

Transition of electronic word-of-mouth services from web to mobile context: A trust transfer perspective[☆]

Nan Wang^a, Xiao-Liang Shen^{b,*}, Yongqiang Sun^c

^a USTC – CityU Joint Advanced Research Center, University of Science and Technology of China, China

^b Economics and Management School, Wuhan University, China

^c School of Information Management, Wuhan University, China

ARTICLE INFO

Article history:

Received 14 March 2012

Received in revised form 14 September 2012

Accepted 4 December 2012

Available online 21 December 2012

Keywords:

Mobile services

eWOM

Trust transfer

Web-mobile service transition

Entitativity

Technology acceptance

ABSTRACT

Success in web services cannot promise the success in corresponding mobile services. To understand the mobile service adoption behavior under the context of web–mobile service transition, this study, taking mobile eWOM services as an example, investigates the role of trust in mobile service adoption and empirically examines the trust transfer mechanism. Specifically, trust in web services and two relationship-relevant factors namely functional consistency and perceived entitativity are proposed as the predictors of trust in mobile services. A field survey with 235 mobile eWOM services users is conducted to test the research model and hypotheses. The key findings include (1) trust in mobile services positively influences intention to use mobile services; (2) trust in web services, functional consistency and perceived entitativity positively influence trust in mobile services; (3) functional consistency positively influences perceived entitativity. Limitations, theoretical and practical implications are also discussed.

© 2012 Elsevier B.V. All rights reserved.

1. Introduction

The proliferation of mobile devices and the advancement in wireless network has created an “always-on” society or “ubiquitous society,” where mobile services have penetrated to every corner of today's life. Various mobile services including mobile commerce services (e.g., [40]), mobile banking services (e.g., [15]), mobile health services (e.g., [56]), mobile instant messaging (e.g., [10]) and mobile entertainment services (e.g., [16]) have greatly changed people's way to shop, to work, and even to live. Despite the practical importance of mobile services, the theoretical understanding and empirical investigations on users' mobile service adoption behavior are still far from adequate.

In this study, to enrich prior literature on mobile services, we pay special attention to one type of mobile services which are rarely explored in previous studies namely mobile electronic word-of-mouth (eWOM) services. eWOM services are originally developed in the web context where it provides online consumers a platform to share their shopping experience through online communications [14,19]. In the recent years, eWOM service providers have started to expand the

eWOM services into the mobile context to better leverage the advantage of ubiquitous computing such as ubiquity, mobility, localization and personalization and enable the real-time and interactive services [20].

However, the success in web services cannot promise the success in mobile services because there are several problems which will be generated in the service transition process. First, compared to the PC- and broadband-based web services, in the mobile context, the screen is smaller and the processing capability is relatively low. Further, the wireless network may be not so stable as broadband. This may make mobile eWOM services not be able to work well, raising users' concerns about its competence to provide quality services. Second, since context-sensitive information will be used in the mobile service delivery process, users may suffer a risk of privacy invasion [57]. Further, as eWOM services engage in providing users with consumption recommendations, users may be confused about whether the information provided is really according to their personal needs or just commercial advertisements, raising users' concerns about the benevolence and integrity of service providers. Therefore, trust becomes a critical issue relevant to users' mobile eWOM service adoption behavior.

Previous literature on trust has proposed several underlying mechanisms to explain the trust building process including institution-based mechanism, knowledge-based mechanism and trust transfer mechanism [39]. However, to understand which mechanism works better requires further considerations on the research context. The unique feature of our research context is that the mobile services are not

[☆] The authors made equal contributions to the paper.

* Corresponding author at: Mailbox 0828, Economics and Management School, Wuhan University, Wuhan, Hubei Province 430072, P.R. China. Tel.: +86 27 6875 3063; fax: +86 27 6875 4150.

E-mail addresses: kewang@mail.ustc.edu.cn (N. Wang), xlshen@whu.edu.cn (X.-L. Shen), syq@mail.ustc.edu.cn (Y. Sun).

suddenly developed in the mobile context but transitioned from the initial web services. In this situation, the linkage between the initial web services and the newly emerged mobile services may play an important role in the trust building process. Therefore, we propose to view the adoption of this type of mobile services from a trust transfer perspective. Specifically, we figure out three categories of factors to understand the trust transfer process: trust in source, trust in target and the relationships between source and target, and propose that the trust in source and the relationships between source and target can influence the trust in target. Further, two factors namely functional consistency and perceived entitativity are proposed to capture the relationships between source and target according to the research context of web–mobile service transition.

The remainder of the paper is organized as follows. In the next section, previous literature on mobile services and the trust transfer theory are reviewed. Then, the research model is proposed and the hypotheses are developed. Consequently, the survey procedure is demonstrated and the data analysis results are reported. Finally, the key findings of the study and the theoretical and practical implications are discussed.

2. Theoretical background

2.1. Web–mobile service transition

Advance in wireless technology and mobile devices have given rise to the booming of mobile services. With the extensive coverage of wireless network (e.g., WiFi hotspots), the improvement of communication protocol (e.g., wireless application protocol and global positioning system), and the upgrade of mobile devices (e.g., high processing capability of Smartphone and large and touch-screen), mobile services have become a necessary and important component of today's life.

Mobile services can be generally classified into two categories in terms of the service providers. The first type of mobile services is provided by telecommunication service providers. These services include a variety of value-added services such as short message services (SMS) [53] and mobile internet [26] which are originally rooted in the mobile context. The second type of mobile services is provided by the content providers. Besides certain services which are rooted in the mobile context such as a variety of mobile applications, there are still many services that have been well established in the web context but are extended to the mobile context to leverage the advantage of ubiquitous computing [31], such as the mobile version of Amazon.com, Wikipedia and Facebook.

Unlike those mobile services which are originated in the mobile domain, the mobile services transitioned from web services have several unique features. First, the potential users of mobile services are not developed from zero, because users of the initial web services may be easily changed into mobile service users. Second, the mobile services possess a strong relationship with the web services. This relationship can be reflected in the functional consistency or similarity as well as the business ties (e.g., belong to a same company) [50]. Third, users' initial perceptions about the mobile services may be inherited from their perceptions about the web services through the mechanism of perception transfer [8]. These unique features call for viewing the adoption of this type of mobile service from a new perspective rather than the prior theoretical explanations on the initial technology adoption.

One specific mobile service studied in this paper is called as mobile electronic word-of-mouth (eWOM) services. eWOM services are generally delivered through a professional website which is sponsored by the third-party to enable consumers to share their consumption experience [5]. For example, Dianping.com is a Chinese website that facilitates consumers to share their consumption experience about a restaurant or an entertainment venue. Following the

development of mobile technologies, the eWOM services have been extended to the mobile context [41]. Mobile eWOM services enable consumers to seek and share consumption experience in a real-time and interactive manner, leading mobile eWOM to increasingly replace person-to-person or PC-based WOM in many diverse practice areas. Despite the practice importance of mobile eWOM services, the empirical investigations on users' mobile eWOM service adoption behavior have been rarely found. Therefore, this study can be regarded as a try to fill this research gap.

