## 4.2 Hypotheses test

As depicted in Fig. 2, the results supported all hypotheses in the research model except H4 and H9.



**Table 3 Construct reliability and convergent validity**

Constructs	Items	Internal reliability			Convergent validity	
		$\alpha$	Factor loadings	<i>t</i> -value	CR	AVE
Continuance intention (CI)	CI1	0.807	0.856	34.537	0.892	0.735
	CI2		0.911	90.506		
	CI3		0.801	44.297		
Satisfaction (SAT)	SAT1	0.861	0.907	54.917	0.910	0.772
	SAT2		0.872	34.235		
	SAT3		0.890	71.788		
Confirmation (CF)	CF1	0.882	0.894	55.130	0.919	0.792
	CF2		0.863	47.683		
	CF3		0.857	40.125		
	CF4		0.895	37.425		
Perceived usefulness (PU)	PU1	0.823	0.816	34.790	0.883	0.655
	PU2		0.805	29.803		
	PU3		0.794	32.673		
	PU4		0.821	30.281		
Perceived ease of use (PEU)	PEU1	0.910	0.880	50.417	0.934	0.779
	PEU2		0.900	60.136		
	PEU3		0.845	45.189		
	PEU4		0.904	78.056		
Perceived aesthetics (PA)	PA1	0.894	0.889	62.056	0.933	0.778
	PA2		0.858	44.660		
	PA3		0.876	76.274		
	PA4		0.904	35.823		
Perceived playfulness (PP)	PP1	0.865	0.854	63.412	0.922	0.748
	PP2		0.841	41.203		
	PP3		0.895	55.588		
	PP4		0.869	47.448		
Perceived service excellence (PSE)	PSE1	0.890	0.823	40.329	0.919	0.741
	PSE2		0.884	66.985		
	PSE3		0.864	40.153		
	PSE4		0.870	41.397		
Perceived return on investment (PROI)	PROI1	0.875	0.772	24.302	0.920	0.744
	PROI2		0.887	57.801		
	PROI3		0.915	68.390		
	PROI4		0.869	64.866		

**Table 4 The square root of AVE and correlation coefficients between constructs**

Constructs	CF	CI	PA	PEU	PP	PROI	PSE	PU	SAT
CF	<b>0.890</b>								
CI	0.518	<b>0.857</b>							
PA	0.532	0.589	<b>0.882</b>						
PEU	0.504	0.473	0.559	<b>0.883</b>					
PP	0.463	0.566	0.624	0.531	<b>0.865</b>				
PROI	0.493	0.542	0.480	0.390	0.411	<b>0.863</b>			
PSE	0.457	0.565	0.513	0.555	0.642	0.584	<b>0.861</b>		
PU	0.535	0.434	0.492	0.512	0.576	0.479	0.538	<b>0.809</b>	
SAT	0.568	0.621	0.567	0.564	0.518	0.541	0.509	0.562	<b>0.879</b>

Note: Diagonal elements are the square root of AVE.



National Science Library,  
Chinese Academy of  
Sciences

<http://www.chinalibraries.net>

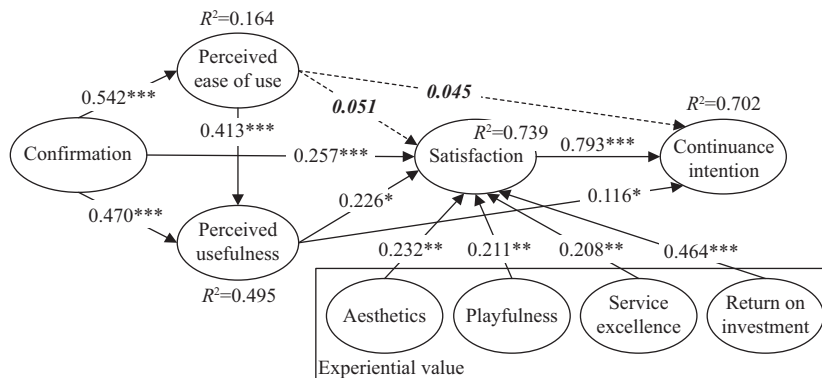


Fig. 2 Results of hypotheses tests.

