Winter 12-6-2018

Understanding Usage Intention of Social Media's Innovative Functions: Based on Expanded Innovation Diffusion Theory

Guijun Chen

Chuan Luo

Hanyu Xu

Follow this and additional works at: https://aisel.aisnet.org/iceb2018

Understanding Usage Intention of Social Media's Innovative Functions: Based on Expanded Innovation Diffusion Theory
(Full Paper)

Guijun Chen*, Southwestern University of Finance and Economics, Chengdu, China,
chenguijun@2016.swufe.edu.cn
Chuan Luo, Southwestern University of Finance and Economics, Chengdu, China,
luochuan@swufe.edu.cn
Hanyu Xu, Southwestern University of Finance and Economics, Chengdu, China,

ABSTRACT

Drawing upon expanded innovation diffusion theory (IDT), this study investigates the social media users' usage intention toward its innovative functions. 532 data were collected from the Chinese leading social media—WeChat. The results show that the relative advantage, ease of use, trialability, observability, subjective norm and image have positive effect on users' usage intention. Whereas compatibility has no significant impact. Based upon these findings, we discussed the theoretical contributions and practical implication of this study.

Keywords: Innovation diffusion theory, social media, usage intention

_____
*Corresponding author

INTRODUCTION

In recent years, the development of the Internet technologies has promoted the development of social media. Social media has been defined as a particular consumption of digital media, through which users can connect, communicate and interact with each other (Correa, Hinsley, & Zúñiga, 2010). Social media is increasingly popular and affects thousands of people's life and work(CNNIC, 2016). Current, the most popular social media soft wares include WeChat, Facebook, QQ, Twitter, RenRen and so on. The social media take significant roles in people's daily life and users can use it to work, to develop social networks, to receive news, and so on.

The importance of social media has been recognized by various previous studies (Che & Cao, 2014; Cheng, Fu, & Vreede, 2017; Dai, Han, Dai, & Xu, 2015; Zhang, Li, Wu, & Li, 2016) for a long time. Thus, exploring the factors that have significant influence on users' usage intention has become one of the key research issues in electronic commerce domain. Usage intention has been defined as the likelihood that customers will use a particular product or a service (Kowatsch and 'Maass 2010). However, according to our best knowledge, most previous studies often focus on exploring the antecedents of social media users' usage intention of their communication functions. Actually, in order to keep old customers and develop new markets, these social media have designed various innovative new functions, such as banking, payment, games, GPS, shopping and so on (CNNIC, 2016). As Hameed, Counsell, and Swift (2012) indicated, "Innovation is one of the most critical forces in creating new services and products, developing new markets, promoting organizations' competitiveness and transforming industries." This study will fill in this research gap and focus on exploring the crucial factors, which may affect social media users' usage intention on the various innovative functions.

The remainder of this paper is structured as follows. Next section is literature review and theoretical foundation. Then we propose the research model and deduce the hypotheses; after that, we describe the research methodology and the data analyses procedure; the last section provides a discussion of the results, theoretical contributions, practical implications, as well as limitations.

LITERATURE REVIEW AND THEORETICAL FOUNDATION

Social Media

Web-based social media allow users to connect and interact with one another. Popular social media include WeChat, Facebook, QQ, Twitter, RenRen and so on (Ifinedo, 2016). The web-based social media enables users to make friends online and maintain communications with offline friends as well. It has quickly penetrated into our lives. Social media help users to access news and messages, as well as to connect with their friends worldwide. Because of the popularity, many researchers have investigated the communication functions of the social media as instant messenger. For instance, Wang and Qian (2015) explored the continuance intention of the WeChat's instant massager function. Ifinedo (2016) adopted the gratifications theory and social influence framework to explore the pervasive adoption of social media. Chiu, Cheng, Huang, and Chen (2013) investigated the loyalty toward the social media from the perspective of network externalities. Besides, Yan and Chua (2017) explored whether the personality traits of users will influence their attitude toward using the social media.

But recent years, many innovative functions were incorporated into social media, such as banking, payment, gaming, GPS, shopping and so on(CNNIC, 2016). According to our best knowledge, few previous research has investigated the antecedents of

adopting these new functions, so this research is conducted to fill this research gap, we plan to explore what factors will influence users to use social media's innovative functions. As these functions can be regarded as the social media's innovations, therefore, we will adopt expanded innovation diffusion theory (IDT) as our theoretical foundation to construct our research model.

Innovation Diffusion Theory
E. Rogers *et al.* (1960) introduced the innovation diffusion theory in 1960 and this well establish theory has been used to study various innovations ranging from agricultural practices to high-tech products (Yi, Jackson, Park, & Probst, 2006). Rogers synthesized thousands of such studies result in a communication-based theory of innovation diffusion and identified five characteristics of the innovation, which determine the users' adoption intention and behavior, including: relative advantage, compatibility, complexity, trialability and observability (Moore & Benbasat, 1991). Furthermore, Moore and Benbasat (1991) added image and voluntary as two additional impact factors into this theory.