2.2. Trust in mobile service adoption

Previous studies on mobile service adoption can be generally classified into two streams (see Table 1). The first stream of research, following the tradition of information systems (IS) research, stresses on the role of technology by drawing upon the theories such as technology acceptance model (TAM) [7,54], diffusion of innovation theory (DIT) [45], task-technology fit theory (TTF) [13], and information systems (IS) success model [9]. The most frequently used theory is TAM which postulates perceived usefulness and perceived ease of use as the predictors of mobile service adoption (e.g., [15,16,22,29,33,35,37,55,56,58]). The research using diffusion of innovation theory argues that mobile service features such as relative advantage, compatibility, complexity, triability and observability determine its adoption (e.g., [29,33,37]). Based on the task-technology fit theory, some studies propose that the extent to which task requirements and technology features (e.g., ubiquity) are fit determines the technology adoption (e.g., [27,58]). Those using IS success model as the theoretical underpinning engage in identifying a variety of context-specific dimensions of information quality, system quality and service quality (e.g., [4,10,32]).

However, technology acceptance is not only relevant to technology but also associated with person. As Keen [23] notes, “not the software but the human side of the implementation cycle ... will block progress in seeing that the delivered systems are used effectively” (p. 220). Thus, the second research stream person-centric perspective relies on the theory of planned behavior (TPB), trust theory and value theory. TPB argues attitude, subjective norm and perceived behavioral control as the predictors of mobile service adoption behavior (e.g., [35,56]). Trust theory states that the extent to which users trust the mobile service providers determines their adoption (e.g., [10,15,25,29,30,35,55]). Value theory proposes that mobile service adoption behavior is affected by a variety of value perceptions including utilitarian value, hedonic value and social value (e.g., [10,26,30,53]).

Among the person-centric theories, trust theory is the most frequently discussed one. Specifically, the previous studies have found that trust can influence users' mobile service adoption behavior by affecting performance expectancy [36], perceived risk [36], perceived usefulness [15,55], attitude [2,29], behavioral intention [15,25,36,55], satisfaction [10,30], and loyalty [10,30,32].

It is worth noting that although the role of trust has been examined in the studies on a variety of mobile services (e.g., mobile commerce or banking), its role in the mobile eWOM services has been

Table 1
Theories used in prior research on mobile services.

Theory	Sample studies
<i>Technology-centric theories</i>	
Technology acceptance model (TAM)	[15,16,22,29,33,35,37,55,56,58]
Diffusion of innovation theory (DIT)	[29,33,37]
Task-technology fit theory (TTF)	[27,58]
IS success model	[4,10,32]
<i>Person-centric theories</i>	
Theory of planned behavior (TPB)	[35,56]
Trust theory	[10,15,25,29,30,35,55]
Value theory	[10,26,30,53]

less explored. However, the information adoption literature has clearly shown that information credibility is key to the information adoption [52]. Several recent eWOM studies also suggest that perceived credibility of online reviews determines consumers' adoption of these reviews [5]. Therefore, trust in online information is a critical and challenging issue for eWOM services [42]. In particular, the unique features of mobile services make the trust issue become more salient. First, the small screen and relatively slow processing capability of mobile devices and the relative instability of wireless network challenge the competence of mobile eWOM services. Users may suffer the risk of not accessing to the mobile services due to technical problems, blocking their service adoption behavior. Second, since mobile eWOM services can provide context-sensitive services such as location-based services (LBS), users may be concerned with their privacy [57]. Further, the recommendation generated according to the contextual information will bring users' doubt about the motivation: is the recommendation really personalized to users' needs or fictitious out of marketing objectives [57]? This raises users' concerns about the benevolence and integrity of mobile eWOM services. Regarding trust as a factor covering competence, benevolence and integrity [38], users' trust in mobile eWOM services should play an important role in the mobile eWOM service adoption. Therefore, this study attempts to propose and empirically test a research model to theorize the impact of trust on mobile eWOM service adoption behavior.

2.3. Trust transfer theory

Trust building mechanism has been a key research topic in e-commerce research. According to McKnight et al. [39], there are three major mechanisms to build trust: institution-based process, knowledge-based process and trust transfer process. Institution-based process stresses on building trust through a variety of institutional structures such as feedback system, escrow services, credit card guarantees and intermediary [43]. Knowledge-based process means that people's trust in one party can be based on their prior interactions with the party [12]. Trust transfer process refers to a trust mechanism that one's trust in an unknown person/object can be derived from his trust in a known person/object who has certain association with the unknown person/object [50,51]. In our research context, since the institutional structures for eWOM services are difficult to be defined and knowledge-based process is relevant to ongoing trust rather than initial trust, they are not so appropriate to explain the initial trust on mobile services which are transited from web services. In contrast, the trust transfer mechanism which well captures the web–mobile service transition process is more appropriate to explain the phenomenon.

Trust transfer can be described as a mechanism involving three actors: the trustor who makes judgments on if or not to trust others, the trustee whose trustworthiness is assessed by the trustor, and a third person who is the broker in the trust belief transfer process [50,51]. The underlying logic is that when the trustor trusts in the third person and there is a close relationship between the trustee and the third person, the trustor's trust in the third person will be transferred to the trustee. Accordingly, the third person is called as the source of trust transfer and the trustee as the target of trust transfer.

The trust transfer theory further points out that the trust transfer process relies on two types of relationships between source and target namely similarity and business tie [50]. Similarity captures the internal relationship between source and target, such that they share certain same innate features which make people have same perceptions about them. Business tie captures the external relationship between source and target, such that they may not be same in nature but share certain external cues. For example, the source and the target may belong to the same company. Thus, people will form same perceptions about source and target because they are categorized in the same group [50]. In this study, we will draw upon the

trust transfer theory to explain how users' initial trusting beliefs in mobile eWOM services are formed in the context of web–mobile service transition.

3. Research model and hypotheses

We propose our research model in Fig. 1. In the model, trust in mobile eWOM services is regarded as an important predictor of users' behavioral intention to use mobile eWOM services. Further, trust in mobile eWOM services is influenced by the initial trust in web eWOM services and two factors capturing the relationships between the source and target of trust transfer namely functional consistency and perceived entitativity. We also include perceived value of mobile eWOM services as a control variable in the model.

3.1. Trust in mobile eWOM services

The impacts of trust on intention to use mobile eWOM services can be explained by addressing the literature on both mobile services and eWOM. As to the mobile service literature, prior research has stated that trust can affect behavioral intention because it can increase performance expectancy [36], perceived usefulness [15,55], and attitude [2,29] and reduce perceived risk [36]. It is also found that trust is directly associated with behavioral intention [15,25,36,55]. As to the eWOM literature, because information credibility is a key predictor of the information adoption behavior [5,42,52], regarding the mobile eWOM service adoption behavior as a special type of information adoption behavior, trust should also be an important predictor of mobile eWOM service adoption behavior.

Further, the role of trust may become much more important in terms of the unique features of mobile services. As discussed above, the smaller screen of mobile device and the instability of wireless network limit the competence of mobile eWOM services, and context sensitive nature of information raises users' concerns about the benevolence and integrity of the mobile eWOM service providers. All of these suggest that the role of trust in mobile eWOM service adoption should be highlighted. Therefore, we hypothesize

H1. Trust in mobile eWOM services is positively associated with intention to use mobile eWOM services.

