Building Guanxi network in the mobile social platform: A social capital perspective

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ABSTRACT

Mobile social platform such as WeChat Moments has gained great popularity in China in the past few years. However, there are still a lack of studies that focus on Guanxi network building in the virtual social community. Drawing upon social capital theory and technology affordance theory, this study develops a research model to examine the influences of platform media richness and interactivity on users' social capital and participation behaviors in the WeChat Moments. An empirical survey was conducted in China and 287 valid data were collected from WeChat users. Structural equation modelling analysis was used to test the research model. The empirical results suggest that platform interactivity and media richness are significant technology affordances that promote users' Guanxi network, and their influences are mediated by social interaction and shared understanding. Furthermore, Guanxi network is positively associated with users' active participation in the WeChat Moments. Theoretical and practical implications are illustrated in the final section.

1. Introduction

Due to the rapid development of internet and mobile communication technology, social network and mobile social applications have been widely applied in people's daily life (Alalwan, Rana, Dwivedi, & Algharabat, 2017; Aswani, Kar, Ilavarasan, & Dwivedi, 2018; Cheng, Fu, & Vreede, 2017; Kamboj, Sarmah, Gupta, & Dwivedi, 2018; Kapoor et al., 2018; Liu, Shao, & Fan, 2018). Individuals can share information and keep in touch with others in the social network sites such as Facebook and Twitter conveniently (Dwivedi, Kapoor, & Chen, 2015; Kamboj et al., 2018; Liu et al., 2018). Based on an investigation by *"We Are Social"*, the global active social media users have achieved 2.307 billion in the year of 2016 (Shiau, Dwivedi, & Lai, 2018). In addition to the social network sites, mobile social platforms have also developed rapidly due to the popularity of smartphones, and the global active mobile social application users have achieved 1.968 billion in the year of 2016 (Shiau et al., 2018). According to the statistics of China Internet Network Information Center (CNNIC), WeChat Moments is recognized as one of the most popular mobile social platforms in China and has gained more than one billion active users all over the world by the year of 2017 (CNNIC, 2018). The mobile social platform has provided rich media functions such as micro-video and voice-chat, and users can participate in the platform by sharing texts, photos and videos, giving

thumbs-ups to others' posts, and updating their personal status for communications and interactions (Zhang, Li, Wu, & Li, 2017). More and more people have become accustomed to devoting time and energy on the WeChat Moments platform in order to maintain and extend interpersonal relationships in the digital world (Gan, 2017; Zhang et al., 2017).

Previous studies have examined the critical antecedents of user participation in the mobile social platform from different theoretical perspectives. One stream of research focused on psychological motivations. For example, Lien and Cao (2014) found that entertainment, sociality and information are significant antecedents of WeChat users' attitudes, which in turn positively influence their word-of-mouth towards the mobile social platform. Another direction of research concentrated on network effects. It was found that direct and indirect network externalities are positively associated with users' social interaction ties, which further enhance their perceived values and continuance intention of WeChat (Zhang et al., 2017). The third category of research was conducted from an use and gratification theoretical perspective. Empirical results indicated that three types of gratifications (hedonic gratification, social gratification and utilitarian gratification) are positively related with WeChat users' liking and sharing behaviors in the mobile social platform (Gan, 2017; Ma, Zhang, & Yan Ding, 2018). The fourth category of research focused on service quality.

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Specifically, Lien, Cao, and Zhou, (2017) found that environment quality and outcome quality are two important predictors of satisfaction, which in turn positively affect users' stickiness to WeChat.

Previous literature provides us a theoretical foundation to understand users' participation behaviors in the mobile social platform. However, to the best of our knowledge, few studies have examined the significant antecedents of user participation from a social capital theoretical perspective, especially in the new research context of WeChat Moments. According to an investigation of user behaviors in the social media, a significant feature of WeChat Moments lies in its social interaction between acquaintances, such as relatives, friends and colleagues, which distinguishes it from other social media applications (Zhang et al., 2017). Since most of the WeChat friends have been connected offline, people prefer to share their personal photos and videos on the mobile platform, or thumb up on others' posts. This is beneficial to gain likes and maintain a good social network with their friends in the mobile social platform.

In the Chinese society, social networks are equivalent to the cultural construct of "Guanxi", which is a close personal tie among two or more individuals who are bounded by notions of reciprocity and mutual support (Arias, 1998; Davison, Ou, & Martinsons, 2013; Ou, Pavlou, & Davison, 2014). In the past few years, the concept of Guanxi has attracted the attention of IS scholars, and several studies have been conducted to examine its antecedents in various research contexts. Specifically, Ou and Davison (2016) indicated that communication quality and mutual trust can significantly promote the development of Guanxi networks among employees by using the technology of instant messaging. Meanwhile, Niedermeier, Wang, and Zhang, (2016) found that social media is beneficial to create and solidify Guanxi network between sales professionals and customers.