Previous researchers have adopted the IDT to explore the usage of technology innovations in various research domains. Such as, Tsai, Lai, and Hsu (2012) expanded the theory with social behavior, to explore the suppliers' adoption intention for ratio frequency interface devices. Lu, Yang, Chau, and Cao (2011) tested the impact of three IDT attributes (relative advantage, image and compatibility) on mobile services promotion. These researches all showed that the IDT could well explain the adoption of the technology innovation.

Although previous studies have already confirmed the IDT characteristics will influence the users' usage intention in various fields. They have not tested the IDT characteristics' effect on the users' usage intention toward the social media's innovative functions. This research will try to explore this unanswered question. We plan to utilize Rogers' IDT as the theoretical foundation and will add some more IDT characteristics according to the work of Moore and Benbasat (1991). Specifically, we predict the relative advantage, ease of use, compatibility, visibility, trialability and the expanded variables—subjective norm and image will take strong effects on users' usage intention of various innovative functions embedded in social media. In the following section, we will explicitly describe our research model and hypotheses.

RESEARCH MODEL AND HYPOTHESES
The IDT posits that the consumers will decide to accept or reject the innovation in pre-adoption stage (Montazemi & Qahri-Saremi, 2015). In the pre-adoption stage, five innovation characteristics--relative advantage, ease of use, trialability, observability and compatibility will affect the consumers' usage intention (E. Rogers *et al.*, 1960).

Relative advantage is a degree that an innovation is thought to be better than its precursors(E. Rogers *et al.*, 1960). It represents the extent to which a consumer views the innovation is better than previous tools when fulfil a task(Agarwal & Prasad, 1998), it is similar to the notion of usefulness in the technology acceptance model. Relative advantage has been empirically validated as an important determinant of usage intention (Moore & Benbasat, 1991; E. Rogers *et al.*, 1960; E. M. Rogers, 2003). First, because of the switching cost—includes time, monetary cost and energy effort, people will not adopt the new social media if she or he does not perceive it's relative advantage. Second, in the case of equal cost, the users will choose the innovation which can bring more benefits, people always intend to pay the least cost (such as time cost) to achieve the maximum benefit. In general, we consider the benefit and time-saving are the forms of the relative advantage, they will influence the users' usage intention (E. Rogers *et al.*, 1960). So we predict:

H1. The relative advantage positively affects the social media users' usage intention.

"Compatibility has been defined as the degree to which an innovation is consistent with the existing values, needs and post experiences of potential adopters" (Rogers, 2003). Venkatesh, Davis & College (2000) thought compatibility is an important factor which will influence user's usage intention. First, people's behavior is consistent with their ingrained views(Higgins, Compeau, & Meister, 2007). That's to say, it is easier for users to accept the innovation which fits more naturally with his/her preferred way of working, thinking and life. Second, when the innovation is not compatible with the user's values and post experience, he/she would spend more time and effort to adjust even verify his/her value and preferred style, so the adopters may be more likely to choose the innovation, which is compatible with his/her value and post experience. Thirdly, due to the existing of switching cost, the potential users would not adopt an innovation, which is not compatible with the users' needs. The last but not the least, relative advantage refers to the benefits derived from using the innovation, a wise decision maker can't find advantage in an innovation that conflicts with the held values. That's to say, if the innovation is incompatible with potential users' value, needs and post experience, it is difficult for potential users to find the innovation's relative advantage, as a result, people's usage intention will be negatively influenced. So we predict:

H2. Compatibility positively affects the social media users' usage intention.

Complexity is considered to be the extent to which innovation is considered to be difficult to use (E. M. Rogers, 2003). Moore and Benbasat (1991) thought the complexity is very similar with the term--ease of use in technology acceptance model (Davis, 1986). In this study, we use ease of use to represent complexity in IDT. Ease of use refers to the required physical and mental effort when individuals use something (Davis, 1986). Many researchers have investigated that the ease of use would influence

the users' usage intention, such as in online banking adoption(Montazemi & Qahri-Saremi, 2015), mobile-marketing adoption (Tanakinjal, Deans, & Gray, 2010), automatic cash payment system (Yang, Lay, & Tsai, 2006), and so on.

In social media, when the users perceived the innovation is complex, many advantages of the innovation would be ignored, so the intention to try the innovation would be negatively affected. In contrast, if the users perceived the innovation is easy to use and learn, that's to say, if this innovation is used, users can save some time and energy, so he/she will be more willing to try and accept the innovation. Above all, the simpler the learning and using of the innovation, the more people are willing to use it. Therefore, we predict:

H3：Ease of use positively affects the social media users' usage intention.