3.2. Trust in web eWOM services

In the context of web–mobile service transition, mobile eWOM services can be regarded as the target of trust transfer while web eWOM services as the source. An underlying logic for trust transfer is that trust in the source can lead to trust in the target [50]. However, this linkage has been ignored by researchers in a long time [8,50]. According to the structure of trust transfer which is formed based on three actors (e.g., source, target, relationships between source and target), including the initial trust in the model can provide a more comprehensive picture. Just as Lin et al. [31] do in their study on the trust transfer from web banking to mobile banking, the relationship between trust in the source and trust in the target should be hypothesized or at least controlled. Thus, we propose

H2. Trust in web eWOM services is positively associated with trust in mobile eWOM services.

3.3. Relationships between web and mobile eWOM services

Trust transfer theory postulates that two types of relationships – perceived similarity and perceived business tie – between source and target can influence trust in target [50]. Within our research context, we use functional consistency to capture the similarity between web

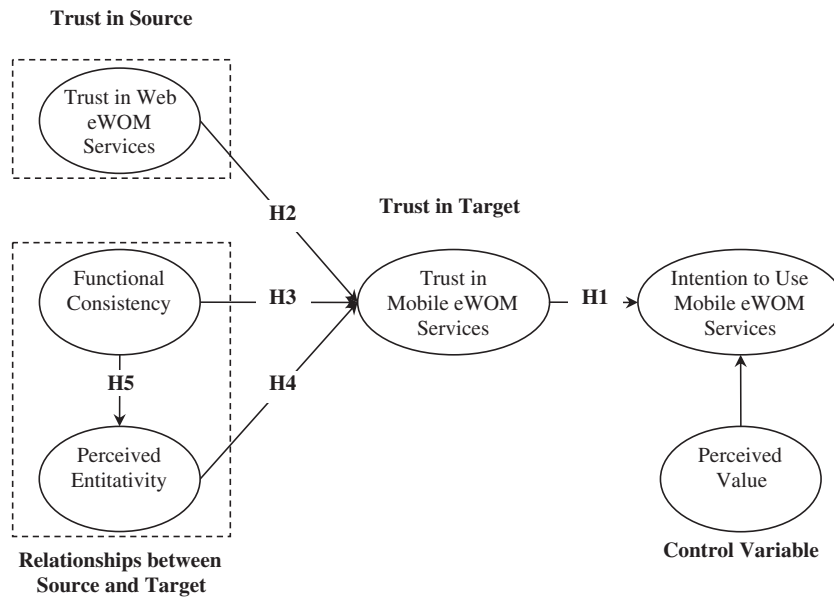


Fig. 1. Research model.

and mobile eWOM services and use perceived entitativity to capture the business tie between web and mobile eWOM services.

Functional consistency refers to the extent to which the functions of web and mobile eWOM services are consistent. Because compared to PC-based eWOM services, mobile eWOM services are operated on the relatively small screen of mobile devices and telecommunication providers may charge high fees for mobile eWOM services, eWOM service providers need to adjust the service content in order to adapt to the mobile context. For example, when delivering the mobile eWOM services, quantity of pictures or images is reduced, and the interface is redesigned to fit the small screen. These changes give rise to the issue of functional consistency. According to trust transfer theory, when similarity between source and target is high, people will be more likely to trust in the target because of trust in the source [50]. Thus, when users consider that the functions of mobile eWOM services are inconsistent with web eWOM services, the similarity between these two types of services is low, leading to low trust in mobile eWOM services as well. Therefore, we propose

H3. Functional consistency is positively associated with trust in mobile eWOM services.

Perceived entitativity refers to the extent to which a group of entities is perceived as being bonded together [47,48]. Within our research context, it describes the degree to which users regard mobile and web eWOM services belong to a same group (e.g., company). When users consider that these two types of services are operated by the same company, users may transfer their trust in the web eWOM services to the trust in mobile eWOM services because they trust in the company who operates these two types of services [50]. Thus, we propose

H4. Perceived entitativity is positively associated with trust in mobile eWOM services.

People tend to distinguish different groups through social categorization process, so persons in a group are akin to a social category. When processing information, individuals tend to expect unity and consistency for persons in the same group [18]. Similarities between persons are helpful for the formation of entitativity perception [50].

Within our research context, when users perceive that the functions of web and mobile eWOM services are consistent, they may more likely to regard these two types of services as the subsidiaries of the same group. For example, in their study on brand extension, Song et al. [47] empirically validate that when product integration level is high, perceived tie is high. Therefore, we propose that

H5. Functional consistency is positively associated with perceived entitativity.

4. Methodology

4.1. Research settings

A famous Chinese eWOM website Dianping.com was selected as the research site. Initiated in 2003, Dianping.com provides users a platform to post their ratings and reviews on restaurant and other entertainment services and help other users to make decision on the consumption of these services. According to the statistics in March 2011, Dianping.com has more than 30 million active users and the reviews cover 1 million vendors across 2,000 Chinese cities. To extend their service scope, Dianping.com has successively launched the mobile Internet service in 2008 and the mobile application in 2010. These services enable users to obtain relevant information anytime and anywhere. In this study, our research focus is on the mobile application of Dianping.com rather than the mobile Internet service because mobile application is more fit with mobile devices and can provide more personalized services to users.

4.2. Measures

All the constructs except for functional consistency in this study were measured using multi-item scales adapted from validated measures in prior studies (see Appendix A). Minor changes in the wording were made to fit the specific research context of mobile Dianping.com. A seven-point Likert scale was used for all items. Specifically, three items adapted from Kim and Han [24] were used to measure intention to use mobile eWOM services; two second-order constructs trust in mobile eWOM services and trust in web eWOM services were measured by McKnight et al.'s [39] three-dimension

scale of trust; perceived entitativity was measured by three items adapted from Song et al. [48]. The measures for functional consistency were developed to capture the extent to which the web and mobile eWOM services were consistent and similar. The face validity of the instrument was first assessed by several PhD students majored in information systems and several actual users of Dianping.com. The statistic validity was further assessed and reported in the data analysis section.

Besides the constructs in the proposed research model, we also controlled value perceptions of mobile eWOM services. Specifically, three value perceptions were considered: utilitarian value which is derived from the functions performed by a mobile service, and closely related to the effectiveness and efficacy that are engendered with the use of this service [1], hedonic value which is derived from users' subjective feelings of the affective state that stems from the use of a mobile service [1], and social value which is derived from the social gains received from the use of a mobile information service, and often associated with one or more specific social groups [46]. They are respectively measured using the items adapted from [24] and [53].

4.3. Data collection procedures

A web-based online survey was used to collect the data. Since this study examined users' adoption of mobile eWOM services, the target participants should have certain experience in the mobile application of Dianping.com. Participants were recruited through several channels. First, we sent invitation letters to the registered users of Dianping.com whose contact information can be found in the Dianping. Second, since Dianping.com had a micro-blog account, we can search for the potential participants by sending short messages to the followers of the company's micro-blog account. In the invitation letter or short message, we provided a brief description of the research objective as well as an URL of the online questionnaire webpage. To encourage their participation, certain incentives (e.g., prepaid calling card) were provided through a lucky draw.

