The Effect of Instant Messaging Social Media Platform Characteristics on Consumers' Purchase Intention: An Empirical Study of WeChat

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Abstract With the rapid development of mobile communication equipment, the significant role of social media platforms is realized in social media marketing. To determine the effect of instant messaging social media platform characteristics on consumers' purchase intention, we collected WeChat user data and designed an empirical model based on the technology acceptance theory. Analysis of 388 qualified surveys revealed significant positive effects of instant messaging social media platform characteristics, such as social presence, media richness, immediacy of communication, privacy protection, and entertainment on customers' purchase intention. This study aims to extend the scope of technology

Received June 16, 2021, accepted December 28, 2021

Supported by the National Natural Science Foundation of China (71972175) and the National Key R&D Program (2017YFB1400400)

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acceptance theory, providing practical ideas for firms and highlighting the prominent role of instant messaging social media platforms in marketing activities.

Keywords social media; instant messaging; purchase intention; technology acceptance model

1 Introduction

In recent years, instant messaging social media platforms have been adopted rapidly worldwide^[1]. People are using instant messaging social media more frequently in their daily lives than ever before, in life areas such as consumption, communication, and relaxation^[2]. As one of the widespread instant messaging social media platforms, WeChat is a prominent real-time communication tool based on interaction-oriented functions^[1]. Enterprises could achieve the purpose of brand promotion and products sales through WeChat ‘Moments’, ‘Mini programs’ and ‘Official accounts’, etc. Meanwhile, the purchase link always is added in the content to facilitate consumers to purchase products. As an interactive information platform using content production and communication, the characteristics of instant messaging social media include media richness, social presence, immediacy of communication, privacy concerns, and entertainment, among others^[3, 4]. By matching the desired expressions of these characteristics, marketers can connect closely to consumers and corporates using instant messaging social media platforms^[4]. Although some studies have researched the attitude of users toward social media advertising^[5], the research of the effect of social media platform characteristics on the user attitude toward the brand should also be promoted systematically. It is crucial to examine its marketing power by investigating the attitude of users and their purchase intention as influenced by the characteristics of instant messaging social media platforms. Hence, this article attempts to complement existing research regarding sustainable impact of social media platform use on consumer purchase intentions. Simultaneously, the purpose of this study is to explore the effects of social media platform use on consumer purchase intentions from the technology acceptance perspective, which may help researchers and practitioners to deepen their knowledge of and take advantage of social media marketing effectively. The remainder of this study is structured as follows: After the introduction follow the hypotheses, the literature review, and the research model. The research methods and data collection sections include the explanation of data collection, research procedure, data analysis, and measures. Next, the section of results and discussion report the findings of this research. The section of conclusion and implications, as well as limitations and future studies conclude this article.

2 Literature Review and Hypotheses

2.1 Literature Review

1) Instant messaging social media

Instant messaging advancements enhance the fundamental functions of social media platforms, which fosters ever increasing use of smartphones^[1]. Instant messaging social media are social media application tools, which allow people to communicate instantly with others through text messages, pictures, documents, as well as voice and video^[6]. Through the creation of multimedia and hypermedia content, instant messaging social media platforms interchange the response and information of users^[7]. Instant messaging social media could fulfill the re-

quirements of users for a rapid connection, strengthened cooperation, and enhanced consumer purchase intention, demonstrating the value of instant messaging social media platform apps in social media marketing^[5, 7, 8]. Social media also can help people communicate faster during emergencies^[9]. Previous literature illustrated tie strength and continuance intention of instant messaging social media^[1], the influence of instant messaging social media platform characteristics on user loyalty through media richness and social presence^[5], perceived enjoyment^[10], switching cost of social media marketing^[6], perceived quality, as well as user base strength^[11, 12]. Some studies researching the affective aspects of instant messaging social media platform characteristics have mainly approached the issue from certain individual perspectives of users, such as perceived service quality, trust, switching cost, and flow experience^[1, 6]. Meanwhile, a few scholars have started to realize the significance of instant messaging social media platform characteristics to the social media marketing performance of companies. For example, Zhou and Lu^[13] explored the effect of the characteristics of social media on continuance use behavior from the network externality perspective. Tseng, et al. illustrated the essential characteristics of instant messaging social media platforms including media richness, social presence, immediacy of communication, privacy protection, and entertainment^[5]. The impact of instant messaging social media platform characteristics on social and technical perspectives can be seen at personal and situational levels^[2].