The results of this study provide support for our research model and the hypotheses regarding the directional relationships among the model’s variables. The overall explanatory power has an  $R^2$  of 70.2% for continuance intention,  $R^2$  of 73.9% for satisfaction and  $R^2$  of 49.5% for perceived usefulness. Most of the time, the value of  $R^2$  above 30% indicates strong explanatory power of the proposed model<sup>[42]</sup>. Because perceived ease of use is not a critical determinant of satisfaction or continuance intention, it has a low  $R^2$  value.

## 5 Discussions

### 5.1 Relationships between antecedent constructs and continuance intention

The results show that satisfaction is the stronger predictor of continuance intention, followed by perceived usefulness as a weaker predictor. The linkage between satisfaction and continuance intention has been validated in user behavior research over a wide range of mobile products and service contexts<sup>[25,43]</sup>. In this study, it was revalidated in the context of mobile interest-based community applications.

It is noted that perceived ease of use does not have a positive effect on continuance intention and satisfaction. There are probably two reasons. First, users, as young and high-level educated people who frequently use mobile products, have already obtained some experience in using mobile information systems, even competent of using mobile systems as time goes on. Thus for experienced users, perceived ease of use is not as important as it is for inexperienced users with regard to continuance intention and satisfaction<sup>[44]</sup>. Second, the decrease of complexity and difficulty in using mobile applications may make perceived ease of use no longer an important factor affecting continuance intention and satisfaction<sup>[45]</sup>.



## 5.2 Relationships between antecedent constructs

In our study, confirmation was identified to have the most significant effect on satisfaction. In addition, it is a significant determinant of perceived ease of use and perceived usefulness. Meanwhile, confirmation may influence continuance intention in two indirect ways: 1) by influencing users' satisfaction toward mobile community applications and 2) by affecting their perception of usefulness.

The impact of perceived usefulness on satisfaction and continuance intention was confirmed again in this study. Perceived ease of use is a significant predictor of perceived usefulness. Although it has no direct impact on satisfaction or continuance intention, it may indirectly affect them via perceived usefulness.

Meanwhile, all the perceived experiential values (aesthetics, playfulness, service excellence, and return on investment) have a significant and positive impact on satisfaction. This result is consistent with other similar studies<sup>[46]</sup>. Users' perceived return of investment is the most important perceived experiential value to explain their satisfaction with mobile community applications, followed by perceived service excellence, perceived aesthetics and perceived playfulness.

According to the results, mobile community service designers and providers may optimize their mobile applications to better facilitate use, as well as communication and interaction among users. The results imply a necessity to pay close attention to how users' psychological perceptions (confirmation, ease of use, usefulness, and experiential value) are shaped in order to promote the continuous use of the mobile applications. In the meanwhile, an emphasis needs to be placed on improving the mobile applications in terms of contents, navigation, functions, and responsiveness, etc.

## 6 Conclusions

We have investigated the factors that influence users' intention to continue to use mobile interest-based community applications. Based on a hybrid model integrating TAM and extended ECM as theoretical foundation, our study contributes to a more systematic understanding of user continuance intention to use mobile community applications. Our empirical study answered the two research questions. For the first question, we found perceived usefulness has a direct impact on user satisfaction and continuance intention, but perceived ease of use does not. For the second question, we found all the perceived experiential values (aesthetics, playfulness, service excellence and return on investment) have a significant and positive influence on satisfaction.



**Research Paper**

However, there are limitations related to our study. We did not investigate external factors such as individual differences that may also be important for understanding continuance intention. For example, Lee's study<sup>[22]</sup> found that subjective norm and concentration are the positive factors which affect users' continuance intention. Future studies may consider investigating the potential moderating effects of these factors and employ a larger sample for greater generalizability of the findings.

In addition, we found that the proposed model in this study includes several highly correlated variables (i.e., SAT-CI, PA-PP, PP-PSE), which indicates that there might have been inaccurate measures and missing pathways of causality in our model. Thus, we need to conduct a follow-up analysis on the direct and indirect relationships among these constructs.

