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Understanding WeChat User's Intention to Use Various Functions:

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Abstract: Based upon social cognitive theory, this study explores the effect of personal and environment factors on Wechat user's continuous intention to use various functions. Online survey is used to collect data from the WeChat users. The results confirms that some personal factors (relationship benefit and performance benefit) have a positive effect on intention to use, while image does not have significant effect. Besides, three social environmental factors, the popularity of WeChat, subjective norm and company guarantee, all have significant impacts. Furthermore, we find that environmental factors' effects are stronger than personal factors. Finally, we propose our theoretical and practical implications according to the findings of this study.

Keywords: Social cognitive theory, WeChat, Various functions, Continuous usage intention

1. INTRODUCTION

The Internet technology has witnessed unprecedented boom in recent years. According to the 40th China Internet Development Statistics Report, Up to June 2017, the number of Internet users in China has reached 751 million. The proportion of mobile Internet users achieved a further rise from a high base. Meanwhile, the social network services featured by virtual environment, personalized customization, interactive participation and other new features are expanding rapidly in China and around the world. At present, there are various kinds of Social networking services (SNS) in China, such as QQ, WeChat. These SNS APPs now take various kinds of functions, instead of just an instant messenger.

We found a lot of previous studies focus on the continuous usage intention of WeChat as an instant messenger. For example, Chunmei Gan's studies have shown that pleasure plays the most important role in influencing the use intention of WeChat[1]. Che-Hui Lien et al. found that WeChat can improve the quality of service so as to improve customer satisfaction, and thus increase the user's will to use[2]. However, these studies just treat WeChat as an instant messenger, while ignoring the WeChat's various other functions, such as the moments (Friend Circle) function, wallet function and so on. Thus, this study will try to explore why Wechat's users are willing to utilize various new functions of this SNS APP.

The rest parts of this paper organize as follows. First we introduce the theoretical background of this study. We then propose our research model and hypotheses. Then we introduce the methodology of this study. Next we will describe the data analyses and the statistic results. Finally, we will summarize our findings and discuss the theoretical contribution and practical implications of this paper.

2. LITERATURE REVIEW

Through a comprehensive literature review, we found that among the study of SNS' use intention, many previous studies focus on the users' benefits[3][4][5]. The analysis of users' benefits includes interpersonal income, perceived advantage, perceived usefulness, knowledge sharing and other factors. In addition, the significant impact of the social environment on users' use intention has also been confirmed by previous studies[6][7][8].

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In previous research, scholars only focus on the usage of these SNSs as communication tools. However, there is little literature to explore the user's intention to use various other functions of these SNSs. Thus this study try to fill in this research gap, we attempt to investigate why the users are willing to use various other functions of WeChat, from the social cognitive perspective.

Table 1.   Summary of literature on instant messaging products

Article Title and research target	Findings
Uses and Gratifications of Twitter: An Examination of User Motives and Satisfaction of Twitter Use (2009) [3] [Twitter]	The motivation for information acquisition has a positive impact on the use intention of Twitter users.
The role of personality traits in motivating users' continuance intention towards Facebook: Gender differences (2017) [4] [Facebook]	The user's personal characteristics, expectations and satisfaction have a combined impact on the their intention to use Facebook.
Exploring the intention to continue using social networking sites: The case of Facebook (2015) [5] [SNS]	Perceived ease of use is a major factor influencing user's intention to use SNS. Awareness of fun is also influential.
Continuance Usage Intention of WeChat By Users In Malaysia (2016) [6] [WeChat]	Promoting social integration, enhancing friendship, bringing entertainment etc. can promote user's using intention.
Examining Users' Intention to Continue Using Wechat Based on the Expectation-Confirmation Model, Social Presence and Flow Experience (2015) [7] [WeChat]	Externality and group behavior have a significant impact on the continuous use intention of WeChat users.
How social influence affects we-intention to use instant messaging: The moderating effect of usage experience (2011) [8] [SNS APP]	Group norms and social identity have a significant impact on the user's intention to use SNS APPs.