In total, about 2000 invitation letters were sent out, and 235 usable responses were gathered, with a response rate of 12%. Among these participants, 47.7% were male; more than 70% were 26 years or higher; over 75% were with a bachelor or high degree; over 80% had more than 7 years of experience in Internet; more than 60% had more than 3 years of experience in Dianping.com and more than 60% had more than 3 months of experience in mobile application of Dianping.com.

5. Data analysis

Partial Least Squares (PLS) Graph 3.00 was used to analyze the data and examine the hypotheses. As a second-generation multivariate technique, PLS could simultaneously assess the measurement model and the structural model. Compared to the covariance-based structural equation modeling (SEM), PLS requires a relatively small sample size, has no restriction on normal distribution, and is more appropriate for exploratory analysis and for handling formative constructs [6]. Thus, PLS is more suitable for the current study. Following the two-step analytical procedures [17], we examine the measurement model and the structural model respectively.

5.1. Measurement model

In the model, trust in web eWOM services and trust in mobile eWOM services were regarded as two formative second-order constructs with three sub-dimensions namely competence, benevolence, and integrity [38], and perceived value was regarded as a formative second-order constructs with three sub-dimensions namely utilitarian, hedonic [1] and social value [46]. They were treated as formative rather than reflective second-order constructs because the three sub-dimensions were

not interchangeable and could not covary [44]. The measurement models for the first- and the second-order constructs were assessed in different approaches.

As to the reflective first-order constructs, the measurement model can be assessed by examining the reliability, convergent validity and discriminant validity. Specifically, reliability can be assessed by checking if the value of composite reliability (CR) is greater than 0.7 and the average variance extracted (AVE) is greater than 0.5 [11]. As shown in Table 2, for all constructs the CRs were greater than 0.9 and the AVEs were greater than 0.7, suggesting good reliability for all constructs. Convergent validity can be assessed by seeing whether the item loadings on the respective constructs are high enough. As shown in Table 2, all item loadings were higher than 0.8 at the significant level of $p < 0.01$, suggesting good convergent validity. Discriminant validity can be assessed by checking if the square root of the AVE for each construct is greater than the correlations between that construct and all other constructs [11]. Table 3 presents the correlation matrix of the constructs and the square root of AVE for each construct, demonstrating a satisfactory discriminant validity of the measurements.

As to the formative second-order constructs, the weights, the VIFs (variance inflation factor), and the loadings of sub-dimensions were assessed [44]. As shown in Table 4, all weights except for social value were statistically significant and all VIFs were smaller than 5 [17]. Regarding multicollinearity was not a cause for the insignificant weight of social value, we further checked its loading and found that its loading was significant. According Petter et al.' [44] suggestions, it was retained in the analysis to ensure the completeness of the concept.

Further, considering the relatively high correlations between constructs, we also tested the common method bias and multi-

Table 2
Reliabilities, AVEs, and item loadings of first-order constructs.

Construct	Item	Loading	t-statistics
Intention to Use (CR = .951, AVE = .867)	INTU1	0.917	58.996
	INTU2	0.936	75.354
	INTU3	0.939	91.235
Trust in Competency of Mobile Services (CR = .932, AVE = .821)	CTMS1	0.899	61.136
	CTMS2	0.923	81.384
	CTMS3	0.896	44.363
Trust in Benevolence of Mobile Services (CR = .941, AVE = .841)	BTMS1	0.911	70.259
	BTMS2	0.928	87.705
	BTMS3	0.912	69.512
Trust in Integrity of Mobile Services (CR = .955, AVE = .875)	ITMS2	0.941	96.176
	ITMS2	0.929	73.707
	ITMS3	0.936	76.810
Trust in Competence of Web Services (CR = .951, AVE = .866)	CTWS1	0.918	69.583
	CTWS2	0.936	101.411
	CTWS3	0.939	77.222
Trust in Benevolence of Web Services (CR = .934, AVE = .824)	BTWS1	0.894	46.734
	BTWS2	0.927	83.736
	BTWS3	0.903	69.338
Trust in Integrity of Web Services (CR = .937, AVE = .832)	ITWS1	0.898	61.921
	ITWS2	0.935	106.617
	ITWS3	0.904	62.798
Functional Consistency (CR = .930, AVE = .770)	FC1	0.892	61.226
	FC2	0.879	56.309
	FC3	0.896	60.525
	FC4	0.841	37.401
Perceived Entitativity (CR = .942, AVE = .844)	PE1	0.915	79.649
	PE2	0.935	117.976
	PE3	0.906	75.957
Utilitarian Value (CR = .954, AVE = .873)	UV1	0.929	104.191
	UV2	0.945	119.515
	UV3	0.929	99.171
Hedonic Value (CR = .958, AVE = .884)	HV1	0.930	90.099
	HV2	0.946	105.197
	HV3	0.945	106.859
Social Value (CR = .964, AVE = .900)	SV1	0.943	116.029
	SV2	0.960	149.359
	SV3	0.944	105.031

Table 3
Means, standard deviations and correlations.

	Mean	Std. Dev	INTU	CTMS	BTMS	ITMS	CTWS	BTWS	ITWS	FC	PE	UV	HV	SV
INTU	5.689	1.018	0.931											
CTMS	5.513	0.938		0.906										
BTMS	5.312	0.978	0.668	0.712	0.917									
ITMS	5.652	0.935	0.744	0.724	0.757	0.936								
CTWS	5.753	1.062	0.474	0.595	0.485	0.593	0.931							
BTWS	5.270	1.072	0.558	0.542	0.709	0.649	0.605	0.908						
ITWS	5.613	0.966	0.524	0.618	0.603	0.684	0.650	0.664	0.912					
FC	5.194	0.937	0.525	0.662	0.613	0.550	0.455	0.493	0.488	0.877				
PE	5.556	0.931	0.687	0.798	0.682	0.758	0.634	0.647	0.683	0.643	0.918			
UV	5.497	0.970	0.698	0.719	0.731	0.708	0.538	0.586	0.606	0.678	0.746	0.934		
HV	5.487	1.035	0.717	0.625	0.697	0.665	0.391	0.519	0.502	0.594	0.625	0.796	0.940	
SV	5.041	1.271	0.460	0.389	0.588	0.438	0.129	0.386	0.258	0.528	0.375	0.548	0.698	0.949

Note: INTU = Intention to use mobile eWOM services; CTMS = Trust in competence of mobile eWOM services; BTMS = Trust in benevolence of mobile eWOM services; ITMS = Trust in integrity of mobile eWOM services; FC = Functional consistency; PE = Perceived entitativity; CTWS = Trust in competence of web eWOM services; BTWS = Trust in benevolence of web eWOM services; ITWS = Trust in integrity of web eWOM services; UV = Utilitarian value; HV = Hedonic value; SV = Social value.

*The bold numbers in the diagonal row are square roots of the average variance extracted (AVE).

collinearity. Using Liang et al.'s [28] method to examine the common method bias, we found that the substantive factors explained 83.8% of the variance while the method factors explained only 0.3% of the variance, indicating that common method bias was not a threat to the present study. The multi-collinearity diagnosticity showed that the variance inflation factor (VIF) values for all of the constructs ranged from 1.696 to 2.756, far below the suggested threshold value 5 [17], indicating that multi-collinearity was not a threat to the present study either.