**Author contributions**

J.M. HU (hujiming@whu.edu.cn, corresponding author) designed the study and wrote the manuscript, including the research methods and experiment process. J. YU (yujing1996@whu.edu.cn) collected data, revised the manuscript and helped with the data analysis and discussion of the findings.

**References**

- 1 Yang, Y. Research of customer's continuance intention on mobile social network service. Master's thesis (in Chinese). Beijing: Beijing University of Posts and Telecommunications, 2010. Retrieved on June 25, 2015, from <http://cdmd.cnki.com.cn/article/cdmd-10013-2010222040.htm>.
- 2 Yang, G., Lu, Y., & Mao, Y. An examination of factors influencing user participation behavior in mobile community. *Science and Technology Management Research (in Chinese)*, 2013, 33(3): 224–228. Retrieved on June 25, 2015, from [http://d.wanfangdata.com.cn/Periodical\\_kjgljy201303049.aspx](http://d.wanfangdata.com.cn/Periodical_kjgljy201303049.aspx). DOI: 10.3969/j.issn.1000-7695.2013.03.049
- 3 Bhattacherjee, A. Understanding information systems continuance: An expectation–confirmation model. *MIS Quarterly*, 2001, 25(3), 351–370. Retrieved on June 25, 2015, from [http://www.jstor.org/stable/3250921?origin=crossref&seq=1#page\\_scan\\_tab\\_contents](http://www.jstor.org/stable/3250921?origin=crossref&seq=1#page_scan_tab_contents). DOI: 10.2307/3250921.
- 4 Thong, J.Y.L., Hong, S., & Tam, K.Y. The effects of post-adoption beliefs on the expectation–confirmation model for information technology continuance. *International Journal of Human-Computer Studies*, 2006, 64(9): 799–810. Retrieved on June 25, 2015, from [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=1976960](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1976960). DOI: 10.1016/j.ijhcs.2006.05.001.
- 5 Tang, J., & Chiang, C. Integrating experiential value of blog use into the Expectation–Confirmation Theory Model. *Social Behavior and Personality: An International Journal*, 2010, 38(10): 1377–1389. Retrieved on June 25, 2015, from <http://www.ingentaconnect.com/content/sbp/sbp/2010/00000038/00000010/art00010?token=0052168892cba77b76504c486667252e23446c2a73444d316a332b257d7241255e4e6b6331a9131d13>. DOI: 10.2224/sbp.2010.38.10.1377.