Although the significant role of Guanxi has arose the attention of scholars, most of the extant literature focused on organizational context, there is scant research that examines individuals' Guanxi network building in the social networks or mobile social platforms. Prior literature indicates that WeChat Moments differs notably from conventional virtual community (Zhang et al., 2017), and Guanxi network plays a significant role in facilitating individuals' participation behaviors in the mobile social platform (CNNIC, 2015; Lin, Luo, Cheng, & Li, 2018). Given the theoretical implication of social media in building Guanxi network (Ou and Davison, 2016; Kapoor et al., 2018), and the lack of a comprehensive understanding of its impact mechanism in the emerging context of WeChat Moments, it is necessary to conduct an empirical study to uncover the relationship between social media characteristics and individuals' Guanxi Network in the new research context.

The remaining open research questions drive the research objective of this study. Drawing upon social capital and technology affordance theory, this study aims to examine the impact mechanism of two facets of technology affordances, regarding media richness and interactivity, on individuals' social capital and Guanxi network, and also, to examine the influence of Guanxi network on individuals' participation behaviors. The following research questions are proposed to address the research objectives:

(1) How do technology affordances, regarding media richness and interactivity, shape users' Guanxi network and participation behaviors in the WeChat Moments?
(2) How do social interaction and shared understanding mediate the relationship between technology affordances and Guanxi network in the WeChat Moments?

The structure of the paper is organized as follows: we first review the extant literature in social capital, Guanxi, media richness, interactivity, and user participation. Then we develop a research model and propose the corresponding hypotheses. Thirdly, we address the research methodology and discuss the data analysis results. In the final section,

we conclude with a discussion of theoretical and practical implications.

2. Theoretical foundation

2.1. Social Capital

Social capital was conceptualized as the sum of the assets or resources embedded in the networks of relationships between individuals, communities, networks, or societies (Nahapiet & Ghoshal, 1998). Different from other forms of capitals that depend on assets or individuals, social capital resides in the fabric of relationships between individuals and in individuals' connections with their communities (Liu, Cheung, & Lee, 2016; Putnam, 1995; Shiau, Dwivedi, & Yang, 2017). Nahapiet and Ghoshal (1998) argued that social capital can be divided into three dimensions, regarding structural dimension, cognitive dimension and relational dimension. The structural dimension represents the overall pattern of relationships found in organizations, and it describes the structural links created by the social interactions between individuals in a network (Nahapiet & Ghoshal, 1998; Putnam, 1995). The cognitive dimension of social capital refers to the extent to which people in a social network share a common perspective or understanding. Shared language and goals are considered as critical resources of this dimension (Nahapiet & Ghoshal, 1998). While the relational dimension deals with the nature of the connections between individuals in an organization, and the key facets of this dimension are trust, norms, obligations, expectations and identification (Nahapiet & Ghoshal, 1998). Wasko and Faraj (2005) extended Nahapiet and Ghoshal (1998)'s three-dimension social capital framework from organizational context to the electronic commerce context, and examined social capital and knowledge contribution in the practice of electronic networks. In another study, Chiu, Hsu, and Wang, (2006) examined the influences of three social capitals on individuals' knowledge sharing behaviors in the virtual communities.

Drawing upon the extant literature, this study adopts Nahapiet and Ghoshal (1998)'s framework in the context of WeChat Moments, and assesses social capital from three dimensions of structural capital, cognitive capital and relational capital.

2.2. Guanxi

Social capital theory provides us a framework to understand the three social capitals in the Western countries. However, key elements are neglected in the dimension of relationship capital with the sense of face and harmony that are special in the Chinese context. Originated from Western literature, the relational capital has been rooted in Chinese tradition for thousands of years. In the Chinese context, the construct of relational capital is manifested as the notion of Guanxi, which was recognized as a Chinese term referring to interpersonal connections (Liu, Li, Tao, & Wang, 2008). A large number of studies have been conducted to compare the practice of Guanxi with relational concepts and conceptualized Guanxi from different perspectives. For example, Luk, Fullgrabe, and Li, (1999) indicated that Guanxi is a strong social obligation to give favors to another person that reflects in helping others, returning a favor to others, avoiding any embarrassment, and trusting in others. Wong and Tam (2000) suggested that Guanxi is an interpersonal relationship including four dimensions of trust, bonding, reciprocity and empathy.

In a recent study, Yen, Barnes, and Wang, (2011) divided Guanxi into three dimensions of Ganqing, Renqing and Xinren, and empirically examined its reliability and validity using exploratory and confirmatory factor analyses. It was argued that Guanxi is an intricate and pervasive relational network which Chinese cultivate energetically, subtly and imaginatively (Luo, 1997; Yen et al., 2011). There is a call for more empirical studies to adopt the Guanxi construct in the Chinese context (Ou et al., 2014). Thus, this study uses Guanxi to represent relational capital to adapt to the specific cultural context in China, and measures

it from three aspects of Ganqing, Renqing and Xinren, as suggested in Yen et al. (2011)'s study.