2) Consumer purchase intention

Purchase intention is a measure of consumers' willingness to buy products or services^[14], which is a replacement for actual consumer behavior in research due to close relation to actual behavior^[15]. The intention of customers could reflect the content of the popularity of the brands, products, or services. In marketing research, purchase intention has been represented by a dependent variable, which results from several factors, both internal and external^[16]. As a significant indicator, purchase intention is also used in social media marketing to refer to the likelihood of users buying from social media platforms and to forecast consumer behavior^[17]. The increase of channels will promote the improvement of consumer purchase intention and the enterprise performance^[18]. Purchase intention could be captured accurately and predicted by the interaction data when social media users try to transact or purchase products or services through social media platforms^[19]. In order to cater to customer needs, firms should analyze the purchase intention of customers to plan social media advertising campaigns^[20]. Purchase intention is an effective measure in social media marketing activities or promotions^[15]. Specifically, the research on the theoretical basis and methods surrounding purchase intention mostly focuses on the identification of formation, and mechanisms of purchase intention creation^[21]. In previous studies, the Technology Acceptance Model^[22], the Theory of Reasoned Action^[23], and the Theory of Planned Behavior^[24] were used to measure purchase intention. Recently, the main research orientation of relevant theoretical models of purchase intention in marketing research includes research on purchase intention based on consumer attitude^[25, 26], maximized perceived value^[27], minimum perceived risk^[28, 29], and planned behavior^[30]. However, existing studies lack literature on consumer purchase intention from the perspective of instant messaging social media platform functions and applications. Meanwhile, many social media marketing activities rely on platform innovation and upgrading. Thus, whether the traditional technology

acceptance theory conforms to the rapid development of social media functions remains to be verified.

3) Instant messaging social media and customer behavior

Voramontri and Klieb^[31] have focused on the influence of instant messaging social media on consumer behavior. The purposes of instant messaging social media for consumer usage include immediate information access^[32], obtaining knowledge about products and services, as well as assistance in purchase or decision making, whenever and wherever desired^[33]. Moreover, the personal availability preferences of users enhance connections and interactions when using instant messaging social media platforms^[34]. Online consumer comments or reviews on social media platforms have a causal influence on customer purchase behavior^[35]. Instant messaging social media has created a sharing culture where users, through networks linked with others, can share information, opinions, and ratings of products and services^[36]. Nevertheless, as the characteristics and functions of social media platforms are updated rapidly, the applicability of the Technology Acceptance Model, the Theory of Reasoned Action, and the Theory of Planned Behavior to the impact of social media marketing on consumers remains to be verified according to the latest progress.

2.2 Hypotheses

1) Social presence

Social media is a combinational environment that allows users to be aware of other people and interact with them simultaneously^[37]. Social presence refers to the extent to which users perceive the existence of one or more people using instant messaging social media platforms^[38]. The concept of social presence has evolved from interpersonal communication, especially the concept of “co-presence” proposed by Goffman^[39], that is, mutual awareness and attention to each other in space. Short et al. proposed the theory of social presence by observing that social cues exist and influence media communication^[40]. Moreover, Biocca, et al.^[41] argue that the concept of co-existence of users goes beyond “being in the same place” to include the sense of another’s state of intent and the response of users to the social and communicative cues provided by another’s presence and actions. Social presence is the psychological state in which technology users experience the virtual presence of other social actors when they receive specific social or communication cues^[42]. Previous studies of social presence in social media marketing have provided a more comprehensive description: Social situation, interaction, online communication, consumer perception, self-projection, social identity, consumer consciousness, affective social presence, cognitive social presence, the social presence of network, the social presence of interaction, etc^[43–45]. However, the degree of personal, warm, intimate, and social interaction that users establish with others will have an impact on their attitudes towards use^[46]. As one of the characteristics of social media platform settings, social presence could influence the accepted attitudes and purchase intention of users. Hence, the following hypotheses were developed:

H1a Social presence positively influences perceived usefulness.