5.2. Structural model

The PLS results of the structural model were reported in Fig. 2. The results showed that trust in mobile eWOM services had a significant effect on intention to use mobile eWOM services ($\beta = .459$, $t = 4.922$), so H1 was supported. The results also showed that trust in mobile eWOM services was positively associated with trust in web eWOM services ($\beta = .324$, $t = 4.149$), functional consistency ($\beta = .179$, $t = 3.612$), and perceived entitativity ($\beta = .472$, $t = 6.526$), lending support to H2, H3, and H4. Functional consistency was also found to be positively associated with perceived entitativity ($\beta = .643$, $t = 12.940$), supporting H5. The results also showed that the control variable perceived value had a significant positive impact on intention to use mobile eWOM services ($\beta = .386$, $t = 4.249$).

The mediating effects of trust in mobile services were further tested following Baron and Kenny's [3] causal step approach. As shown in Table 5, when only considering the relationships between independent variables, trust in web eWOM services, functional consistency and perceived entitativity were found to significantly influence intention to use mobile eWOM services. Their effects on the mediator trust in mobile eWOM services were also significant. However, when controlling the effects of the mediator on the dependent variable, the

direct effects became insignificant, suggesting the full mediating effects of trust in mobile eWOM services.

6. Discussion

6.1. Post-hoc analysis

Several post-hoc analysis was conducted to enrich our understanding on the results. First, there may be interaction effects between the initial trust in web eWOM services, functional consistency and perceived entitativity, because when the initial trust in web eWOM services is low, the impacts of functional consistency and perceived entitativity on trust in mobile eWOM services may be negative rather than positive. To test this possibility, we included these interaction effects into the model and found that both the interaction effects between functional consistency and trust in web eWOM services ($\beta = .087$, $t = 0.921$) and between perceived entitativity and trust in web eWOM services ($\beta = -.088$, $t = 1.118$) were insignificant. One possible explanation for the insignificant interaction effects was that user perceptions about the trust in web eWOM services were not evenly distributed across low or high levels but biased towards the high level, making only the positive impacts of functional consistency and perceived entitativity be found. This was similar with Stewart's [50] findings where the initial trust was high. Thus, the next step to validate our model was to check if the initial trust on web eWOM services was indeed at a relatively high level. As shown in Table 3, the means of the three dimensions of trust in web eWOM services were 5.753, 5.270, and 5.613 respectively, validating that the initial trust on web eWOM services is relatively high. Therefore, when initial trust in source was high, modeling the direct positive main effects of the functional consistency and perceived entitativity should be appropriate [50]. However, the trust transfer mechanism in the low initial trust situation, as well as the aforementioned interaction effects can be further examined in future research.

6.2. Key findings

This study attempts to understand the trust transfer process in the web–mobile service transition. Several key findings can be derived from the study. First, this study reveals that trust in web eWOM services can be transferred to mobile eWOM services. More importantly, the effect of trust in web eWOM services on behavioral intention to use mobile eWOM services is fully mediated by trust in mobile eWOM services, suggesting that sole trust in web eWOM services cannot necessary lead to adoption of mobile eWOM services without the formation of trust in mobile eWOM services.

Table 4
Weights of second-order constructs.

Second-order construct	First-order construct	Weights	VIF	Loadings
Trust in Mobile Services	Competence	.380**	2.415	.897**
	Benevolence	.221**	2.701	.868**
	Integrity	.496**	2.804	.940**
Trust in Web Services	Competence	.247*	1.906	.807**
	Benevolence	.419**	1.969	.882**
	Integrity	.473**	2.157	.911**
Perceived Value	Utilitarian Value	.464**	2.733	.932**
	Hedonic Value	.687**	3.727	.957**
	Social Value	-.099	1.946	.612**

** $p < .01$.

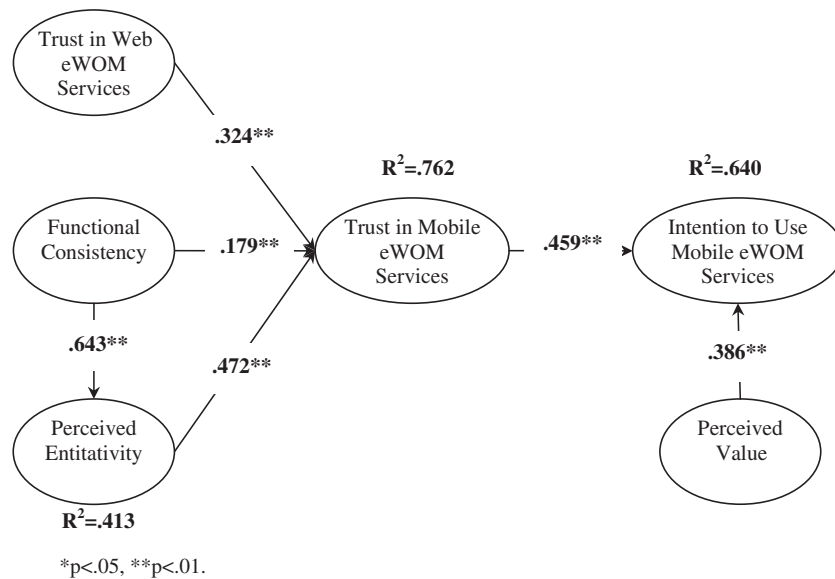


Fig. 2. PLS results. *p<.05, **p<.01.

Second, this study shows that functional consistency between web and mobile eWOM services can influence users' trust in mobile eWOM services, indicating that when the functions of mobile and web eWOM services are similar, users will be more likely to trust in mobile eWOM services given their initial trust in web eWOM services.

Third, this study also finds that perceived entitativity plays an important role in predicting trust in mobile eWOM services, indicating that when users perceive there is a strong association between the web eWOM services and the mobile eWOM services, they will be more likely to trust in mobile eWOM services given their initial trust in web eWOM services.

Fourth, we also find the linkage between functional consistency and perceived entitativity, showing that when the functions of web and mobile eWOM services are consistent, users will have a stronger perception that these two types of services belong to a same group. This suggests that functional consistency can both directly influence trust in mobile eWOM services and indirectly influence trust in mobile eWOM services through perceived entitativity.

6.3. Limitations

Before discussing the implications of the study, several limitations should be first acknowledged. First, this study focuses on the trust transfer perspective to understand the phenomenon of the web–mobile service transition, so several other trust building mechanisms such as institution-based mechanism are not well addressed. We admit that the institution-based mechanisms may be more effective for building users' initial trust when they have no experience in relevant services,

just as lots of previous studies on e-commerce have shown [12,25,38,43]. In their research contexts, users need to address various institutional cues such as feedback system, escrow services, credit card guarantees to ensure the credibility of online vendors [43]. However, in our research context, since most of users have already had certain experience in using relevant services (e.g., web eWOM services), the initial trust in the corresponding mobile services can be easily built by transferring their prior trust in web eWOM services to the mobile eWOM services. That is to say, the trust transfer perspective may better capture the research context under examination. Further, because the results have shown that trust transfer factors have explained more than 75% of variance of trust in mobile eWOM services, we can predict that trust transfer should still be a strong explanatory mechanism even when other factors are well controlled. However, we frankly acknowledge that excluding the institution-based trust from the analysis is still a limitation of the current study. We encourage future studies to consider the institution-based trust in the research model and compare the power of these two trust building mechanisms under different contexts. This can further extend our research model and enrich understanding on trust building mechanisms.