2.3. Media richness and interactivity

Drawing upon technology affordance theory, individuals' behaviors are influenced by their perceptions and interpretations of the information technology (Sundar, 2008). In the context of social media usage, media richness and interactivity were identified as significant technological attributes that affected individuals' psychological mechanisms and subsequent behavioral intentions (Lin et al., 2018; Lu, Kim, Dou, & Kumar, 2014).
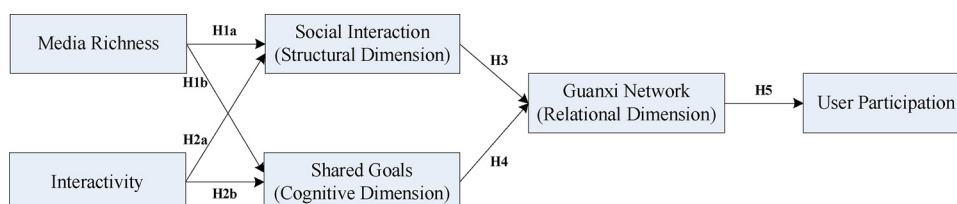
Media richness originated from information richness theory, which was defined as the ability of the communication media to convey information and enable users to communicate and exchange understanding (Daft & Lengel, 1984). It was argued that richer media provides more communication capability and social visual cues, while onefold media offers less cues or capacity to facilitate communication. Taking WeChat as an example, the mobile social platform is rich in media by providing various languages, non-linguistic symbols, pictures, emoji and videos, which has attracted a gazillion users to communicate and exchange knowledge in the platform. Sundar (2008) posited that the degree of presentation vividness affects individuals' information processing and perception of the contents, which in turn influences their actions. Accordingly, in the context of social media application, the feature of "rich media" provides users richer experience of the communication media, which may lead to active participation behaviors.

Interactivity was identified as another significant technology affordance in the context of social media (Lin et al., 2018), which refers to the degree to which two or more communication parties can act on each other, on the communication medium, and on the messages and the degree to which such influences are synchronized (Liu & Shrum, 2002). Based on this conceptualization, the interactivity scale was divided into three dimensions, regarding active control, two-way communication, and synchronicity (Liu, 2003). Specifically, active control describes an individual's ability to voluntarily participate in and instrumentally influence a communication; two-way communication captures the bi-directional flow of information; while synchronicity refers to individuals' belief that the technology promptly responds to their requirements (Liu, 2003). The communication media is interactive if it offers individuals active control and allows them to communicate both reciprocally and synchronously.

Since media richness and interactivity are conceptually distinctive, previous studies mostly investigated their separate effects on website usability and information judgments (Li, Daugherty, & Biocca, 2002; Suh & Lee, 2005; Yoon, Laffey, & Oh, 2008). To our knowledge, there is scant literature that integrates the two media characteristics in a same framework. Considering the significance of the two technology attributes in social media usage, this study includes both media richness and interactivity in the proposed research model, in order to examine their joint influences on Guanxi network and user participation in the emerging research context of WeChat Moments.

2.4. User participation

Previous literature has identified two types of participation behaviors in the virtual communities: active participation (such as posting) and passive participation (such as reading) (Koh, Kim, Butler, & Bock, 2007). In the context of WeChat Moments, various information technologies are implemented to promote individuals' multiple participation behaviors. People who are actively involved in the mobile social platform can exchange knowledge and express their feelings of daily life by releasing dynamic information, giving thumbs-ups and commenting on others' posts. On the contrary, people who are passively participated in the platform are more inclined to read and forward information instead of making their own voices.

Prior studies have examined the significant factors that drive individuals to actively participate in the virtual communities. For instance, Koh et al. (2007) posited that technology attributes (such as a stable, high-speed IT infrastructure and software) are beneficial to promote individuals' active participation behaviors in the online discussions. Lien and Cao (2014) suggested that three psychological motivations (entertainment, sociality and information) are significantly associated with WeChat users' attitudes and their positive word-of-mouth. While in a recent study, Gan (2017) reported that hedonic gratification, social gratification, and utilitarian gratification positively affect WeChat users' participation behaviors.

Drawing upon the extant literature, this study focuses on individuals' active participation behaviors in the WeChat Moments, and measures it from the aspects of information release, thumbs-ups and comments, as suggested in the previous literature (Gan, 2017; Zhang et al., 2017).

3. Research model and hypotheses

Drawing upon the extant literature, this study develops a research model to examine the impact mechanism of media richness and interactivity on individuals' Guanxi network and participation behaviors, mediated by social interaction (structural capital) and shared understanding (cognitive capital). The research model is illustrated in Fig. 1. We illustrate the theoretical logic of each hypothesis in the following section.

3.1. Influence of media richness

Media richness refers to the ability of the communication media to convey information. The rapid development of mobile communication and information technology has provided a rich and variety of communication channels, which enables people to communicate, exchange understanding and explore relationships at any time in any place. In the context of virtual communities, the information and communication technology (ICT) media is considered as a significant communication tool for achieving structural and cognitive capitals. Users often exchange information and knowledge with rich media and subtle meanings in order to achieve a better social interaction and mutual understanding with others (Anandarajan, Zaman, Dai, & Arinze, 2010; Walther, 1996). According to the Media Richness Theory, rational users prefer to choose media of higher richness for tasks that involve communication, in order to facilitate an active social interaction. On the contrary, social interaction in the virtual communities may decrease if users' choice of communication media is restricted to lower richness (D'ambra, Rice, & O'connor, 1998; Dennis, Fuller, & Valacich, 2008). That is, a higher level of ICT medium richness can facilitate social

Fig. 1. Research Model.
(Notes: ** represents p < .01; * represents p < .05; NS represents not significant).

interaction and mutual understanding, while a lower level of ICT medium richness may impede social interaction and mutual understanding with others in the virtual communities.