H1b Social presence positively influences perceived ease of use.

2) Media richness

Media richness is defined as the degree to which a medium can facilitate shared meaning^[47].

Media richness could be evaluated as media/platform quality, which predicts participation intention. Previous studies have shown that, overall, media richness helps foster social presence, that is, perceived interaction with real persons by using the media^[5]. Media richness was also found to enhance social presence and user satisfaction^[48]. Moreover, media richness positively contributes to user loyalty^[5]. As one of social media platform characteristics, higher media richness can provide more diversified and comprehensive information and interaction channels for users^[5]. In addition, social media with high media richness could offer diverse language services, providing users with the opportunity for rapid interactive communication^[47]. According to the mechanism of media richness above, the impact of media richness on receptive attitudes and purchase intentions of users can be well explained by media richness theory (MRT). Thus, the following hypotheses were proposed:

H2a Media richness positively influences perceived usefulness.

H2b Media richness positively influences perceived ease of use.

3) Immediacy of communication

The immediacy of communication refers to the speed of social media bidirectional communication transaction, information reinterpretation, and message clarification for users^[49]. Specifically, there are three main types of the immediacy of communication: Physical, temporal, and social^[50]. Immediacy is also studied in the form of psychological distance, which is defined as the subjective experience that something is close or far away from the self, and acknowledges the subjectivity of immediacy of objects, people, and events^[51]. Some previous studies also focused on the effect of physical immediacy on behaviors and cognitions^[52, 53]. The speed of information delivery and reception is an essential factor for users when they choose one kind of instant messaging social media to communicate with others. Thus, subjective user perception is reflected by the social media communication function, such as perceived usefulness and perceived ease of use. To explain how the immediacy of communication of social media platforms affects user acceptance attitude, the following two hypotheses were formulated:

H3a Immediacy of communication positively influences perceived usefulness.

H3b Immediacy of communication positively influences perceived ease of use.

4) Privacy protection

With the rapid updating of instant messaging social media platforms, privacy has become a social and political issue highly focused on by academia and industry^[54]. Big data breach incidents, web tracking and fingerprinting, location-based services, as well as the adoption of electronic health records, intensify the challenges of balancing the needs with ensuring one's privacy rights and protecting the freedom of communication^[55]. In addition, many researchers have attempted to illustrate the privacy paradox, which refers to the compromise between the profits of digital product and service use and disclosing messages online at the price of privacy disclosure^[56]. Some studies concentrated on the relationship between privacy violations, behavioral integrity, and persuasive apology^[57]. According to the literature, privacy concerns negatively affect user purchase intentions and willingness to engage in social media or social commerce sites^[55]. User-generated content in instant messaging social media platforms demands that users share their personal information^[58]. As one of instant messaging social media platform characteristics, privacy protection of firms or platforms has a significant impact

on user perception and intention. Prior studies suggest, that the evolution of privacy follows advancements in information technology and its dimensions are subject to change with the evolution of markets and technologies^[59]. Depending on the degree of privacy protection, users may choose the kind of instant messaging social media platform they prefer^[60]. Thus, it can be hypothesized that:

H4a Privacy protection positively influences perceived usefulness.

H4b Privacy protection positively influences perceived ease of use.

5) Entertainment

With the rapid updating of consumption patterns, social media has provided more opportunities for users to engage in entertainment activities^[61]. Entertainment in instant messaging social media can be related to specific motivation pursuits of users, where it includes both action and inaction entertainment goals, such as enjoyment and relaxation^[62]. When consuming content from social media, users can unwind from everyday life and pass the time. Seeking relaxation is a deactivating behavior, leading to a change in the physical and cognitive activity of users^[61]. Through offering entertainment activities, instant messaging social media platforms could evoke positive emotions that influence the attitude towards the brand. Marketers are now using social media to attract, entertain, and build long-term relationships with users which would, in turn, shape their attitude towards the brand^[16]. Concerning instant messaging social media platforms, entertainment could influence user attitudes and perceptions, such as perceived usefulness and perceived ease of use. Therefore, we formulate the following two hypotheses:

H5a Entertainment positively influences perceived usefulness.