3.   SOCIAL COGNITIVE THEORY

Social cognitive theory originated from the field of psychology, it is proposed by American psychologist Bandura firstly, which believes that the individual factors, the environment factors, and people's behavior are mutually influential and mutually determined [9].

Jin et al.[10] used social cognitive theory to study the virtual community's information sharing behavior from different perspectives. Chiang et al.[11] used social cognitive theory to study the user stickiness of video sharing sites. Mohamed et al.[12] studied the privacy of users in social networks and the privacy measures they took. In short, social cognitive theory has been widely used by scholars to explain the using behavior of software and network, such as computer using and training, the impact of online social networks on online learning, the formation of digital division, etc.

As social cognitive theory has been widely involved in many aspects of management. This study will utilize social cognitive theory as the theoretical foundation. We consider that the individual factors, the environment factors will affect WeChat's intention to use various new functions embedded in this APP.

4.   RESEARCH MODEL AND HYPOTHESES

There are many personal factors that can affect users' intention to use SNS APPs, such as benefits, perceived ease of use, personal preferences, and so on. We consider that among these factors, personal benefits is one of the main factor that affects people's intention to use WeChat. Furthermore, we consider there are three kinds of benefits people can obtain when utilizing WeChat, they are image benefit, relationship benefit and performance benefit.

Porter et al. argue that improvements in self-image can effectively reduce social anxiousness and provide support for social activities[13]. Nadkarni et al. found that self-presentation is one of the main motivations for people to use Facebook [14]. For WeChat users, they can chat through private chat, group chat and other chat functions to express their personal views. They can also share photos and publish videos in the circle of friends to show their state of life. We consider they utilize various kinds of WeChat functions to improve their personal image and to get approval from their friends. Therefore, we predict that the image benefit will increase the WeChat user's continuous intention to use various Wechat functions.

H1. Image benefit positively affects the WeChat users' continuous usage intention.

Besides, we consider that the relationship benefit will also affect WeChat users' continuous use intention.

Chao-Min Chiu et al. found that individuals' relationship in the virtual community would promote people's knowledge-sharing behavior [15]. Tung-Ching Lin et al. found that to strengthen the association between individuals could improve the intention of people to share knowledge [16]. For WeChat users, we consider that they can utilize various functions to obtain relationship benefit. Such as, they can use the chat function to communicate with others and keep in touch. They can also try "WeChat Swing", "People Nearby" and other functions make new friends, expand the circle of friends. WeChat can meet people's needs of making new friends, maintaining the existing interpersonal relationships, and expanding the circle of interpersonal networks. We speculate that relationship benefit will have a positive impact on users' continuous intention to use various WeChat functions.

H2. Relationship benefit positively affects the WeChat users' continuous usage intention.

We consider that performance benefit is another kind of benefit, which can affect WeChat users' continuous use intention of various functions. Nripendra P. Rana et al. found that the Indian people would prefer to use the online public grievance redressal system(OPGRS) if the system could improve their work efficiency and quality[17]. While examining the acceptance of tablet PC, Jieun Yu et al. found that the performance benefits perceived during the use of the product are one of the factors that affect the user's acceptance intention [18]. Now the WeChat is no longer a SNS APP, it has become all aspects of life and work assistant. Using WeChat, people can talk about work, send and receive documents, or use online wallet and other functions. These functions will bring convenience for the user's work and life, which is conducive to improving the efficiency of work and convenience of life. We attribute these benefits as 'Performance benefit' and predict performance benefit perceived by users will positively affect their continuous intention to use various WeChat functions.

H3. Performance benefit positively affects the WeChat users' continuous usage intention.

In addition to individual factors, social cognitive theory believe that the environment factors will also have an impact on people's behavior. This theory consider that environment and behavior are interdependent and mutually determined.