Observability is the extent to which an innovation's result can be observed by others (E. M. Rogers, 2003). Bandura (1977) suggests that the observed behavior can influence the learner's adoption behavior because the learn and usage behavior are based on what the one sees others. The innovation is more observable, the easier it is discussed (Yi *et al.*, 2006). This is because when tangible results of the innovation are directly apparent, the innovation can be better understood by the adopters (Yi *et al.*, 2006). That will increase the users' confidence to learn and use the innovation. Besides, imitation is a significant factor, which will affect the people's usage intention. When people see others' usage and usage results, they will imitate others' behavior because of the subjective norm and desired result. Above all, the result demonstrability can positively affect the people's usage intention. In social media, people often have wide social networks, if they can get enough usage result information about the new functions from others, their usage intention will be strengthened. Therefore, we predict:

H4：Observability positively affects the social media users' usage intention.

Trialability, which was defined as that an innovation may be experimented before be adopted (Rogers, 1983). E. M. Rogers (2003) believed that people who have the ability to experiment an innovation are more likely to adopt it.

The process of deciding whether or not to adopt these new functions is a process of gathering information to reduce uncertainty. There are two sources of these information, the first is the indirect experience and the second is direct experience. The indirect experience include advertisement, other people's use experience and so on. The direct experience comes from the users' own trial experience, and the users can get the direct experience only through trying out the functions. Compared with the indirect experiences, these direct experiences have a greater influence on reducing the uncertainty of the innovation. Thus, these direct experiences have a greater persuasiveness and the users' usage intention will be positively affected. As a result, people are more likely to adopt these innovative functions. On the contrary, if these functions can't be tried or the cost of trying is high, the potential adopters are unable to obtain direct experience to reduce the uncertainty of the innovation, thus the possibility of adopting the innovation will decrease. We consider that there is a positive relationship between the trialability and the usage intention. Therefore, we predict:

H5：Trialability positively affects the social media users' usage intention.

Moore and Benbasat (1991) expanded the IDT with two more factors: voluntariness of use and image, in the context of organizations. The voluntariness means the voluntary or free will when the users adopt an innovation; and the image means whether one's image or status will be enhanced after the innovation be adopted (Moore & Benbasat, 1991).

The social media's functions generally include instant message, banking, payment, games, GPS, shopping and so on (CNNIC, 2016). The users are usually in a social group; as a result, there is no compulsion for users to use the social media's innovative functions. But there is a social influence because they are in the social group, and one of the most important social influence is subjective norm (Malhotra & Galletta, 1999). Therefore, we consider that the subjective norm will take place of the voluntariness to affect the users' usage intention.

"Subjective norm was defined as an individual's perception that important others such as peers and supervisors think she or he should or should not use the focal technology" (Venkatesh *et al.*, 2000). Subjective norm is an important determinant of intention in psychology theories(Yi *et al.*, 2006). At the same time, Venkatesh *et al.* (2000) also believed that the effect of subjective norm on behavioral intention is largely due to the punishment of the noncompliance. The punishment may be that you can't join in a group when your usage intention is different from others. In order to avoid this situation and join in the social group, individuals tend to follow others' usage intention and behavior.

In social media, the norm exists because there are many people use the social media. The more people use the innovative functions, there are more social influence, the effect of subjective norm on people's usage intention is greater and people are more likely to adopt the innovative functions. So we predict:

H6：Subjective norm positively affects the social media users' usage intention.

Image means the adoption of something makes you feel that you are fashionable and can keep up with the development of the times. Innovation adopters can be classified into five groups: innovators, early adopters, early majority, late majority and the laggards(E. M. Rogers, 2003) . In the context of social media, the innovative functions are optional for life and work, but it is believed that the early adopters are generally more fashionable, intelligent and closely related to the development of the times(E. M. Rogers, 2003). So if the social media users feel fashionable and happy when they use the social media's innovative functions, he or she will be more willing to adopt them. Therefore, we predict:

H7: Image positively affects the social media users' usage intention.

The research model is shown in Figure.1.
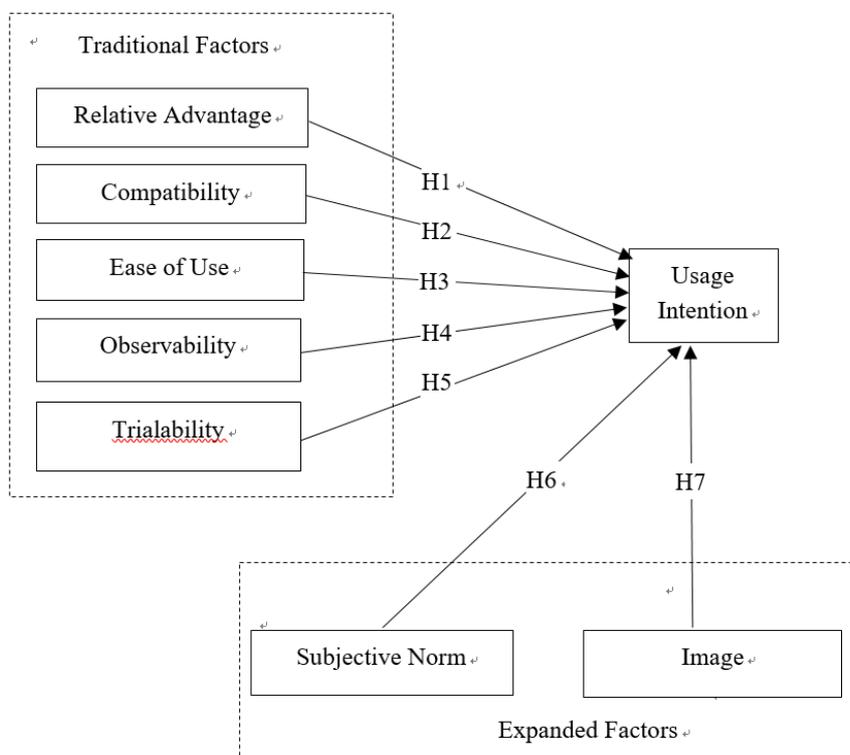
Figure1：Research Model