H5b Entertainment positively influences perceived ease of use.

6) Technology

Acceptance model in research on technology adoption, the technology acceptance model (TAM) is the most widely employed theoretical model. It was introduced by Fred Davis in 1986, and became a dominant model in investigating factors affecting user acceptance of technology^[63]. The research into the development of TAM divides into three phases: Focusing on the model framework, focusing on the internal variables of TAM, and introducing new theories into TAM^[22]. The TAM presumes a mediating role of two variables called perceived ease of use and perceived usefulness in a complex relationship between system characteristics (external variables) and potential system use^[63]. Derived from the psychology-based theory of reasonable action (TRA) and the theory of planned behavior (TPB), TAM has taken a leading role in explaining user behavior pertaining to technology. Without understanding the origins, development, and modifications along with the limitations of the model, there can be no comprehensive and methodical research in the field^[64]. Therefore, the following hypotheses were developed:

H6 Perceived usefulness positively influences consumers' purchase intention.

H7 Perceived ease of use positively influences consumers' purchase intention.

H8 Subjective norms positively influence consumers' purchase intention.

Thus, based on the above analysis, we proposed the conceptual framework as below:

Figure 1 Conceptual model

3 Methods and Data Collection

3.1 Data Collection and Procedures

After the first draft of the questionnaire was formed, 120 questionnaires were distributed for pre-testing between May 26~29, 2020. After discarding 15 invalid questionnaires, the reliability and validity of the 105 remaining questionnaires were tested by means of reliability analysis and factor analysis using SmartPLS software. In terms of reliability, test items with Cronbach's α coefficient lower than 0.7 and with Composite Reliability (CR) lower than 0.7 were removed. In terms of validity, the measurement items with average variance extracted (AVE) and standardized factor loadings (SFL) lower than 0.7, and not statistically significant in the test were removed. The final questionnaire was comprised of 23 core items and 9 verbal characteristics items.

The formal questionnaire on the impact of instant messaging social media platform characteristics on consumer purchase intention was collected from February 26, 2021, to February 29, 2021. Overall, 430 copies of the effective questionnaire were collected. In the subsequent model verification, invalid questionnaires were removed, leaving 388 valid questionnaires used for this research model. Table 1 shows several items from our new questionnaire based on classical references, practical platform characteristics, and WeChat use situations in China. Specifically, to measure the social presence level of WeChat accurately, two questions included the user's confidentiality of interactive communication and the intimacy of the relationship with others. Additionally, there were items including user perception of the ability to receive information on time and the function of various languages to measure the media richness of WeChat. Concerning immediacy of communication, this study used three items to test the ability of users to respond to each other on time, when contacting partners via WeChat. Also, there were three items to measure privacy protection, related to the concern of users about the collection and sales of their personal information to internet companies. Moreover, in terms

of measuring entertainment, the main contents included user perception of the interestingness and attractiveness of WeChat. Furthermore, perceived usefulness, perceived ease of use, and subject norms are three aspects of user attitude within TAM. At last, this study measured user purchase intention by WeChat through two items, including the willingness and adoption behavior of users.