In our research, we consider there are various kinds of environmental factors that could affect wechat users' usage intention, such as the surrounding people and the Wechat's company. Therefore, in our model, we analyses the environment factors from two aspects: interpersonal environment and business environment. Firstly, the usage of WeChat APP is affected by user's interpersonal environment. The surrounding people always affect the individual, with varying degrees of herd mentality. The usage of WeChat around the people will affect the personal usage intention. Secondly, Usage of WeChat is associated with the business environment provided by WeChat's company since it provides system guarantee and technical support for WeChat.

As for the interpersonal environment, we consider that the popularity of WeChat will be an antecedent of the users' continuous usage intention. Most consumer behavior models recognize the importance of social impact on consumers' intentions, they believe that consumers incline to use products that are widely welcomed in their friend circles[19]. Studies have confirmed that the popularity of the product directly affects people's buying behavior of luxury goods [20]. Following this line of research, we predict that the popularity of WeChat, deriving from the users' interpersonal environments, can affect their usage intention of various WeChat functions. Furthermore, we consider that WeChat users' friends may also encourage, support people to use this SNS APP since it can facilitate their communications, this social pressure is often named as subjective norm in previous study[21][22]. Thus, we hypothesize that subjective norm will also significant affect WeChat users' intention to use various functions.

H4. Popularity positively affects the WeChat users' continuous usage intention.

H5. Subjective norm positively affects the WeChat users' continuous usage intention.

Previous studies have explored the mechanism of company' institutional assurance[23]. It is the signal of product quality, and consumers tend to observe this signal to judge product quality[24]. It also can reduce the

user's perceived risk thus to encourage users to try the product [25]. In general, institutional assurance have a regulatory role in perceived quality and perceived risk[26]. Therefore, in this paper, we consider institutional assurance is the WeChat user's business environment factor, which may affect their intention to use various WeChat functions. When the company's institutional assurance can protect users' privacy, rights and interests, they have more reason to use WeChat continuously.

H6. Company guarantee positively affects the WeChat users' continuous usage intention.

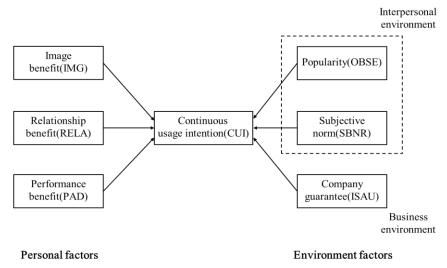Figure 1 shows the research model of this study.

Figure 1.   Research model

5.   METHODOLOGY

Online survey is used to collect data from the WeChat users in China. We believe the field data from the users can improve the reality of the findings of this study. The questionnaire items for each construct in our research model are adapted from previous studies [4][7][8] with slight amendment to fit our research context. We contact with the WeChat users and invite them to fill in the questionnaire, each user who agreed to join in would get 5 RMB reward. This data collection work lasted 3 weeks, finally we get 532 samples, they are from more than 70 cities in mainland China. Table 2 shows the demographic information of the subjects.

Table 2.   Demographic information

Cities (of 100)	74	74.0%
Provinces (of 34)	24	70.6%
Gender		
Male	243	45.7%
Female	289	54.3%
Age range		
<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 high school or less	48	9.0%
High school / technical school	71	13.3%
Junior college	54	10.2%
Bachelor's Degree	244	45.9%
Master's Degree and above	115	21.6%
Net age		
<1	7	1.3%
2-4	78	14.7%
5-7	155	29.1%
8-10	140	26.3%
10+	152	28.6%

6. DATA ANALYSIS AND RESULTS

Confirmatory factor analysis (CFA) is utilized to test the measurement model. Fornell and Larcker[27] suggest that Cronbach's alpha, composite reliability, average variance extracted (AVE), and item loadings can be utilized to assess the convergent validity. As shown in table 3, we confirmed that the values of Cronbach's alpha are larger than 0.8, the composite reliability values are larger than 0.9, the AVE values are larger than 0.7, and the loadings of all the construct items are larger than 0.8. These results confirm the high convergent validity of our data. We further tested the discriminant validity of the constructs in our research model. Table 4 shows, the AVE square roots of all the constructs are much higher than the cross-correlations; it approves the high discriminant validity.