METHODOLOGY

We believe that collecting field data from real social media will enhance the reality of the findings, so we selected the Chinese most famous social media--WeChat as our survey area. We choose China as the survey area does not indicate that China has unique or special characteristics; we just treat it as an example to collect data and test the relationships between the expanded IDT factors and the users' usage intention.

The participants of the survey in this study are the users of WeChat, one of the Chinese most famous social media. WeChat was founded in 2011. The traditional service of the WeChat is social communication. In recent years, WeChat has added the payment, games and life services, etc., as its innovative functions. According to the statistic report , on average, there are 768-million persons use the WeChat (CNNIC, 2016). The users include students, civil servant, farmers, employees, and so on; their age range from under 10 to over 60 and the main age group is 18 to 50 years old, thus we think the WeChat is one of the best survey area which can ensure collecting enough and nationwide data for this study.

We randomly selected more than two thousand members from the WeChat users as our survey pool. We think using the data obtained from actual users of WeChat can improve the reliability of the research results. In addition, we distribute the questionnaire through WeChat's instant messaging function and sent invitation letters to these candidates, if they agreed to participate, we informed them the hyperlink of the questionnaire.

The online questionnaire has three main sections. A brief introduction of this study and an instruction to finish the questionnaire are shown on the section 1. At the end of the section 1, we informed to the respondents that they should complete the questionnaire based on their perceptions because there are no correct answers to any questions. After that, the participants were told that we would keep their information confidentially because the data just be used to do academic research. The second section includes the constructs' items of our research model. The 7-point Likert scale was used to measure the constructs' scales. The last section was the demographic questions.

In our research model, all of the instrument items for the constructs were adapted from previous research. To fit our research context, we also amended all the items slightly (see Appendix A). Because all the items were from the English papers, so we translated these English items of the constructs into Chinese. After that, to ensure the accuracy of the translation, we also invited two native Chinese-speaking professors of management information systems who had earned advanced degrees overseas to check the translations. This validation process offset the glitches in meaning and the trivial wording.

Through investigation, we obtained 532 samples. They are from 75 cities, which cover 23 provinces of Mainland China, and two of them are from Germany and Japan. Their occupations include clerks, students, teachers, workers, managers and others. We conceive our subjects can adequately represent the distribution of the WeChat users' population. Table 1 shows more demographic information of these samples.

Table 1：Sample demographics.

Measure	Item	Frequency	Percentage (%)
Gender	Male	289	54.5
	Female	243	45.5
Age	<=20	73	13.7
	21--25	259	48.7
	26—30	81	15.2
	31--35	43	8.1
	36--40	22	4.1
	>40	54	10.2
Education	Junior school Graduate	48	9
	High School Graduate	71	13.3
	Junior College Graduate	54	10.2
	Bachelor's Degree	244	45.9
	Master's Degree and above	115	21.6

RESULTS

Measurement Model Analyses

Confirmatory factor analysis (CFA) was used to test the measurement model. In general, convergent validity and discriminant validity were used to test the constructs of the research model. Fornell and Larcker (1981) suggest utilizing item reliability, composite reliability, Cronbach's Alpha and average variance extracted (AVE) for each construct to access the convergent validity. As shown in Table 2, the composite reliability of all of the constructs is above 0.9, AVE is above 0.8 and Cronbach's Alpha is above 0.85, which are all beyond their corresponding thresholds. Table 2 also shows that the factors loading of most items was above 0.85, which confirms that the item reliability is acceptance. In general, these results confirm the high convergent validity of our data. Discriminant validity refers to the extent to which the items in a construct are distinct from those of other constructs. As shown in Table 3, all constructs' square roots of the AVE were much larger than all other cross-correlations, which confirmed sufficient discriminant validity of the constructs.