Table 1 Questionnaire items

Construct	Item	Reference
Social presence	SP1	I can feel the confidentiality of interactive communication with others when I use WeChat.
	SP2	When I use WeChat to connect with others, I always feel that it makes our relationship closer than before.
Media richness	MR1	WeChat can help me to receive information and feedback on time.
	MR2	I can use different languages on WeChat.
Immediacy of communication	IC1	WeChat enables me to quickly reach communication partners.
	IC2	When I communicate with someone using WeChat, they usually respond quickly.
	IC3	When someone communicates with me using WeChat, I try to respond immediately.
Privacy protection	PP1	I'm concerned that companies are collecting too much personal information about me.
	PP2	Companies should never sell the personal information in their computer databases to other companies.
	PP3	When companies ask me for my personal information, I sometimes think twice before providing it.
Entertainment	E1	The content on WeChat is visually attractive.
	E2	I think WeChat is an interesting and fun social media platform to navigate.
	E3	In general, WeChat is an entertaining social media platform.
Perceived usefulness	PU1	WeChat is very useful for obtaining product and service information.
	PU2	WeChat is very useful for obtaining promotional information and help me to save money.
	PU3	Using WeChat can not only improve the efficiency of shopping but also save my time.
Perceived ease of use	PEU1	WeChat is easy to use.
	PEU2	WeChat is a convenient platform to communicate with others.
	PEU3	WeChat can help me to get useful information about buying goods or services anytime and anywhere.
Subjective norms	SN1	I will respect the social rules on WeChat.
	SN2	I will follow the essential rules on WeChat to purchase goods or services.
Purchase intention	PI1	I would like to do online shopping through WeChat.
	PI2	I will consider that buying something from WeChat.

Table 2 The test of reliability and validity

Variables	Items	SFL	VIA	Cronbach α	Rho_A	CR	AVE
Social presence	SP1	0.883	1.455	0.717	0.717	0.876	0.870
	SP2	0.883	1.455				
Media richness	MR1	0.892	1.441	0.712	0.716	0.874	0.776
	MR2	0.870	1.441				
Immediacy of communication	IC1	0.827	1.541	0.781	0.873	0.874	0.696
	IC2	0.811	1.605				
	IC3	0.864	1.845				
Privacy protection	PP1	0.834	1.709	0.803	0.805	0.884	0.717
	PP2	0.845	1.646				
	PP3	0.862	1.920				
Entertainment	E1	0.882	2.184	0.814	0.839	0.890	0.730
	E2	0.811	1.605				
	E3	0.864	1.845				
Perceived usefulness	PU1	0.914	2.717	0.894	0.896	0.934	0.825
	PU2	0.899	2.519				
	PU3	0.912	2.848				
Perceived ease of use	PEU1	0.863	1.961	0.821	0.825	0.893	0.736
	PEU2	0.851	1.859				
	PEU3	0.860	1.741				
Subjective norms	SN1	0.947	2.691	0.887	0.716	0.874	0.776
	SN2	0.870	1.441				
Media richness	MR1	0.892	1.441	0.712	0.716	0.874	0.776
	MR2	0.870	1.441				

The reliability and validity test results of the questionnaire on the impact of instant messaging social media platform characteristics on consumer purchase intention can be found in Table 2. Cronbach's α stands for the extent of the close relationship of items in a group, and is used to measure the scale reliability of the items^[75]. When Cronbach's α is higher than 0.7, it implies that the items have a relatively high internal consistency. Composite Reliability (CR) is the reliability of a composite score, whereby a CR score of more than 0.7 indicates good reliability of the measure. The number of Rho represents the proportion of individual errors to total errors. If the number of Rho is above 0.7, it means the measured item has

good reliability. The aggregation effect of the model can be tested using the average variance extracted (AVE) and the standardized factor loadings (SFL). AVE represents the fraction of the ‘true variance’ that is, on average, the ‘observed variance’ across the items with so many measures of variables. AVE and SFL of items above 0.6 mean that the aggregation effect of the model is acceptable. Specifically, all the Cronbach’s α coefficients and Composite Reliability (CR) indices of measurement items in this study are higher than 0.7, suggesting good internal consistency and reliable analysis results. Meanwhile, all the numbers of Rho_A of the variables are ranging from 0.716~0.896, which means the measured items have good reliability. Moreover, the average variance extracted (AVE) and the standardized factor loadings (SFL) of items are ranging from 0.696 to 0.946, meaning the validity of our analysis is adequate. Lastly, variance inflation factor (VIF), is a measure of the severity of complex (multiple) co-linearity in a multiple linear regression model.