Second, this study investigates one single mobile service (e.g., mobile eWOM services) in one single culture (e.g., China). Applying the conclusions to other research contexts may be cautioned. For example, for the mobile commerce services which may involve high financial risk, besides the trust transfer mechanism, institution-based trust building mechanism such as structural assurance may be needed [31]. Further, in different societies with different culture, the power of trust transfer mechanism may be different. In the collectivistic society where the relationship and collectivism is respected, the trust transfer may be more powerful than in the individualistic society where people behave more independently [21]. This provides an opportunity for future studies to examine the cross-culture issues of trust transfer.

Table 5
Test for mediating effects.

IV	M	DV	Coefficient in regressions				Mediating
			IV→DV	IV→M	IV + M→DV		
					IV	M	
TWS	TMS	INTU	.601**	.782**	.001	.768**	Full
FC	TMS	INTU	.526**	.693**	.027	.739**	Full
PE	TMS	INTU	.688**	.840**	.170	.620**	Full

Note: TWS=Trust in web eWOM services; TMS=Trust in mobile eWOM services; INTU=Intention to use mobile eWOM services; FC=Functional consistency; PE=Perceived entitativity; **p<.01.

6.4. Theoretical implications

This study can enrich and advance our theoretical understanding in several ways. First, this study extends the trust transfer theory to the context of the web–mobile service transition. The original trust transfer theory is developed to understand how consumers' initial trust on an online store is built through the linkages between online and offline stores [50], i.e., how an unknown online store can gain

trust by linking to other famous websites or an physical store. Consequent studies also use this theory to explain online brand association [8,34] and extension [49]. However, the research on the channel transition of services is rare except for Lin et al. [31]. As the web–mobile service transition has become a trend for most of web services, the research on this special phenomenon is with critical value. Thus, this study can be regarded as a try to fill this research gap by providing a footstone for further theoretical development.

Second, this study provides a comprehensive picture of the trust transfer mechanism by considering trust in source, trust in target, and the relationships between source and target, making the trust transfer theory more solid. In the original trust transfer theory, Stewart [50] only uses perceived similarity and perceived business tie as the predictors of trust in target without controlling the effect of trust in source. So is Delgado-Ballester and Hernandez-Espallardo's work [8]. In contrast, Lin et al. [31] include trust in source into the model, but exclude the relationship between source and target from the model. To provide a full picture of trust transfer theory, this study proposes and empirically tests that trust in source and the relationships between source and target both can influence trust in target. This enriches the trust transfer literature by viewing trust transfer as a combination effect of trust in source and the relationships between source and target.

Third, this study identifies two factors to capture the relationships between source and target in terms of the context of web–mobile service transition. Functional consistency is regarded as the factor reflecting the similarity between web and mobile services while perceived entitativity as the factor representing the tie between web and mobile services. These context-specific factors can be applied in future research on the trust transfer from web services to mobile services.

Fourth, this study also points out the linkage between functional consistency and perceived entitativity. Besides the independent effects of functional consistency and perceived entitativity, this study extends the original trust transfer model by pointing out the correlations between them. Specifically, functional consistency can enhance users' perception about the cohesion of the web and the mobile services. It also implies that functional consistency have both direct and indirect effect via perceived entitativity on trust in target.

Finally, this study also enriches the mobile service literature by considering the web–mobile service transition and applying the trust transfer theory to this research context. Different from the traditional mobile services rooted in mobile context per se such as short message services (SMS), the development of wireless technology and mobile devices has largely pushed the transition from web services to mobile services. These newly emerging mobile services are different from SMS because users' prior perceptions about web services may be transferred from the web context to the mobile context. This study captures this trend in mobile services and provides a trust transfer perspective to refresh the theorization of mobile service adoption.

6.5. Practical implications

There are also several important practical implications derived from the study. First, the important role of the relationships between web and mobile services suggests that web service providers with good reputation can advance their mobile business by leveraging their users' prior trust in web services. In contrast, those newly emerging mobile service providers with no corresponding web services or those service providers who have relatively bad reputation for web services should avoid highlighting the linkage between web and mobile services. Second, when shifting their business from web context to mobile context, service providers with good initial reputation should keep the consistency in functions between the mobile and web services and tag obvious labels to show the linkage between their mobile services and web services to quickly gain users' trust in their mobile services.

7. Conclusion

The web–mobile service transition has become a trend of business extension for web service providers. However, theories and empirical studies to examine this transition are lacked. To fill this research gap, this study drawing upon the trust transfer theory to explain the initial trust building mechanisms of mobile services. Specifically, users' initial trust in web service and their perceptions about the functional consistency and perceived entitativity have been found to determine the mobile service adoption behavior through the mediating effect of trust in mobile service. These findings have advanced the trust transfer theory and enriched the literature on mobile services. Practitioners can recognize how to leverage the benefit of trust transfer to promote their mobile services based on their web services.

Appendix A. Constructs and items

Construct	Items
Intention to Use (INTU) [24]	INTU1. I intend to use mobile Dianping.com in the future. INTU2. I expect that I would use mobile Dianping.com in the future. INTU3. I plan to use mobile Dianping.com in the future.
Functional Consistency (FC) (Developed)	FC1. The functions of web and mobile Dianping.com are very close. FC2. Using the web and mobile Dianping.com can achieve similar functions. FC3. The functions for the web and mobile Dianping.com are consistent. FC4. There is no significant difference between the function between using the web and mobile Dianping.com.
Perceived Entitativity (PE) [48]	PE1. Both web and mobile Dianping.com are Dianping.com's important products. PE2. Web and mobile Dianping.com have a strong relationship with each other. PE3. The integration level of web and mobile Dianping.com is very high.
<i>Trust in Mobile eWOM Services</i>	
Competence (CTMS) [39]	CTMS1. Mobile Dianping.com is competent and effective in providing advice on restaurant and entertainment. CTMS2. Mobile Dianping.com performs its role of giving advice on restaurant and entertainment very well. CTMS3. Overall, mobile Dianping.com is a capable and proficient restaurant and entertainment advice provider.
Benevolence (BTMS) [39]	BTMS1. I believe that mobile Dianping.com would act in my best interest. BTMS2. If I required help, mobile Dianping.com would do its best to help me. BTMS3. Mobile Dianping.com is interested in my well-being, not just its own.
Integrity (ITMS) [39]	ITMS1. Mobile Dianping.com is truthful in its dealings with me. ITMS2. I would characterize mobile Dianping.com as honest. ITMS3. Mobile Dianping.com is trustworthy.
<i>Trust in Web eWOM Services</i>	
Competence (CTWS) [39]	CTWS1. Web Dianping.com is competent and effective in providing advice on restaurant and entertainment. CTWS2. Web Dianping.com performs its role of giving advice on restaurant and entertainment very well. CTWS3. Overall, web Dianping.com is a capable and proficient restaurant and entertainment advice provider.
Benevolence (BTWS) [39]	BTWS1. I believe that web Dianping.com would act in my best interest. BTWS2. If I required help, web Dianping.com would do its best to help me. BTWS3. Web Dianping.com is interested in my well-being, not just its own.