Table 2：Psychometric properties of measurements

Construct	Means	Standard deviation	Cronbach's alpha	AVE	Composite reliability	Item	Item Loading
Relative Advantage (RAD)	4.740	1.200	0.878	0.731	0.916	RAD1 RAD2 RAD3 RAD4	0.809 0.885 0.868 0.856
Compatibility (CMP)	4.971	1.188	0.894	0.759	0.926	CMP1 CMP2 CMP3 CMP4	0.869 0.898 0.867 0.850
Ease of Use (EOU)	5.520	1.090	0.898	0.830	0.936	EOU1 EOU2 EOU3	0.909 0.924 0.901
Observability (OBS)	6.150	1.090	0.929	0.875	0.95	OBS1 OBS2 OBS3	0.901 0.955 0.950

Trialability (TRI)	5.121	1.136	0.882	0.739	0.919	TRI1 TRI2 TRI3 TRI4	0.859 0.875 0.876 0.828
Subjective Norm (SBN)	5.029	1.11	0.877	0.803	0.924	SBN1 SBN2 SBN3	0.881 0.921 0.886
Image (IMG)	4.633	1.231	0.902	0.773	0.931	IMG1 IMG2 IMG3 IMG4	0.900 0.889 0.906 0.819
Usage Intention (UIN)	5.210	1.067	0.948	0.866	0.963	UIN1 UIN2 UIN3 UIN4	0.940 0.948 0.912 0.922

Table 3: Square root of AVE and cross-correlations

	RAD	CMP	EOU	OBS	TRI	SBN	IMG	UIN
RAD	0.855							
CMP	0.703	0.871						
EOU	0.540	0.673	0.911					
OBS	0.376	0.457	0.642	0.936				
TRI	0.559	0.675	0.718	0.487	0.860			
SBN	0.570	0.610	0.592	0.480	0.574	0.896		
IMA	0.606	0.660	0.533	0.312	0.591	0.618	0.897	
UIN	0.573	0.618	0.669	0.518	0.681	0.666	0.621	0.930

Structural Model Analyses

We utilized Smart PLS 2.0(Ringle, Wende, & Will, 2005) to test the main effects of the seven independent variables on the users' usage intention. As is shown in table 4, R^2 =0.63, and p<0.01, the full model is significant. The results showed that six independent variables--RAD, EOU, OBS, TRI, SBN and IMA, can significantly affected the dependent variable. However, the CMP was not significant in the model.

The path coefficients of each independent variables represents the strength and direction of the relationship between the constructs. For RAD, the coefficient=0.083, T=1.923 and p<0.05; for EOU, the coefficient=0.165, T=3.103 and p<0.01; for OBS, the coefficient=0.108, T=3.099 and p<0.01; for TRI, the coefficient=0.236, T=3.905 and p<0.01; for SBN, the coefficient=0.238, T= 5.225 and p<0.01, for IMA, the coefficient=0.176, T=4.341 and p<0.01. These results support H1, H3, H4, H5, H6 and H7. Whereas for CMP, the T=0.362, P>0.1, thus, H2 is not supported. All of the results analyses are shown in Fig.2 and table 4.

Table 4: Results of structural model

Hypotheses	Coefficients	T	Hypotheses
RAD (H1)	0.083[*]	1.923	Supported
CMP(H2)	-0.021	0.362	Not supported
EOU(H3)	0.165[**]	3.103	Supported
OBS(H4)	0.108[**]	3.099	Supported
TRI(H5)	0.236[**]	3.905	Supported
SBN(H6)	0.238[**]	5.225	Supported
IMA(H7)	0.176[**]	4.341	Supported
Dependent variable: Usage intention, R^2 =0.63			

Note: [*] indicates P<0.05, [**] indicates P<0.01
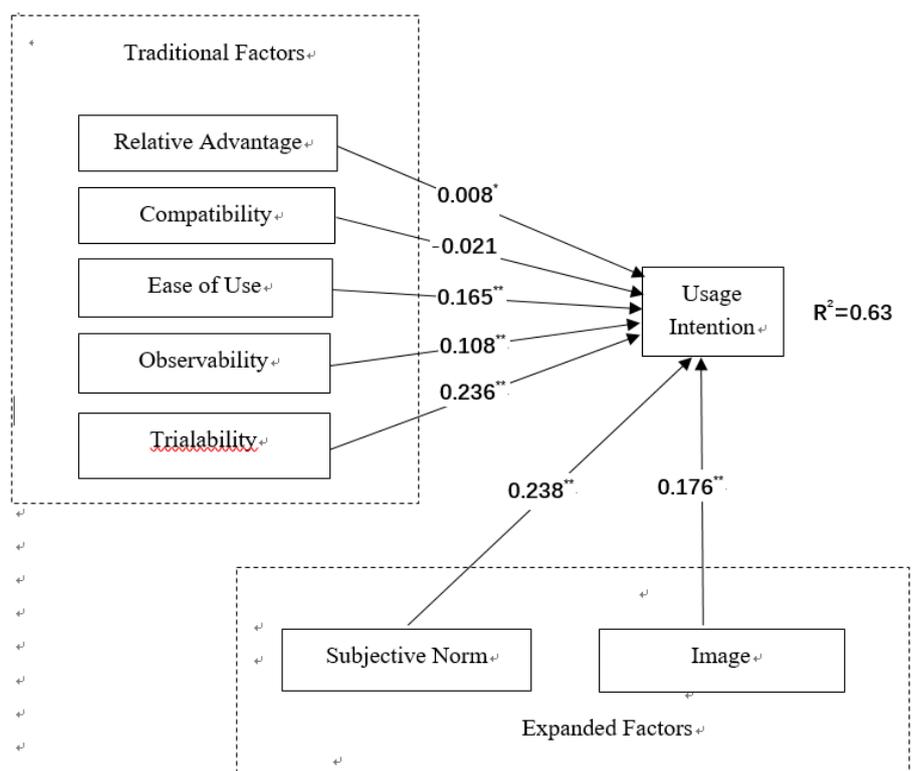
Figure2: Results of the research model. Note: * indicates p<0.05, ** indicates p <0.01