The influence of media richness in virtual communities has been examined in the previous literature. It was argued that rich media is beneficial to facilitate interpersonal communication and mutual understanding by allowing users to build communities of interest via the tools of social network (Anandarajan et al., 2010; Giesbers, Rienties, Tempelaar, & Gijselaers, 2013). In the context of WeChat Moments, the richness of media has attracted a large number of individuals to communicate and exchange knowledge on the platform. Individuals can communicate with others by using various media symbols, sending vivid pictures, emoji and videos in real time. On the one hand, a higher perception of media richness can influence individuals' structural capitals by providing more communication modes and social visual cues for effective social interactions (Lu et al., 2014; Newberry, 2001). On the other hand, a higher media richness can also influence individuals' cognitive capitals by decreasing the equivocality of information and improving the ease with which users comprehend others' languages (Carlson & Zmud, 1999; Maity, Dass, & Kumar, 2018). The above analysis leads to the following hypothesis:

H1a Media Richness is positively associated with social interaction

H1b Media Richness is positively associated with shared understanding

3.2. Influence of interactivity

Interactivity represents the degree to which two or more communication parties can act on each other, which comprises of active control, two-way communication, and synchronicity (Liu & Shrum, 2002). Interactivity allows users to better grasp the feature of a technology and contribute to better performance through the media of information and communication technology, and it was identified as a significant antecedent that promotes individuals' structural and cognitive capitals (Fan, Liu, Wang, & Wang, 2016; Jiang, Chan, Tan, & Wei, 2010; Liu & Shrum, 2002).

The attribute of active control empowers users to read and comment on their favorite information and shield the information that they are not willing to see in the ICT media (Liu, 2003). This is beneficial to establish users' cognitive identity with their peers and promote a shared understanding among individuals with mutual interests (Hsia, Chang, & Tseng, 2014). The attribute of two-way communication allows users to intimately connect and conveniently communicate with friends, colleagues, and even strangers in real time (Liu, 2003), which can help facilitate individuals' social interactions with others and accumulate social capitals in a network. While the attribute of synchronicity allows users to receive feedback from others instantly without time and location limit (Liu, 2003). This is beneficial to promote an active interaction and achieve a shared understanding with their peers in the social network. Altogether, a higher level of interactivity in ICT media can promote social interaction and mutual understanding, while a lower level of interactivity in ICT media may reduce social interaction and mutual understanding with others in the virtual communities (Fan et al., 2016; Jiang et al., 2010; Liu, 2003).

The influence of interactivity in virtual communities has been elaborated in the previous literature. Paul, Nicholas, Jeffrey, and Randy, (2009) found that perceived interactivity can improve perceived communication quality in the computer-mediated communication groups. In another study, Hsia et al. (2014) reported that the three dimensions of interactivity are significant antecedents of user engagement in smartphone usage. In the context of WeChat Moments, the attribute of interactivity empowers accessibility to participate in the mobile social platform more actively and passionately. Users can freely select their favorite information, set up friends' visibility privileges, update and synchronize information in real time. This is beneficial to facilitate an effective social interaction and communication with other members,

and achieve a mutual understanding among friends in the WeChat Moments. Hence, we propose the following hypotheses:

H2a. Interactivity is positively associated with social interaction

H2b. Interactivity is positively associated with shared understanding

3.3. Influences of social interaction and shared understanding

Drawing upon Nahapiet and Ghoshal (1998)'s framework, social capital includes three dimensions of structural, cognitive and relational capitals. Social interaction was recognized as a significant manifestation of structural capital in the virtual communities (Chang & Chuang, 2011). People with common interests and goals can make an intensive communication and interaction, share information and knowledge sufficiently with each other in the online social networks (Chiu et al., 2006). Koh et al. (2007) found that, with members getting more familiar with each other, sense of membership is gradually nurtured and developed. It is the interactions embedded within the social network that sustain the development of virtual communities (Chiu et al., 2006; Chang & Chuang, 2011). While Lu, Zhao, and Wang, (2010) indicated that people prefer to trust those with whom they are familiar, and social interaction could help reduce uncertainty and facilitate trust between members in the virtual communities (Wu & Chang, 2005; Zhao, Lu, Wang, Chau, & Zhang, 2012).