- 6 Lin, C.S., Wu, S., & Tsai, R.J. Integrating perceived playfulness into expectation-confirmation model for web portal context. *Information & Management*, 2005, 42(5): 683–693. Retrieved on June 25, 2015, from <http://www.sciencedirect.com/science/article/pii/S0378720604000795>. DOI: 10.1016/j.im.2004.04.003.
- 7 Davis, F.D. Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly*, 1989, 13(3): 319–340. Retrieved on June 25, 2015, from <http://www.jstor.org/stable/249008>. DOI: 10.2307/249008.
- 8 Liao, P. An empirical analysis of SNS users' continuance usage intention in the mobile Internet era. Master's thesis (in Chinese). Nanchang: Jiangxi University of Finance and Economics, 2013. Retrieved on June 25, 2015, from <http://wap.cnki.net/lunwen-1013284300.html>.
- 9 Oliver, R. L. Effect of expectation and disconfirmation on postexposure product evaluations: An alternative interpretation. *Journal of Applied Psychology*, 1977, 62(4): 480–486. Retrieved on June 25, 2015, from <http://psycnet.apa.org/journals/apl/62/4/480/>. DOI: 10.1037/0021-9010.62.4.480.
- 10 Oliver, R. L. A cognitive model of the antecedents and consequences of satisfaction decisions. *Journal of Marketing Research*, 1980, 17(4): 460–469.
- 11 Liu, L.C., & Sun, K. Extending ECM-ISC to mobile search users' continuance usage: A theoretical model. *Library and Information Service (in Chinese)*, 2011, 55(20): 134–137. Retrieved on June 25, 2015, from [http://d.wanfangdata.com.cn/Periodical\\_tsqbgz201120033.aspx](http://d.wanfangdata.com.cn/Periodical_tsqbgz201120033.aspx).
- 12 Larsen, T.J., Sørenbø, A.M., & Sørenbø, Ø. The role of task-technology fit as users' motivation to continue information system use. *Computers in Human Behavior*, 2009, 25(3): 778–784. Retrieved on June 25, 2015, from <http://www.sciencedirect.com/science/article/pii/S0747563209000326>. DOI: 10.1016/j.chb.2009.02.006.
- 13 Tang, J., Tang, T., & Chiang, C. Blog learning: Effects of users' usefulness and efficiency towards continuance intention. *Behaviour & Information Technology*, 2014, 33(1): 36–50. Retrieved on June 25, 2015, from <http://www.tandfonline.com/doi/abs/10.1080/0144929X.2012.687772#.VZHyGTuS3IU>. DOI: 10.1080/0144929X.2012.687772.
- 14 Jiang, Y. Factors influencing community users' continuance intention. Master's thesis (in Chinese). Nanchang: Jiangxi Normal University, 2014. Retrieved on June 25, 2015, from <http://cdmd.cnki.com.cn/Article/CDMD-10414-1014397131.htm>.
- 15 Hu, Y. Factors influencing continuous use of mobile microblogs. Master's thesis (in Chinese). Beijing: Beijing University of Posts and Telecommunications, 2013. Retrieved on June 25, 2015, from [http://d.wanfangdata.com.cn/Thesis\\_Y2287920.aspx](http://d.wanfangdata.com.cn/Thesis_Y2287920.aspx).
- 16 Deng, Z., Lu, Y., & Wei, K.K., et al. Understanding customer satisfaction and loyalty: An empirical study of mobile instant messages in China. *International Journal of Information and Management*, 2010, 30 (4): 289–300. Retrieved on June 25, 2015, from <http://www.sciencedirect.com/science/article/pii/S0268401209001224>. DOI: 10.1016/j.ijinfomgt.2009.10.001.
- 17 Zhou, T., & Li, H. Understanding mobile SNS continuance usage in China from the perspectives of social influence and privacy concern. *Computers in Human Behavior*, 2014, 37: 283–289. Retrieved on June 25, 2015, from <http://www.sciencedirect.com/science/article/pii/S0747563214002866>. DOI: 10.1016/j.chb.2014.05.008.
- 18 Praveena, K., & Thomas, S. Continuance intention to use Facebook: A study of perceived enjoyment and TAM. *Bonfring International Journal of Industrial Engineering and Management Science*, 2014, 4(1): 24–29. Retrieved on June 25, 2015, from <http://journal.bonfring.org/abstract.php?id=3&archiveid=381>. DOI: 10.9756/BIJIEMS.4794.