DISCUSSION AND CONCLUSION

Discussion of the Results

This research utilizes expanded IDT as the theoretical background. We explore the effects of seven IDT factors on the social media users' usage intention. The statistic results confirm six of the seven hypotheses; however, we find that the traditional influence factor--compatibility has no significant effect on the users' usage intention. These results generally confirm that the innovation diffusion theory has strong explanatory power on social media user's usage intention for innovative functions. The results also indicate that some IDT factors may not be the crucial factors in our research.

Specifically, we found that the relative advantage took positive effect on usage intention. This finding confirmed H1, which indicates that the usage intention will be strengthened if the innovative functions are perceived as being better than the precursors. That's to say, the more relative advantage of the innovative function be perceived by the users, they are more willingness to adopt the new function. Besides, innovation's ease of use has a significantly effect on social users' usage intention, the users are more inclined to adopt the innovation which is easy to learn and use. The results of this study also showed that the observability and trialability could positively affect the users' usage intention. These confirm H4 and H5 and imply that the users tend to adopt the innovation which is popular and easy to try.

For the two expanded factors, we found subjective norm exerted a positive influence on people's usage intention. People's usage intentions are influenced by the social pressure. Besides, the image also has an influence on usage intention. This confirms H7 and implies that users will be more willing to adopt the innovation if they think the innovation can improve their image.

We predicted that the compatibility would have a positive effect on users' usage intention. Contrary to the innovation diffusion theory and previous researchers' findings (Agarwal & Prasad, 1997; Lu *et al.*, 2011; E. M. Rogers, 2003), it is insignificant. That's to say, maybe the compatibility cannot influence the usage intention in social media context. We think it may be due to the following reasons. First, in this rapidly changing society, people like to pursue novelty. If the innovative functions introduced by social media are similar to the old one, the users may think that these innovative functions' novelty is not enough and cannot bring extra surprises. People may be more willing to adopt the innovation, which is different from their previous experience and cognition. Second, some of the innovative features of social media are the mirrors and modifications of traditional offline activities. The use of these new functions may be different from our usual experience and habits, but these online new functions can really bring benefit for them, so users are willing to accept these new function. Last, due to their trust to the social media companies, even if these new functions are not complying with people's habits and experiences, they may also adopt the new function.

Theoretical Contributions and Practice Implications

This study has several important theoretical contributions. First, we extend the diffusion of innovation research scope by adopting the innovation diffusion theory into social media domain. We confirm that four of the five original IDT factors' significant effects on social media user's usage intention on various innovative functions. It generally confirms the applicability of IDT in

our research context. We also notice that compatibility cannot be the crucial factor to affect the users. This finding is important and interesting; it indicates that in different innovation contexts, different kinds of IDT factors may take different roles. In the social media context, users are willing to adopt the innovative functions regardless of the compatibility with their previous habits and experiences.

Second, following the research of Moore and Benbasat (1991), we added two extra IDT factors into our research model. Especially, we utilize subjective norm to substitute voluntariness because of the differences of research contexts. When utilizing the social media, we consider that there is no compulsion for users to use the social media's innovative functions. Whereas the social influences may replace it because the users may perceive a social pressure. We find both subjective norm and image can significantly affect users' usage intention. It confirms our prediction and indicates that Moore and Benbasat (1991) expanded IDT theory is adjustable. In different research contexts, following the core idea of Moore and Benbasat (1991), researchers can make corresponding adjustments and add some substitutive factors according to the attributes of the research context,.

Third, according to our best knowledge, many previous studies (Chao & Chan, 2017; Dai *et al.*, 2015) always focus on exploring the communication functions of social media, and ignoring their innovative functions such as banking, payment, games, GPS, shopping and so on. This study is one of the initial studies, which emphasizes on investigating the crucial impact factors of adopting social media's innovative functions. We believe to expand the research target of social media is an important and interesting research orientation, since various social media have designed various innovative functions to develop new markets. This study also provides many significant practical implications to the social media companies. When social media companies incorporate innovative functions into their software and applications, they can clearly inform the users what kind of advantages these functions can bring to them; besides, exhibiting other users' adoptions in the users' friend circles may improve the innovative functions' observability, it may also exert social pressure to users. Furthermore, they may pay attention to the trialability of the innovative functions, improving the trialability of the innovative functions can effectively enhance the users' usage intention.