Table 3. Psychometric properties of measurements

Construct	AVE	Composite Reliability	Cronbach's Alpha	Item	Item Loading
Image benefit (IMG)	0.906	0.966	0.948	Item1	0.954
				Item2	0.952
				Item3	0.948
Relationship benefit(RELA)	0.846	0.943	0.909	Item1	0.894
				Item2	0.936
				Item3	0.929
Performance benefit(PAD)	0.732	0.916	0.878	Item1	0.809
				Item2	0.885
				Item3	0.868
				Item4	0.856
Popularity (OBSE)	0.875	0.955	0.929	Item1	0.901
				Item2	0.955
				Item3	0.950
Subjective norm(SBNR)	0.803	0.924	0.877	Item1	0.881
				Item2	0.921
				Item3	0.886
Company guarantee(ISAU)	0.882	0.968	0.955	Item1	0.950
				Item2	0.947
				Item3	0.957
				Item4	0.903
Continuous usage intention(CUI)	0.866	0.963	0.948	Item1	0.941
				Item2	0.948
				Item3	0.911
				Item4	0.921

Table 4. Psychometric properties of measurements

	IMG	RELA	PAD	OBSE	SBNR	ISAU	CUI
IMG	0.952						
RELA	0.673	0.920					
PAD	0.567	0.636	0.855				
OBSE	0.170	0.429	0.376	0.936			
SBNR	0.559	0.626	0.570	0.480	0.896		
ISAU	0.658	0.608	0.568	0.302	0.573	0.939	
CUI	0.516	0.634	0.573	0.518	0.666	0.583	0.930

Smart PLS 2.0 was utilized to test the hypotheses in our research model. In general, the 6 independent variables explained 58.4% of the variance of intention to use. These results approved the validity of our research model.We find that relationship benefit and performance benefit can significantly affect users' intention to use, with $\beta=0.175$, $P<0.01$; $\beta=0.108$, $P<0.01$ respectively, this confirms our H2 and H3. However, image benefit has no significant effect on intention to use, thus H1 is not supported. Besides, we find that all environment factors can affect users' intention to use, with $\beta=0.213$, $P<0.01$; $\beta=0.276$, $P<0.01$; $\beta=0.169$, $P<0.01$ respectively, thus H4, H5, H6 are all supported. All the analyses results are summarized in table 5.

<div align="center">Table 5.　Hypotheses test</div>

Path	β	T	Hypotheses
IMG→CUI	0.036	0.685	H1(not supported)
RELA→CUI	0.175	2.867	H2(supported)
PAD→CUI	0.108	2.423	H3(supported)
OBSE→CUI	0.213	5.780	H4(supported)
SBNR→CUI	0.276	5.283	H5(supported)
ISAU→CUI	0.169	3.561	H6(supported)

Dependent variable: CUI, R^2=0.584

7.　DISCUSSION AND CONCLUSION

7.1　Discussion

Based upon social cognitive theory, this study predicts that personal and environment factors can affect WeChat users' intention to use various functions of this APP. We find that relationship benefit and performance benefit have positive effects on intention to use, while image do not have significant effect. We consider the ineffectiveness of image benefit is due to the following reason: WeChat's initial market-position is a concise social software between acquaintances. User's WeChat friends are mostly relatives and friends around, their personal image do not need to show through this SNS APP. WeChat users have weak demand on their image show. Whereas, WeChat users need to communicate with friends from time to time, so as to maintain their interpersonal relationships. In addition, WeChat can improve users' work efficiency and facilitate their quality of daily life. So the performance benefit has a significant role in promoting user's continuous use intention.