## Research Paper

- 19 Hong, S., Thong, J.Y.L., & Tam, K.Y. Understanding continued information technology usage behavior: A comparison of three models in the context of mobile internet. *Decision Support Systems*, 2006, 42(3): 1819–1834. Retrieved on June 25, 2015, from <http://www.sciencedirect.com/science/article/pii/S0167923606000492>. DOI: 10.1016/j.dss.2006.03.009.
- 20 Bhattacharjee, A. An empirical analysis of the antecedents of electronic commerce service continuance. *Decision Support Systems*, 2001, 32(2): 201–214. Retrieved on June 25, 2015, from <http://www.sciencedirect.com/science/article/pii/S0167923601001117>. DOI: 10.1016/S0167-9236(01)00111-7.
- 21 Roca, J. C., Chiu, C. M., & Martinez, F. J. Understanding e-learning continuance intention: An extension of the Technology Acceptance Model. *International Journal of Human-Computer Studies*, 2006, 64(8): 683–696. Retrieved on June 25, 2015, from <http://www.sciencedirect.com/science/article/pii/S107158190600005X>. DOI: 10.1016/j.ijhcs.2006.01.003.
- 22 Lee, M. Explaining and predicting users' continuance intention toward e-learning: An extension of the expectation–confirmation model. *Computers & Education*, 2010, 54(2): 506–516. Retrieved on June 25, 2015, from <http://www.sciencedirect.com/science/article/pii/S0360131509002425>. DOI: 10.1016/j.compedu.2009.09.002.
- 23 Hernandez-Ortega, B., Serrano-Cinca, C., & Gomez-Meneses, F. The firm's continuance intentions to use inter-organizational ICTs: The influence of contingency factors and perceptions. *Information & Management*, 2014, 51(6): 747–761. Retrieved on June 25, 2015, from <http://www.sciencedirect.com/science/article/pii/S0378720614000809>. DOI: 10.1016/j.im.2014.06.003.
- 24 Liao, C., Chen, J.L., & Yen, D.C. Theory of planning behavior (TPB) and customer satisfaction in the continued use of e-service: An integrated model. *Computers in Human Behavior*, 2007, 23(6): 2804–2822. Retrieved on June 25, 2015, from <http://www.sciencedirect.com/science/article/pii/S0747563206000768>. DOI: 10.1016/j.chb.2006.05.006.
- 25 Hsu, C., Yu, C., & Wu, C. Exploring the continuance intention of social networking websites: An empirical research. *Information Systems and e-Business Management*, 2014, 12(2): 139–163. Retrieved on June 25, 2015, from <http://link.springer.com/article/10.1007/s10257-013-0214-3>. DOI: 10.1007/s10257-013-0214-3.
- 26 Bhattacharjee, A., & Sanford, C. Influence processes for information technology acceptance: An elaboration likelihood model. *MIS Quarterly*, 2006, 30(4): 805–825. Retrieved on June 25, 2015, from <http://www.jstor.org/stable/25148755>.
- 27 Johnson, M. D., Herrmann, A., & Gustafsson, A. Comparing customer satisfaction across industries and countries. *Journal of Economic Psychology*, 2002, 23(6): 749–769. Retrieved on June 25, 2015, from <http://www.sciencedirect.com/science/article/pii/S016748700200137X>. DOI: 10.1016/S0167-4870(02)00137-X.
- 28 Mathwick, C., Malhotra, N., & Rigdon, E. Experiential value: Conceptualization, measurement and application in the catalog and Internet shopping environment. *Journal of Retailing*, 2001, 77(1): 39–56. Retrieved on June 25, 2015, from <http://www.sciencedirect.com/science/article/pii/S0022435900000452>. DOI: 10.1016/S0022-4359(00)00045-2.
- 29 Mathwick, C., Malhotra, N., & Rigdon, E. The effect of dynamic retail experiences on experiential perceptions of value: An internet and catalog comparison. *Journal of Retailing*, 2002, 78(1): 51–60. Retrieved on June 25, 2015, from <http://www.sciencedirect.com/science/article/pii/S0022435901000665>. DOI: 10.1016/S0022-4359(01)00066-5.