Limitation

Inevitably, this study contains some limitations. First, data were collected from one Chinese social medium (WeChat). Therefore, scholars should be cautious in generalizing the results of our study, which might vary across different social media. We suggest future research to investigate the antecedents of usage of social media's new functions from other social media, to further test the generalizability of our study. Second, we only incorporate 5 IDT original factors, and add two extra factors based upon Moore and Benbasat (1991) research, into our research model. We consider it is not a comprehensive model. We encourage future research explores more factors' effects on people's usage intention of social media's innovative functions. Last, more than 40 percent of the participants are 20-25 years old; this might affect the external validity of this research to some extent. However, we still consider our sample generally represents the demographic distribution of current Chinese WeChat users, according to WeChat's last year's data(CNNIC, 2016), 45.4 percent of WeChat's users are between 18 and 25 years old.

Conclusion

Utilizing the Expanded IDT as our research foundation, this research identifies the crucial impact factors that can affect the social media users' usage intention of innovative functions. Our finding confirms that relative advantage, ease of use, trialability, observability, subjective norm and identification can positively influence people's usage intention, whereas compatibility has no significant effect. The finding confirms the validity of our research model, it also serves as a sound foundation for future research in social media domain.

ACKNOWLEDGEMENT

REFERENCE

[1] Agarwal, R., & Prasad, J. (1997). The Role of Innovation Characteristics and Perceived Voluntariness in the Acceptance of Information Technologies. *Decision Sciences, 28*(3), 557-582.
[2] Agarwal, R., & Prasad, J. (1998). A Conceptual and Operational Definition of Personal Innovativeness in the Domain of Information Technology. *Information Systems Research, 9*(2), 204-215.
[3] Bandura, A. (1977). Cognitive processes mediating behavior change. *Journal of Personality & Social Psychology, 35*.
[4] Chao, C. S., & Chan, N. K. (2017). Predicting social capital on Facebook: The implications of use intensity, perceived content desirability, and Facebook-enabled communication practices. *Computers in Human Behavior, 72*.
[5] Che, H. L., & Cao, Y. (2014). Examining WeChat users' motivations, trust, attitudes, and positive word-of-mouth: Evidence from China. *Computers in Human Behavior, 41*, 104-111.
[6] Cheng, X., Fu, S., & Vreede, G. J. D. (2017). Understanding trust influencing factors in social media communication: A qualitative study. *International Journal of Information Management, 37*(2), 25-35.
[7] Chiu, C. M., Cheng, H. L., Huang, H. Y., & Chen, C. F. (2013). Exploring individuals' subjective well-being and loyalty towards social network sites from the perspective of network externalities: The Facebook case. *International Journal of Information Management, 33*(3), 539-552.

[8] CNNIC (2016). *Report on user behavior of social media in 2015*. Retrieved from http://www.cnnic.cn/hlwfzyj/hlwxzbg/sqbg/201604/P020160408334860042447.pdf

[9] Correa, T., Hinsley, A. W., & Zúñiga, H. G. D. (2010). Who interacts on the Web?: The intersection of users' personality and social media use. *Computers in Human Behavior, 26*(2), 247-253.

[10] Dai, W., Han, D., Dai, Y., & Xu, D. (2015). Emotion recognition and affective computing on vocal social media. *Information & Management, 52*(7), 777-788.

[11] Davis, F. D. (1986). A Technology Acceptance Model for Empirically Testing New End-User Information Systems. *Mit Sloan School of Management*.

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

[13] Hameed, M. A., Counsell, S., & Swift, S. (2012). *A meta-analysis of relationships between organizational characteristics and IT innovation adoption in organizations*: Elsevier Science Publishers B. V.

[14] Higgins, C. A., Compeau, D. R., & Meister, D. B. (2007). From Prediction to Explanation: Reconceptualizing and Extending the Perceived Characteristics of Innovating. *Journal of the Association for Information Systems, 8*(8), 409-439.

[15] Ifinedo, P. (2016). Applying uses and gratifications theory and social influence processes to understand students' pervasive adoption of social networking sites: Perspectives from the Americas. *International Journal of Information Management, 36*(2), 192-206.

[16] Lu, Y., Yang, S., Chau, P. Y. K., & Cao, Y. (2011). Dynamics between the trust transfer process and intention to use mobile payment services: A cross-environment perspective. *Information & Management, 48*(8), 393-403.

[17] Malhotra, Y., & Galletta, D. F. (1999). *Extending the technology acceptance model to account for social influence: theoretical bases and empirical validation*. Paper presented at the Hawaii International Conference on System Sciences.