Besides, We analyze the social environmental factors' impact on user's willingness to use WeChat, such as the popularity of WeChat, subjective norm and company guarantee. These three environmental factors all have significant impacts. We further noticed that environmental factors' effects are stronger than personal factors.

7.2　Theoretical contribution and practical implication

This research has some theoretical contributions. First, we utilize social cognitive theory to test users' intention to use various functions of a SNS APP, we find most of the personal and environmental factors in our research model have significant effects. This confirms the effectiveness of social cognitive theory in this research domain. Second, we further partition the environment into interpersonal environment and business environment. This is an important theoretical innovation of this study. We confirm the significance of both kinds of environment factors through statistical analyses. Third, previous studies often treat these SNS APPs as an instant messenger and ignore their various functions. This study innovatively utilize the intention to use various functions of WeChat as the dependent variable and explore its antecedent factors.

In addition to the theoretical contributions, this study also can provides WeChat-developers many practical implications. First, the results show that the environmental factors have positive effects on the user's intention to use various functions. We suggest that WeChat-developers should continue to create a favorable market environment. Through maintaining WeChat friends-circle and carrying out word-of-mouth marketing, WeChat can occupy an irreplaceable position in the market. In short, maintaining the positive effect of popularity and subjective norms on user's intention is necessary.

Furthermore, we confirm that institutional assurance can effectively promote the user's continuous use intention of WeChat. Current WeChat have abundant functions, such as the WeChat Payment, WeChat Wallet etc., the protection of user's property and privacy is very important. Developers should continue to provide more protection measures, from both institution and technology aspects, such as, signing security agreement, standardizing the non-confidential-payment and monitoring user's regularly check of account's security, so that users can use WeChat in a more secure environment.

In addition, relationship benefit and performance benefit can significantly affect the user's intention. WeChat should strengthen its function of communication, it also need to incorporate more function to enhance users' work efficiency. We suggest that WeChat should strengthen the cooperation between computer version and mobile version, so that it can be more convenient for users to transfer office documents. On the other hand, cooperation with other software, such as shopping and game platforms, cooperation with these platforms can promote the diversification of WeChat's functions and create a full range of powerful services.

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APPENDIX 1

Variable	Construct	Measure
Image benefit	IB1	The use of WeChat can promote my personal image in the circle of friends.
	IB2	The use of WeChat can help me win the approval of my friends.
	IB3	The use of WeChat allows me to get a higher reputation.
Relationship benefit	RB1	The use of WeChat can help me to strengthen my contact with friends.
	RB2	The use of WeChat help me make a lot of friends.
	RB3	The use of WeChat can expand my friend circle.
Performance benefit	PB1	The use of WeChat improves my quality of life.
	PB2	The use of WeChat improves my efficiency of work.
	PB3	The use of WeChat provides useful help for my life and work.
	PB4	The use of WeChat improves my efficiency of finishing some task.
Popularity	P1	I have seen other people using WeChat.
	P2	In my company(school), many people are using WeChat.
	P3	People who use WeChat can be seen everywhere.
Subjective norm	SN1	Those persons who can impact me think I should use WeChat.
	SN2	People around me think we should use WeChat.
	SN3	The environment I belonged to prompts me to use WeChat.
Company guarantee	SG1	The institution and technology of WeChat's company can ensure my security.
	SG2	The institution and technology of WeChat's company can ensure my personal benefit.
	SG3	The institution and technology of WeChat's company can protect my rights.
	SG4	The institution and technology of WeChat's company can protect my private information.
Continuous usage intention	CUI1	I am willing to use various functions of WeChat continuously.
	CUI2	In a long time, I will continue to use the various functions of WeChat.
	CUI3	In the future, I will often use the various functions of WeChat.
	CUI4	If I need, I will continue to use the various functions of WeChat.