Previous studies have discussed the relationship between structural capital and cognitive capital in various research contexts. Empirical results suggested that social interactions positively affect relational capital in the virtual communities (Zhao et al., 2012). In context of WeChat Moments, keeping close interactions with other members is considered to be a basis for users to establish self-identity and generate a strong emotional attachment in the mobile social platform. Through close social interactions, WeChat users can reduce the unfamiliarity with other members and get to know more of others' interests, goal and experiences. This is conducive to build Guanxi network in the platform. The above analysis leads to the following hypothesis:

H3. Social Interaction is positively associated with Guanxi network

Shared understanding was recognized as a significant manifestation of cognitive capital, which describes the extent of similarity that individuals share the collective languages, goals, missions, and visions with other members in the organization (Hau, Kim, Lee, & Kim, 2013). In the virtual communities, cognitive similarity is beneficial to enhance relational capital since people have tendencies to get closer to the ones who have common goals and languages. Perceived similarity enables the trustors to have confidence in the trustees who are similar with them, which is beneficial to enhance Guanxi between the trustors and trustees in a positive way (Ziegler & Golbeck, 2007). Empirical studies also found that shared understanding positively affects a VC member's trust in other members in the context of virtual communities (Zhao et al., 2012).

In the context of WeChat Moments, people interact with each other to establish a strong relational network in the mobile social platform. Shared language and goals in the cognitive dimension can help alleviate potential barriers and reach an emotional consensus with other members. This is favorable for the establishment of a strong Guanxi network in the WeChat Moments. Thus, we propose the following hypothesis:

H4. Shared understanding is positively associated with Guanxi network

3.4. Influence of guanxi network

Guanxi is a significant cultural characteristic rooted in Chinese tradition for thousands of years, which is ubiquitous across the whole society in China because of the cultural preferences and the relative weak enforcement of institutional mechanisms associated with the legal

Table 1
Constructs and Items.

Constructs		Items	References
Media Richness		MR1-MR3	Lu et al. (2014); Lan and Sie (2010)
Interactivity	Active Control	AC1-AC3	Liu and Shrum (2002), Liu (2003)
	Two-way Communication	TC1-TC3	
	Synchronicity	SY1-SY3	
Social Interaction		SI1-SI3	Chiu et al. (2006)
Shared Understanding		SU1-SU3	Chang and Chuang (2011)
Guanxi	Ganqing	GQ1-GQ3	Yen et al. (2011)
	Renqing	RQ1-RQ3	
	Xinren	XR1-XR3	
User Participation		UP1-UP3	Wasko and Faraj (2005)

system (Martinsons, 2008). It was defined as a network of close and pervasive ties emphasizing mutual and obligatory reciprocity, combined with personal trust, face preservation and relationship harmony over the long term (Ou et al., 2014).

Yen et al. (2011) confirmed the measure scale of Ganqing, Renqing and Xinren as three dimensions of Guanxi network. Ganqing reflects an emotional attachment that exists among parties of a network, and it refers to a sense of loyalty and willingness to take care of each other under all circumstances (Chen & Chen, 2004; Wang, 2007). It was argued that the easiest way to improve Ganqing is through interactions in the social network (Yen et al., 2011). Renqing refers to a sensibility of human sympathy and human kindness, which is similar to the term of favor in the Western context (Eye, 2007; Fang, 1999). People who are connected by helping each other in the social network are especially bonded by the social obligation of Renqing (Yen et al., 2011). Xinren is a Chinese word similar to trust, and it was posited as one of the most important components of Guanxi (Chen & Chen, 2004; Tsang, 1998; Yen et al., 2011). In a social network, Xinren is gradually developed through intense social interactions and shared understandings among members of the network (Wong & Chan, 1999; Yen et al., 2011).

Guanxi network was identified as a significant antecedent that promoted individuals' willingness and behaviors to participate in the social network. In particular, Nahapiet and Ghoshal (1998) reported that knowledge contribution behavior is facilitated by the affective nature in the interpersonal relationship. Chiu et al. (2006) augured that interpersonal trust is positively associated with the quality of knowledge sharing in the virtual communities. Drawing upon social capital theory, Zhao et al. (2012) indicated that interpersonal relationship plays a significant role in facilitating individuals' volitional behaviors such as resource exchange and knowledge sharing. In a recent study, Chong, Lacka, Boying, and Chan, (2018) found that swift Guanxi created by interactivity and presence enhances trust, which further facilitates individuals' repurchase intentions in the online marketplaces.

In the context of WeChat Moments, once people have established a strong Guanxi network with other members, they are more likely to trust and do favors to others who ran into troubles, because of the emotional attachment established over a long period of time (Cheng, Huang, & Shih-Wei, 2013; Lin et al., 2018). Maintaining a strong Guanxi network is critical for reciprocity-based behaviors like information releasing, thumbs-ups and comments, since it prompts people's involvement intention and active participation behaviors. Accordingly, we propose the following research hypothesis:

H5. Guanxi network is positively associated with user participation

4. Research methodology

This study conducted an online survey to examine the research model and corresponding hypotheses. We selected this method since it allows global data and is beneficial to ensure the generalizability of the

results, as suggested in the previous literature (Jin, Zhou, Lee, & Cheung, 2013; Zhu, Li, Wang, & Chen, 2010). The following sections will describe the instrument design, the procedure of data collection and the results of structural model analysis.