Based on the opinion of Fornell and Larcker^[75], the discrimination validity can be measured by the square root of each AVE observation variable. As shown in Table 3, the value of the square root of AVE is greater than 0.8 for each variable. Meanwhile, the square root of AVE for each latent variable is greater than the correlation coefficient between the latent variables, which reflects good discrimination validity.

Table 3 Discriminant validity matrix

Variables	Social presence	Media richness	Immediacy of communication	Privacy protection	Entertainment	Perceived usefulness	Perceived ease of use	Subjective norms	Purchase intention
Social presence	0.883								
Media richness	0.673	0.881							
Immediacy of communication	0.712	0.763	0.834						
Privacy protection	0.595	0.689	0.71	0.847					
Entertainment	0.623	0.678	0.693	0.677	0.854				
Perceived usefulness	0.726	0.785	0.794	0.745	0.765	0.908			
Perceived ease of use	0.693	0.782	0.782	0.718	0.701	0.79	0.858		
Subjective norms	0.650	0.797	0.718	0.656	0.657	0.745	0.769	0.948	
Purchase intention	0.596	0.686	0.649	0.586	0.608	0.661	0.766	0.809	0.947

3.2 Statistical Data Analysis

Table 4 Demographics statistics ($N = 388$)

Variables	Category	Frequency	Percent
Gender	Female	179	46.13%
	Male	209	53.87%
Age	Under 18 years	205	52.84%
	19~25 years	133	34.28%
	26~30 years	25	6.44%
	31~40 years	19	4.90%
	40~60 years	4	1.03%
	More than 60 years	2	0.51%
Education	Below high school	9	2.32%
	College	285	73.45%
	Bachelor	54	13.92%
	Master	32	8.25%
	Doctor	8	2.06%
Income (per month, in RMB)	Below 5000	312	80.41%
	5000~8000	27	6.96%
	8000~10000	9	2.32%
	10000~20000	16	4.12%
	More than 20000	24	6.19%
Time of engagement (per login)	Less than 10 minutes	64	16.49%
	10~30 minutes	124	31.96%
	More than 30 minutes	200	51.55%
Purpose of engagement (multiple choice)	Get information	192	49.48%
	Communication	165	42.53%
	Entertainment	87	22.42%
	No reason	12	3.10%
	Others	4	1.03%

The main research method considered is a quantitative study based on responses from an online survey. For our study, we designed a survey using the Wenjuanxin platform and distributed it through computer web pages and mobile WeChat. Most of the items in our measurement model were adopted from prior studies. Meanwhile, combining practical use of social media and classical academic literature, we categorized 5 dimensions of characteristics within instant messaging social media platforms, which include social presence, media richness,

4 Results

Based on the initial model, we performed cross-loadings analysis to determine how the structure equation of the platform settings of WeChat affects consumer purchase intention. To measure the model goodness fit, we tested the Coefficient of Determination through SRMR (Standardized root mean square residual), d_ULS, d_G, NFI, and RMS-theta. The fitting degree of SRMR lower than 0.1 means that the model is eligible^[76]. As shown in Table 6, the value of SRMR in this study is 0.054, which hints at reasonable interval values. Additionally, the value of d_ULS is 0.818, d_G is 0.631, NFI is 0.792, and RMS-theta is 0.190. Even though Bentler and Bonett proposed that NFI (Normed Fit Index) greater than 0.9 is used as the criterion fitting Index^[77]. Karl and Christian explained the calculation method of NFI in the SmartPLS usage guide that the result of NFI is more than 0.75 is accepted^[78]. Thus, these values of fitting indicators in the measurement show that this model has high goodness of fit.