- 30 Keng, C. J., & Ting, H.Y. The acceptance of blogs: Using a customer experiential value perspective. *Internet Research*, 2009, 19(5): 479–495. Retrieved on June 25, 2015, from <http://www.emeraldinsight.com/doi/abs/10.1108/10662240910998850>. DOI: 10.1108/10662240910998850.
- 31 Verhagen, T., Feldberg, F., van den Hooff, B., et al. Satisfaction with virtual worlds: An integrated model of experiential value. *Information & Management*, 2011, 48(6): 201–207. Retrieved on June 25, 2015, from <http://www.sciencedirect.com/science/article/pii/S0378720611000395>. DOI: 10.1016/j.im.2011.02.004.
- 32 Holbrook, M.B. The nature of customer value: An axiology of services in the consumption experience. In Rust, R. T., & Oliver, R. L. (Eds.), *Service Quality: New Directions in Theory and Practice*, Thousand Oaks, CA: Sage Publications, 1994: 21–71.
- 33 Oliver, R.L. Value as excellence in the consumption experience. In Holbrook, M.B. (Ed.). *Consumer Value: A Framework for Analysis and Research*, New York: Routledge, 1999: 126–146. Retrieved on June 25, 2015, from <http://www.crcnetbase.com/doi/abs/10.4324/9780203010679.ch2>.
- 34 Van de Vijver, F., & Leung, K. *Methods and data analysis for cross-cultural research*. Thousand Oaks, CA: Sage Publications, 1997.
- 35 Zhou, T. An empirical examination of users' post-adoption behaviour of mobile services. *Behaviour & Information Technology*, 2011, 30(2): 241–250. Retrieved on June 25, 2015, <http://dl.acm.org/citation.cfm?id=1952908>. DOI: 10.1080/0144929X.2010.543702.
- 36 Kim, H., Gupta, S., & Jeon, Y. User continuance intention towards mobile internet service: The case of WiMAX in Korea. *Journal of Global Information Management*, 2013, 21(4): 121–142. Retrieved on June 25, 2015, from <http://www.igi-global.com/gateway/article/99668>. DOI: 10.4018/jgim.2013100107.
- 37 Venkatesh, V., & Davis, F. D. A theoretical extension of the technology acceptance model: Four longitudinal field studies. *Management Science*, 2000, 46(2): 186–204. Retrieved on June 25, 2015, from <http://dl.acm.org/citation.cfm?id=970228>. DOI:10.1287/mnsc.46.2.186.11926.
- 38 Liébana-Cabanillas, F.J., Sánchez-Fernández, J., & Muñoz-Leiva, F. Role of gender on acceptance of mobile payment. *Industrial Management & Data Systems*, 2014, 114(2): 220–240. Retrieved on June 25, 2015, from <http://www.emeraldinsight.com/doi/abs/10.1108/IMDS-03-2013-0137>. DOI: 10.1108/IMDS-03-2013-0137.
- 39 Anderson, J. C., & Gerbing, D. W. Structural equation modeling in practice: A review and recommended two-step approach. *Psychological Bulletin*, 1988, 103(3): 411–423. Retrieved on June 25, 2015, from <http://psycnet.apa.org/index.cfm?fa=search.displayrecord&uid=1989-14190-001>. DOI: 10.1037/0033-2909.103.3.411.
- 40 Nunnally, J.C., & Bernstein, I. 3rd edition. *Psychometric Theory*. New York: McGraw-Hill, 1994.
- 41 Fornell, C., & Larcker, D. F. Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research*, 1981, 18(1): 39–47.
- 42 Liang, H. G., Saraf, N., & Hu, Q. et al. Assimilation of enterprise systems: The effect of institutional pressures and the mediating role of top management. *MIS Quarterly*, 2007, 31(1): 59–87. Retrieved on June 25, 2015, from <http://www.misq.org/assimilation-of-enterprise-systems-the-effect-of-institutional-pressures-and-the-mediating-role-of-top-management.html>.



**Research Paper**

- 43 Park, E., & Kim, K.J. An integrated adoption model of mobile cloud services: Exploration of key determinants and extension of technology acceptance model. *Telematics and Informatics*, 2014, 31(3): 376–385. Retrieved on June 25, 2015, from <http://www.sciencedirect.com/science/article/pii/S0736585313000877>. DOI: 10.1016/j.tele.2013.11.008.
- 44 Wang, C. Antecedents and consequences of perceived value in Mobile Government continuance use: An empirical research in China. *Computers in Human Behavior*, 2014, 34: 140–147. Retrieved on June 25, 2015, from <http://www.sciencedirect.com/science/article/pii/S0747563214000399>. DOI: 10.1016/j.chb.2014.01.034.
- 45 Gefen, D., & Straub, D.W. The relative importance of perceived ease of use in IS adoption: A study of e-commerce adoption. *Journal of the Association for Information Systems*, 2000, 1(1): Article 8. Retrieved on June 25, 2015, from <http://aisel.aisnet.org/jais/vol1/iss1/8/>.
- 46 Wang W., & Gan, C. Study on factors influencing continuance intention of academic bloggers. *Science Research Management (in Chinese)*, 2014, 35(10): 121–127. Retrieved on June 25, 2015, from <http://www.cnki.com.cn/Article/CJFDTotal-KYGL201410016.htm>.



National Science Library,  
Chinese Academy of  
Sciences

---