4.1. Instrument design

This study refers to the previous literature to operationalize the items for each construct, using 7-point Likert scale ranging from "strongly disagree" (1) to "strongly agree" (7). Media richness is a first-order reflective construct, which is measured using three items (Lan & Sie, 2010; Lu et al., 2014). Interactivity is a second-order formative construct, which comprises of three dimensions regarding active control, two-way communication and synchronicity (Liu, 2003) Each dimension is measured as a first-order construct using three reflective items (Liu, 2003). Social interaction and shared understanding are adopted from social capital literature, and three reflective items are used to measure each construct (Chang & Chuang, 2011; Chiu et al., 2006). Guanxi is operationalized as a second-order reflective construct, which comprises of three facets of Ganqing, Renqing and Xinren (Yen et al., 2011). Each facet is measured using three reflective items. While user participation is adapted from Wasko and Faraj (2005)'s study, and three reflective items are used to measure the construct.

The items were translated into Chinese and a double check was conducted by Ph.D. students to guarantee the translation accuracy of the instrument. Several items were modified to better adapt to the research context of WeChat Moments. A pilot study was conducted before the final data collection, and a total of 63 college students were invited to complete the questionnaires. We adjusted a few items with factor loadings lower than 0.7 to improve the validity of the constructs (Chin, Marcolin, & Newsted, 2003). Table 1 describes the items for each construct and the corresponding references. The questionnaire items are provided in Appendix A.

4.2. Data collection

An online survey was conducted in China during February to March in the year of 2018. We majorly invited college students to participate in the investigation, since college students represent the most active users in the mobile social platform (CNNIC, 2018; Gan, 2017). A reward of 5 RMB was provided to the respondents who participated in the investigations. Of the 500 students contacted, 349 questionnaires were returned. In order to examine the non-response bias, this study conducted a *t*-test to compare the responding and non-responding students' demographic characteristics, as suggested in the previous literature (Liu et al., 2018). No significant differences were found based on the *t*-test (p > .05), suggesting that non-response bias is not a serious issue in our study (Liang, Saraf, Hu, & Xue, 2007; Liu et al., 2018).

Invalid questionnaires were deleted based on the following criteria: 1) The respondents provided same answers to all questions (e.g. all 1 or all 7); 2) The respondents missed too much data; 3) The respondents completed the questionnaire in very short time (e.g. no more than 100 s). After deleting 63 invalid samples, we finally got 287 valid datasets for analysis. The demographics of the sample is described in Table 2.

As noted in Table 2, the number of female users is slightly higher than male users. In addition, most of the respondents are young people aged between 20 and 30, and most of them possess a bachelor degree. Regarding the use frequency of WeChat Moments, most of the respondents use the mobile social platform for no more than three hours a day, and only 4.2% respondents reported that they used WeChat Moments for above 6 h per day. Friend number is investigated to reflect the network size of each user. As illustrated in Table 2, most of the respondents control their friend number within three hundred, and only 5.9% respondents have more than six hundred friends. Friends' and strangers' visibility setting is also investigated to measure individuals'

Table 2
Sample Characteristics.

Items	Types	Numbers	Percentage
Gender	Males	118	41.1%
	Females	169	58.9%
Age	Below 20	30	10.5%
	20-24	108	37.6%
	25-29	73	25.4%
	30-34	29	10.1%
	35-39	20	7.0%
	Above 40	27	9.4%
Education	Senior high school and below	72	25.1%
	Bachelor	187	65.1%
	Master and above	28	9.8%
Friends Number	Below 100	77	26.8%
	101-200	88	30.7%
	201-300	60	20.9%
	301-400	20	7.0%
	401-500	18	6.3%
	501-600	7	2.4%
	Above 600	17	5.9%
Use Frequency	Below 1 hour per day	68	23.7%
	1-2 hours per day	69	24.0%
	2-3 hour per day	77	26.8%
	3-4 hour per day	42	14.6%
	4-5 hour per day	10	3.5%
	5-6 hour per day	9	3.2%
	Above 6 hours per day	12	4.2%
Friends' Visibility	Friends are allowed to see the past three days' information released in the WeChat Moments	88	30.7%
	Friends are allowed to see the past half of year's information released in the WeChat Moments	72	25.1%
	Friends are allowed to see the full information released in the WeChat Moments	127	44.2%
Strangers' Visibility	Strangers are allowed to see the recent ten information released in the WeChat Moments	138	48.1%
	Strangers are not allowed to see the recent ten information released in the WeChat Moments	149	51.9%

Table 3
Construct Reliability and Validity Analysis.