Table 6 Model fitness

Fitting indicators	SRMR	d_ULS	d_G	NFI	RMS-theta
value	0.054	0.818	0.631	0.792	0.190

Table 7 Path coefficients

Path relation	Standardized path coefficient	<i>t</i> -value	<i>p</i> -value	Conclusion
H1a Social presence → Perceived usefulness	0.169	3.994	0.000	Support
H1b Social presence → Perceived ease of use	0.134	2.749	0.002	Support
H2a Media richness → Perceived usefulness	0.227	3.424	0.000	Support
H2b Media richness → Perceived ease of use	0.298	5.332	0.000	Support
H3a Immediacy of communication → Perceived usefulness	0.207	3.731	0.000	Support
H3b Immediacy of communication → Perceived ease of use	0.251	3.908	0.000	Support
H4a Privacy protection → Perceived usefulness	0.178	3.416	0.000	Support
H4b Privacy protection → Perceived ease of use	0.168	3.476	0.001	Support
H5a Entertainment → Perceived usefulness	0.242	4.973	0.000	Support
H5b Entertainment → Perceived ease of use	0.128	3.035	0.006	Support
H6 Perceived usefulness → Purchase intentions	0.294	4.309	0.000	Support
H7 Perceived ease of use → Purchase intentions	0.160	2.175	0.003	Support
H8 Subjective norms → Purchase intentions	0.493	8.269	0.000	Support

Table 7 shows the path coefficients and the structural relationships of the model, which include the standardized path coefficient, *t*-test (*t* values), the corresponding significance of the effects (*p* values), and conclusions of support for each hypothesis. As shown in Table 7, the characteristics of instant messaging social media platform settings had a significant positive

effect on user attitude, and then significantly affected customer purchase intention.

Specifically, social presence has strong effects on perceived usefulness (standardized pass coefficient = 0.169, $t = 3.994$, $p < 0.001$) and perceived ease of use (standardized pass coefficient = 0.134, $t = 2.749$, $p < 0.01$). These results support hypothesis 1a and hypothesis 1b, which indicates that the social presence of instant messaging social media platform settings has a significant positive effect on user attitudes. Additionally, media richness has a positive effect on perceived usefulness (standardized pass coefficient = 0.227, $t = 3.424$, $p < 0.001$) and perceived ease of use (standardized pass coefficient = 0.298, $t = 5.332$, $p < 0.001$). These results support hypothesis 2a and hypothesis 2b, which means that media richness is an important factor in enhancing the recognition and attractiveness of user attitudes. Moreover, immediacy of communication positively affects perceived usefulness (standardized pass coefficient = 0.207, $t = 3.731$, $p < 0.001$) and perceived ease of use (standardized pass coefficient = 0.251, $t = 3.908$, $p < 0.001$). These results support hypothesis 3a and hypothesis 3b, which proves that immediacy of communication can strongly enhance user attitudes toward instant messaging social media. Besides, privacy protection of instant messaging social media platform settings has a positive effect on perceived usefulness (standardized pass coefficient = 0.178, $t = 3.416$, $p < 0.05$) and perceived ease of use (standardized pass coefficient = 0.168, $t = 3.476$, $p < 0.001$). These results support hypothesis 4a and hypothesis 4b, which shows that privacy protection has a significant positive effect on user attitude toward instant messaging social media. Furthermore, entertainment strongly positively affects perceived usefulness (standardized pass coefficient = 0.242, $t = 4.973$, $p < 0.01$) and perceived ease of use (standardized pass coefficient = 0.128, $t = 3.035$, $p < 0.01$). These results support hypothesis 5a and hypothesis 5b, which illustrates that entertainment is a significant factor in improving user attitude toward instant messaging social media. Finally, H6, H7, and H8, all achieved supportive results. Perceived usefulness has a positive impact on users' purchase intentions (standardized pass coefficient = 0.294, $t = 4.309$, $p < 0.001$), perceived ease of use also has positive effects on users' purchase intentions (standardized pass coefficient = 0.160, $t = 2.175$, $p < 0.01$), and subjective norms have a significant positive effect on users' purchase intentions (standardized pass coefficient = 0.439, $t = 8.269$, $p < 0.001$).