[18] Montazemi, A. R., & Qahri-Saremi, H. (2015). Factors affecting adoption of online banking: A meta-analytic structural equation modeling study. *Information & Management, 52*(2), 210-226.

[19] Moore, G. C., & Benbasat, I. (1991). Development of an Instrument to Measure the Perceptions of Adopting an Information Technology Innovation. *Information Systems Research, 2*(3), 192-222.

[20] Ringle, C. M., Wende, S., & Will, A. (2005). SmartPLS 2.0. M3: Hamburg: SmartPLS, http://www.smartpls.de.

[21] Rogers, E., Rogers, E. M., Rogers, E., Rogers, J., Rogers, P., Rogers, F., Jamesrogers, A. (1960). *Diffusion of inovations*: Free Press.

[22] Rogers, E. M. (2003). Diffusion of Innovation. *Lap Lambert Academic Publishing, 17*(1), 62–64.

[23] Tanakinjal, G. H., Deans, K. R., & Gray, B. J. (2010). Third Screen Communication and the Adoption of Mobile Marketing: A Malaysia Perspective. *International Journal of Marketing Studies, 2*(1), P36.

[24] Tsai, M. C., Lai, K. H., & Hsu, W. C. (2012). WITHDRAWN: A study of the institutional forces influencing the adoption intention of RFID by suppliers. *Information & Management, 50*(1), 59-65.

[25] Venkatesh, V., Davis, F.D. & College, S. (2000). Theoretical Acceptance Extension Model : Field Our Studies of the technology Longitudinal. *Management Science, 46(2)*, 186-204.

[26] Wang, X., & Qian, Y. (2015). *Examining the determinants of users' continuance intention in the context of mobile instant messaging: The case of WeChat*. Paper presented at the International Conference and Workshop on Computing and Communication.

[27] Yan, P. C., & Chua, Y. P. (2017). Do computer-mediated communication skill, knowledge and motivation mediate the relationships between personality traits and attitude toward Facebook? *Computers in Human Behavior, 70*, 51-59.

[28] Yang, H. J., Lay, Y. L., & Tsai, C. H. (2006). An implementation and usability evaluation of automatic cash-payment system for hospital. *Journal of Scientific & Industrial Research, 65*(6), 485-494.

[29] Yi, M. Y., Jackson, J. D., Park, J. S., & Probst, J. C. (2006). Understanding information technology acceptance by individual professionals: Toward an integrative view. *Information & Management, 43*(3), 350-363.

[30] Zhang, C. B., Li, Y. N., Wu, B., & Li, D. J. (2016). How WeChat can retain users: Roles of network externalities, social interaction ties, and perceived values in building continuance intention. *Computers in Human Behavior, 69*.

APPENDIX A: Measurement Items

Relative advantage (RAD):
RAD1: Using WeChat's innovative functions enable me to improve my quality of life.
RAD2: Using WeChat's innovative functions improve my job performance.
RAD3: Using WeChat's innovative functions help with my life and job.
RAD4: Using WeChat's innovative functions improve my efficiency of work.

Compatibility (CMP):
CMP1: Using the WeChat's innovative functions are compatible with my habit.
CMP2: Using the WeChat's innovative functions are compatible with my life style.
CMP3: Using the WeChat's innovative functions are compatible with my current environment.
CMP4: Using the WeChat's innovative functions are compatible with my work style.

Ease of use (EOU):
EOU1: I find that the WeChat's innovative functions are easy to use.
EOU2: Learn to use the WeChat's innovative functions do not need too much time and energy.
EOU3: It is easy for me to use the WeChat's innovative functions proficiently.

Observability (OBS):
OBS1: I have seen many people use WeChat's innovative functions.
OBS2: In my organization, there are many people use WeChat's innovative functions.
OBS3: People using WeChat's innovative functions can be seen everywhere.

Trialability (TRI):
TRI1: I have had a great deal of opportunity to try various innovative functions of WeChat.
TRI2: Before deciding whether to use the innovative function of WeChat, I was able to properly try it out.
TRI3: WeChat allows me to try its innovative functions.
TRI4: I know where I can go to satisfactorily try out various innovative functions of WeChat.

Subjective Norm (SBN):
SBN1: People who have an impact on me think I should use WeChat's innovative functions.
SBN2: People around me think I should use WeChat's innovative functions.
SBN3: The environment I was in prompts me to use WeChat's innovative functions.

Image (IMA):
IMA1: Using WeChat's innovative functions improves my image within the circle of friends.
IMA2: Using of WeChat's innovative functions help me get approval from my friends.
IMA3: Using WeChat's innovative functions can make me get a high reputation in the circle of friends.

Usage Intention (UIN):
UIN1: I intend to continue using the various innovative functions of WeChat.
UIN2: For a long time, I will continue to use the various innovative functions of WeChat.
UIN3: I will often use the various innovative functions of WeChat in the future.
UIN4: I will continue to use the innovative functions of WeChat when I need it.