Construct	Items	Factor Loadings	T Statistical Test Value	Composite Reliability	AVE
Media Richness(MR)	MR1	0.813	30.315	0.828	0.616
	MR2	0.791	27.699		
	MR3	0.750	20.145		
Active Control(AC)	AC1	0.733	22.092	0.796	0.567
	AC2	0.706	15.938		
	AC3	0.816	32.178		
Two-way Communication (TC)	TC1	0.829	50.479	0.803	0.576
	TC2	0.734	26.861		
	TC3	0.710	18.592		
Synchronicity(SY)	SY1	0.854	55.481	0.852	0.657
	SY2	0.764	26.782		
	SY3	0.812	39.880		
Social Interaction(SI)	SI1	0.776	25.921	0.842	0.640
	SI2	0.794	34.494		
	SI3	0.828	38.903		
Shared Understanding (SU)	SU1	0.782	31.854	0.843	0.643
	SU2	0.806	35.232		
	SU3	0.818	41.880		
Ganqing(GQ)	GQ1	0.833	47.760	0.840	0.637
	GQ2	0.780	31.764		
	GQ3	0.781	39.153		
Renqing(RQ)	RQ1	0.758	31.003	0.838	0.633
	RQ2	0.825	48.998		
	RQ3	0.802	37.995		
Xinren(XR)	XR1	0.777	32.501	0.844	0.644
	XR2	0.803	32.723		
	XR3	0.827	51.906		
User Participation (UP)	UP1	0.856	53.618	0.857	0.685
	UP2	0.810	33.578		
	UP3	0.816	30.287		

privacy concern in the WeChat Moments. Table 2 suggests that most of the respondents only allow their friends to access their information published in the past three days or half of year, and over half of the respondents do not allow strangers to see their recent ten released information in the WeChat Moments. The statistical analysis results suggest that people care about privacy issues in the mobile social platform.

4.3. Structural equation model analysis

Structural equation modelling (SEM) approach was used to examine the research model since it allows the incorporation and process of both unobserved (latent) and observed variables simultaneously, and can handle errors of measurement within exogenous variables in a better manner (Gefen, Straub, & Boudreau, 2000). SmartPLS 3.0 was selected as a primary statistical tool since it can handle both reflective and formative constructs, and is more appropriate for theory exploration and prediction compared with covariance-based SEM methods (Gefen et al., 2000). The sample size of 287 can satisfy the requirements of PLS-either 10 times the larger measurement number within the same construct or 10 times the larger construct number affecting the same construct (Chin et al., 2003).

4.3.1. Measurement model

Following a two-step analysis procedure, the measurement model was examined to assess the reliability, convergent validity, and discriminant validity of the constructs. As illustrated in Table 3, the item

loadings of each construct all exceed 0.7, and the Cronbach's alpha for each construct is highly above 0.7, indicating a good internal consistency and reliability of the items. In addition, the average variance extracted (AVE) for each construct is higher than 0.5, demonstrating an adequate convergent validity of the measurement model (Chin et al., 2003).

Discriminant validity of the constructs was assessed based on the following two criteria (Chin et al., 2003): 1) the square root of the AVE for each construct exceeds that construct's correlation with other constructs; 2) the items load more highly on constructs they are intended to measure than on other constructs. This study first conducted a correlation analysis according to the first criterion. As noted in Table 4, the square root of the AVE for each construct (the values on the diagonal) is higher than that construct's correlation with other constructs. This study then conducted a cross-loading analysis according to the second criterion. As described in Table 5, the items load much higher on its assigned construct than on the other constructs. The above analysis results suggest an adequate discriminant validity of the measurement model (Chin et al., 2003).

Interactivity is a second-order formative construct made up of three first-order constructs, in terms of active control, two-way communication, and synchronicity. Following Wetzels, Odekerken-Schröder, and Oppen, (2009)'s research, this study adopted the repeated use of manifest indicators approach to measure second-order formative constructs, which was recognized as a robust method in the previous literature (Chong et al., 2018; Wetzels et al., 2009). Since formative second-order constructs may result in a potential collinearity among the first-order indicators, this study further conducted a correlation analysis between the first-order indicators using variance inflation factors (VIF) based on the previous literature (Chong et al., 2018; Ou et al., 2014). As illustrated in Table 6, the VIF value for each first-order indicator is far below the acceptable threshold of 3.3, suggesting that collinearity may not be a serious issue in this study (Petter, Straub, & Rai, 2007).

Table 4
Correlation Analysis.

	Mean	S.D.	MR	AC	TC	SY	SI	SU	GQ	RQ	XR	UP
MR	4.126	0.932	**0.785**									
AC	4.223	0.689	0.461	**0.753**								
TC	3.991	0.713	0.576	0.403	**0.759**							
SY	4.169	0.725	0.566	0.508	0.560	**0.810**						
SI	4.103	0.716	0.352	0.218	0.458	0.402	**0.800**					
SU	3.946	0.776	0.392	0.180	0.472	0.400	0.472	**0.802**				
GQ	3.862	0.775	0.329	0.369	0.469	0.360	0.365	0.423	**0.798**			
RQ	3.939	0.702	0.389	0.242	0.541	0.401	0.347	0.385	0.635	**0.796**		
XR	3.568	0.869	0.116	0.145	0.372	0.251	0.341	0.319	0.445	0.369	**0.802**	
UP	3.943	0.991	0.521	0.265	0.469	0.491	0.499	0.332	0.394	0.447	0.308	**0.828**

Table 5
Cross Loadings Analysis.