(continued on next page)

Appendix A (continued)

Construct	Items
Integrity (ITWS) [39]	ITWS1. Web Dianping.com is truthful in its dealings with me. ITWS2. I would characterize web Dianping.com as honest. ITWS3. Web Dianping.com is trustworthy.
Perceived Value	
Utilitarian Value (UV) [24]	UV1: Compared to the effort I need to put in, the use of mobile Dianping.com would be beneficial to me. UV2: Compared to the time I need to spend, the use of mobile Dianping.com would be worthwhile to me. UV3: Overall, the use of mobile Dianping.com would deliver me good value.
Hedonic Value (HV) [24]	HV1: Mobile Dianping.com would be one that I enjoy. HV2: Mobile Dianping.com would be one that I feel relaxed about using. HV3: Mobile Dianping.com would make me feel good.
Social Value (SV) [53]	SV1: The use of mobile Dianping.com improves the way I am perceived. SV2: The fact I use mobile Dianping.com makes a good impression on other people. SV3: The use of mobile Dianping.com gives me social approval.

Acknowledgement

The work described in this paper was partially supported by the National Natural Science Foundation of China (Grant No. 71201118), the Key Program from National Natural Science Foundation of China (Grant No.71231007), the Fundamental Research Funds for the Central Universities (Project No. 121055), Self-dependent Research Project for Social and Humanity Science of Wuhan University (Project No. 274130) and Start-up Research Grant for Oversea Talents of Wuhan University (Project No. 273664).

References

- [1] B.J. Babin, W.R. Darden, M. Griffin, Work and/or fun: measuring hedonic and utilitarian shopping value, *Journal of Consumer Research* 20 (4) (1994) 644–656.
- [2] S.J. Barnes, S.L. Huff, Rising Sun: iMode and the Wireless Internet, *Communications of the ACM* 46 (11) (2003) 78–84.
- [3] R.M. Baron, D.A. Kenny, The moderator-mediator variable distinction in social psychological research: conceptual, strategic, and statistical considerations, *Journal of Personality and Social Psychology* 51 (6) (1986) 1173–1182.
- [4] M. Chae, J. Kim, H. Kim, H. Ryu, Information quality for mobile internet services: a theoretical model with empirical validation, *Electronic Markets* 12 (1) (2002) 38–46.
- [5] M.Y. Cheung, C. Luo, C.L. Sia, H. Chen, Credibility of electronic word-of-mouth: informational and normative determinants of on-line consumer recommendations, *International Journal of Electronic Commerce* 13 (4) (2009) 9–38.
- [6] W.W. Chin, B.L. Marcolin, P.R. Newsted, A partial least squares latent variable modeling approach for measuring interaction effects: results from a Monte Carlo simulation study and an electronic-mail emotion/adoption study, *Information Systems Research* 14 (2) (2003) 189–217.
- [7] F.D. Davis, R.P. Bagozzi, P.R. Warshaw, User acceptance of computer technology: a comparison of two theoretical models, *Management Science* 35 (8) (1989) 982–1003.
- [8] E. Delgado-Ballester, M. Hernandez-Espallardo, Effect of brand associations on consumer reactions to unknown on-line brands, *International Journal of Electronic Commerce* 12 (3) (2008) 81–113.
- [9] W.H. DeLone, E.R. McLean, Information systems success: the quest for the dependent variable, *Information Systems Research* 3 (1) (1992) 60–95.
- [10] Z. Deng, Y. Lu, K.K. Wei, J. Zhang, Understanding customer satisfaction and loyalty: an empirical study of mobile instant messages in China, *International Journal of Information Management* 30 (4) (2010) 289–300.
- [11] C. Fornell, D.F. Larcker, Evaluating structural equation models with unobservable variables and measurement error, *Journal of Marketing Research* 18 (1) (1981) 39–50.
- [12] D. Gefen, E. Karahanna, D.W. Straub, Trust and TAM in online shopping: an integrated model, *MIS Quarterly* 27 (1) (2003) 51–90.
- [13] D.L. Goodhue, R.L. Thompson, Task-technology fit and individual performance, *MIS Quarterly* 19 (2) (1995) 213–236.
- [14] T.W. Gruen, T. Osmonbekov, A.J. Czaplewski, eWOM: the impact of customer-to-customer online know-how exchange on customer value and loyalty, *Journal of Business Research* 59 (4) (2006) 449–456.
- [15] J.C. Gu, S.C. Lee, Y.H. Suh, Determinants of behavioral intention to mobile banking, *Expert Systems with Applications* 36 (9) (2009) 11605–11616.
- [16] I. Ha, Y. Yoon, M. Choi, Determinants of adoption of mobile games under mobile broadband wireless access environment, *Information Management* 44 (3) (2007) 276–286.
- [17] J.F. Hair, R.E. Anderson, R.L. Tatham, W.C. Black, *Multivariate Data Analysis*, 5th ed. Prentice-Hall, Upper Saddle River, NJ, 1998.
- [18] D. Hamilton, S. Sherman, Perceiving persons and groups, *Psychological Review* 103 (1996) 336–355.
- [19] T. Hennig-Thurau, K.P. Gwinner, G. Walsh, D.D. Gremler, Electronic word-of-mouth via consumer opinion platforms: what motivates consumers to articulate themselves on the Internet? *Journal of Interactive Marketing* 18 (1) (2004) 38–52.
- [20] S.Y. Ho, The effects of location personalization on individuals' intention to use mobile services, *Decision Support Systems* 53 (4) (2012) 802–812.
- [21] G. Hofstede, G.J. Hofstede, M. Minkov, *Cultures and Organizations: Software of the Mind*, 3rd ed. McGraw-Hill, New York, 2010.
- [22] S.J. Hong, J.Y.L. Thong, K.Y. Tam, Understanding continued information technology usage behavior: a comparison of three models in the context of mobile Internet, *Decision Support Systems* 42 (3) (2006) 1819–1834.
- [23] P. Keen, *Shaping the Future: Business Design through Information Technology*, Harvard Business School Press, Boston, 1991.
- [24] B. Kim, I. Han, What drives the adoption of mobile data services & quest: an approach from a value perspective, *Journal of Information Technology* 24 (1) (2009) 35–45.
- [25] G. Kim, B.S. Shin, H.G. Lee, Understanding dynamics between initial trust and usage intentions of mobile banking, *Information Systems Journal* 19 (3) (2009) 283–311.
- [26] H.W. Kim, H.C. Chan, S. Gupta, Value-based adoption of mobile internet: an empirical investigation, *Decision Support Systems* 43 (1) (2007) 111–126.
- [27] I. Lee, B. Choi, J. Kim, S.J. Hong, Culture-technology fit: effects of cultural characteristics on the post-adoption beliefs of mobile Internet users, *International Journal of Electronic Commerce* 11 (4) (2007) 11–51.
- [28] H. Liang, N. Saraf, Q. Hu, Y. Xue, Assimilation of enterprise systems: the effect of institutional pressures and the mediating role of top management, *MIS Quarterly* 31 (1) (2007) 59–87.
- [29] H.F. Lin, An empirical investigation of mobile banking adoption: the effect of innovation attributes and knowledge-based trust, *International Journal of Information Management* 31 (3) (2010) 252–260.
- [30] H.H. Lin, Y.S. Wang, An examination of the determinants of customer loyalty in mobile commerce contexts, *Information Management* 43 (3) (2006) 271–282.
- [31] J. Lin, Y. Lu, B. Wang, K.K. Wei, The role of inter-channel trust transfer in establishing mobile commerce trust, *Electronic Commerce Research and Applications* 10 (6) (2011) 615–625.
- [32] C.T. Liu, Y.M. Guo, C.H. Lee, The effects of relationship quality and switching barriers on customer loyalty, *International Journal of Information Management* 31 (1) (2011) 71–79.
- [33] C. Lopez-Nicolas, F.J. Molina-Castillo, H. Bouwman, An assessment of advanced mobile services acceptance: contributions from TAM and diffusion theory models, *Information Management* 45 (6) (2008) 359–364.
- [34] P.B. Lowry, A. Vance, G. Moody, B. Beckman, A. Read, Explaining and predicting the impact of branding alliances and web site quality on initial consumer trust of e-commerce web sites, *Journal of Management Information Systems* 24 (4) (2008) 199–224.
- [35] J. Lu, C. Liu, C.S. Yu, K. Wang, Determinants of accepting wireless mobile data services in China, *Information Management* 45 (1) (2008) 52–64.
- [36] X. Luo, H. Li, J. Zhang, J. Shim, Examining multi-dimensional trust and multi-faceted risk in initial acceptance of emerging technologies: an empirical study of mobile banking services, *Decision Support Systems* 49 (2) (2010) 222–234.
- [37] N. Mallat, M. Rossi, V.K. Tuunainen, A. Rni, The impact of use context on mobile services acceptance: the case of mobile ticketing, *Information Management* 46 (3) (2009) 190–195.
- [38] D.H. McKnight, N.L. Chervany, What trust means in e-commerce customer relationships: an interdisciplinary conceptual typology, *International Journal of Electronic Commerce* 6 (2) (2001) 35–59.
- [39] D.H. McKnight, V. Choudhury, C. Kacmar, Developing and validating trust measures for e-commerce: an integrative typology, *Information Systems Research* 13 (3) (2003) 334–359.
- [40] E.W.T. Ngai, A. Gunasekaran, A review for mobile commerce research and applications, *Decision Support Systems* 43 (1) (2007) 3–15.
- [41] W. Palka, K. Pousttchi, D.G. Wiedemann, Mobile word-of-mouth: a grounded theory of mobile viral marketing, *Journal of Information Technology* 24 (2) (2009) 172–185.
- [42] L.Y. Pan, J.S. Chiou, How much can you trust online information? Cues for perceived trustworthiness of consumer-generated online information, *Journal of Interactive Marketing* 25 (2) (2011) 67–74.
- [43] P. Pavlou, D. Gefen, Building effective online marketplaces with institution-based trust, *Information Systems Research* 15 (1) (2002) 37–59.
- [44] S. Petter, D. Straub, A. Rai, Specifying formative constructs in information systems research, *MIS Quarterly* 31 (4) (2007) 623–656.
- [45] E.M. Rogers, *Diffusion of Innovation*, Free Press, New York, 1995.
- [46] J.N. Sheth, B.I. Newman, B.L. Gross, Why we buy what we buy: a theory of consumption values, *Journal of Business Research* 22 (2) (1991) 159–170.
- [47] P. Song, H. Xu, A. Techatassanasontorn, C. Zhang, The influence of product integration on online advertising effectiveness, *Electronic Commerce Research and Applications* 10 (3) (2010) 288–303.
- [48] P. Song, C. Zhang, W. Chen, L. Huang, Understanding usage-transfer behavior between nonsubstitutable technologies: evidence from instant messenger and portal, *IEEE Transactions on Engineering Management* 56 (3) (2009) 412–424.