Figure 2 Standardized results for confirmatory factor analysis model

Based on the confirmatory factor in Figure 2, it is apparent that the underlying assumptions of this study have been positively verified. As characteristics of social media platform settings, social presence, media richness, immediacy of communication, privacy protection, and entertainment all have significant positive effect on users' perceived usefulness and perceived ease of use. Users' attitudes and subjective norms, in turn, have a positive effect on their purchase intention. The mediating effects of users' perceived usefulness and perceived ease of use on purchase intention are highly significant.

5 Conclusion and Discussion

In summary, this research finds that the causal relationships between the characteristics of instant messaging social media platform settings and users' attitudes as well as their purchase intention are statistically significant and positive. Firstly, the characteristic of social presence, media richness, the immediacy of communication, privacy protection, and entertainment all positively influence users' perceived usefulness and perceived ease of use of WeChat. More obvious characteristics of social media platforms, which get more preferred of users based on providing more diversified and comprehensive information and interaction channels for users. Secondly, media richness, the immediacy of communication, and entertainment are strongly influenced users' attitudes. Thirdly, the characteristics of entertainment should combine with the convenient usage of social media appropriately. The entertainment enhancement of social media platforms needs to adapt their functional effects. Finally, users' perceived ease of use, perceived ease of use, and subjective norms of WeChat have a significant influence on their purchase intention.

Apart from these direct verified effects, this study also tested some mediating effects. On the one hand, we found that users' perceived usefulness and perceived ease of use play mediating roles between instant messaging social media platforms settings and users' purchase intention. On the other hand, perceived usefulness has a more significant mediating effect within the impact of instant messaging social media settings on users' purchase intention. This means when users choose a social media platform, their purchase intention could be affected by the characteristics of social media through their perception and attitude of use.

This study has verified the theoretical matching of the technology acceptance theory to the influence of instant messaging social media platform settings on consumers' purchase intention. Firstly, in previous studies, technology acceptance models have been used to explain users' acceptance of technology^[63]. For example, Rupak, et al. through the empirical study on Facebook to assess social media acceptance and usage behavior^[79]. Bela used ATM to measure young consumers' motivational drivers of brand engagement behavior on social media sites^[80]. In this research, we have extended the scope of the technology acceptance theory in the field of instant messaging social media platforms and their effects on consumers' purchase intention. Secondly, as a typical instant messaging social media platform, WeChat is updating frequently. Scholars have studied the impact of some characteristics of WeChat such as privacy on consumer perceptions^[60]. For instance, Sindy, Patsy and Gregory focused on the use and implications of digital marketing on WeChat for luxury fashion brands in China^[81]. However, according to our analysis of the technology acceptance theory model constructed in

this work, the core characteristics of instant messaging social media platforms: Social presence, media richness, immediacy of communication, privacy protection, and entertainment are still the factors that improve consumers' purchase intention. Especially, make a balance of the characteristics between the immediacy of communication and privacy protection for social media platforms.

6 Implications and Limitations

In practice, through upgrading the functions of instant messaging social media platform settings, more consumers could be attracted to engage in social media marketing and purchase products or services through social media than before. Firstly, the social media platforms, which have high media richness can improve the efficiency of information reception and increase the abundance of language services for users. Secondly, social media firms could improve the immediacy of communication of platforms in order to enhance the communication between users, potential consumers, and loyal customers. Thirdly, the characteristic of privacy concern is a significant factor that cannot be ignored by social media platforms when trying to attract users. Finally, the entertainment part of social media platforms could further promote customer engagement. Therefore, in order to improve customers' purchase intention, social media companies should pay more attention to improving social presence, media richness, immediacy of communication, privacy protection, and entertainment of social media platforms.

This study mainly utilized the data of Chinese people's WeChat use habits to analyze the effect of instant messaging social media platform settings on consumers' purchase intention. In addition, the quantity of data in this study was limited by 388. Though the sample size is adequate to the demand of this study, the further research samples should be enlarged. Moreover, the research model in this study may be valid under general circumstances, the technology acceptance model has a wide range of applicability in various circumstances. Thus, we plan to expand the following research in other countries and collect data from diverse instant messaging social media platforms in order to verify our perspective.

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