- [49] P. Song, C. Zhang, Y.C. Xu, L. Huang, Brand extension of online technology products: evidence from search engine to virtual communities and online news, *Decision Support Systems* 49 (1) (2010) 91–99.
- [50] K.J. Stewart, Trust transfer on the world wide web, *Organization Science* 4 (1) (2003) 5–17.
- [51] K.J. Stewart, How hypertext links influence consumer perceptions to build and degrade trust online, *Journal of Management Information Systems* 23 (1) (2006) 183–210.
- [52] S.W. Sussman, W.S. Siegal, Informational influence in organizations: an integrated approach to knowledge adoption, *Information Systems Research* 14 (1) (2003) 47–65.
- [53] O. Turel, A. Serenko, N. Bontis, User acceptance of wireless short messaging services: deconstructing perceived value, *Information Management* 44 (1) (2007) 63–73.
- [54] V. Venkatesh, M. Morris, User acceptance of information technology: toward a unified view, *MIS Quarterly* 27 (3) (2003) 425–478.
- [55] Y.S. Wang, H.H. Lin, P. Luarn, Predicting consumer intention to use mobile service, *Information Systems Journal* 16 (2) (2006) 157–179.
- [56] I.L. Wu, J.Y. Li, C.Y. Fu, The adoption of mobile healthcare by hospital's professionals: an integrative perspective, *Decision Support Systems* 51 (3) (2011) 587–596.
- [57] H. Xu, H.H. Teo, B.C.Y. Tan, R. Agarwal, The role of push-pull technology in privacy calculus: the case of location-based services, *Journal of Management Information Systems* 26 (3) (2009) 135–174.
- [58] T. Zhou, Y. Lu, B. Wang, Integrating TTF and UTAUT to explain mobile banking user adoption, *Computers in Human Behavior* 26 (4) (2010) 760–767.

Nan Wang is a Ph. D candidate in the University of Science and Technology of China-City University of Hong Kong Joint Advanced Research Center. Her research interests include e-commerce, knowledge management, and virtual community.

Xiao-Liang Shen is currently an Associate Professor of the Economics and Management School at Wuhan University, P.R. China. He received his two Ph.D. degrees from City University of Hong Kong and University of Science and Technology of China respectively. His current research interests include IT innovation adoption and diffusion, knowledge management, virtual collaboration, and social media and commerce. He has published in International academic journals and conference proceedings, including *Journal of Information Technology*, *Information Systems Frontier*, *Online Information Review*, and *International Conference on Information Systems*, etc.

Yongqiang Sun is an Associate Professor of School of Information Management, Wuhan University. He obtained his Ph.D. degree from University of Science and Technology of China. His current research interests include e-commerce, knowledge management, virtual community, and human-computer interactions. His work has appeared in several international journals including *Information Systems Research*, *Journal of the AIS*, *Decision Support Systems* and *Computers in Human Behavior* and the conferences on information systems including *International Conference on Information Systems*, *Americas Conference on Information Systems*, and *Pacific Asia Conference on Information Systems*.