	MR	AC	TC	SY	SI	SU	GQ	RQ	TR	UP
MR1	**0.81**	0.41	0.48	0.47	0.30	0.31	0.23	0.30	0.10	0.43
MR2	**0.79**	0.35	0.45	0.50	0.29	0.28	0.24	0.30	0.07	0.44
MR3	**0.75**	0.33	0.43	0.36	0.24	0.34	0.31	0.31	0.10	0.36
AC1	0.33	**0.73**	0.32	0.43	0.24	0.13	0.28	0.26	0.18	0.29
AC2	0.31	**0.71**	0.23	0.29	0.09	0.08	0.28	0.10	0.05	0.15
AC3	0.40	**0.82**	0.35	0.42	0.15	0.18	0.28	0.17	0.09	0.16
TC1	0.46	0.34	**0.83**	0.47	0.41	0.43	0.43	0.49	0.37	0.37
TC2	0.45	0.30	**0.73**	0.47	0.34	0.33	0.24	0.36	0.19	0.37
TC3	0.40	0.28	**0.71**	0.32	0.28	0.31	0.40	0.38	0.29	0.32
SY1	0.47	0.50	0.48	**0.85**	0.37	0.36	0.34	0.35	0.22	0.38
SY2	0.45	0.37	0.40	**0.76**	0.30	0.31	0.25	0.28	0.10	0.38
SY3	0.45	0.36	0.48	**0.81**	0.31	0.31	0.29	0.34	0.28	0.44
SI1	0.25	0.16	0.32	0.27	**0.78**	0.31	0.34	0.29	0.31	0.44
SI2	0.28	0.18	0.36	0.31	**0.79**	0.36	0.28	0.28	0.21	0.39
SI3	0.31	0.18	0.42	0.38	**0.83**	0.45	0.25	0.26	0.30	0.37
SU1	0.31	0.17	0.39	0.27	0.34	**0.78**	0.32	0.28	0.25	0.25
SU2	0.31	0.11	0.39	0.37	0.39	**0.81**	0.33	0.34	0.27	0.31
SU3	0.32	0.16	0.36	0.32	0.40	**0.82**	0.37	0.31	0.25	0.24
GQ1	0.21	0.30	0.40	0.29	0.31	0.31	**0.83**	0.50	0.46	0.31
GQ2	0.26	0.25	0.36	0.25	0.28	0.35	**0.78**	0.49	0.31	0.30
GQ3	0.32	0.34	0.36	0.33	0.28	0.36	**0.78**	0.53	0.29	0.34
RC1	0.26	0.21	0.46	0.27	0.25	0.24	0.47	**0.76**	0.34	0.35
RC2	0.35	0.20	0.44	0.35	0.31	0.35	0.56	**0.83**	0.32	0.38
RC3	0.32	0.18	0.39	0.33	0.28	0.32	0.48	**0.80**	0.23	0.34
TR1	0.10	0.22	0.25	0.20	0.22	0.18	0.35	0.27	**0.78**	0.27
TR2	0.07	0.07	0.33	0.16	0.29	0.27	0.33	0.28	**0.80**	0.24
TR3	0.11	0.07	0.31	0.24	0.31	0.31	0.38	0.34	**0.83**	0.23
UP1	0.49	0.30	0.41	0.45	0.40	0.25	0.40	0.36	0.23	**0.86**
UP2	0.43	0.20	0.42	0.34	0.45	0.32	0.31	0.42	0.28	**0.81**
UP3	0.36	0.14	0.32	0.44	0.38	0.26	0.26	0.33	0.26	**0.82**

Table 6
Path Weights and VIF Values for Second-Order Indicators.

Formative Indicators for Interactivity	Path Weights	VIF
Active Control	0.303**	1.388
Two-way Communication	0.427**	1.499
Synchronicity	0.488**	1.693

(Note: ** p < .01).

4.3.2. Structural modelling analysis

The structural modelling analysis was conducted to examine the path relationship and explanatory power of the research model. Bootstrapping procedure method was used to calculate the statistical significance of the parameter estimates, which is beneficial to derive valid standard errors or t-values (Temme, Kreis, & Hildebrandt, 2006). In order to control the other factors, this study included friend number and friends' visibility as control variables of Guanxi network, and included use frequency, gender, age and education as control variables of user participation, as suggested in the previous literature. The analysis result is described in Fig. 2.

As illustrated in Fig. 2, media richness is significantly associated with social interaction and shared understanding ($\beta_1 = 0.086$, p < 0.05; $\beta_2 = 0.165$, p < 0.01), thus supports hypotheses H1a and H1b. Interactivity has strong influences on social interaction and shared understanding ($\beta_1 = 0.402$, p < 0.01; $\beta_2 = 0.342$, p < 0.01), thus provides support for hypotheses H2a and H2b. Social interaction and shared understanding are positively associated with Guanxi network ($\beta_1 = 0.288$, p < 0.01; $\beta_2 = 0.323$, p < 0.01), thus supports hypotheses H3 and H4. Guanxi network has a strong influence on user participation ($\beta_1 = 0.462$, p < 0.01), which is consistent with hypothesis H5.

In terms of the influences of control variables, Fig. 2 suggests that users' friend number is negatively associated with Guanxi network ($\beta_1 = -0.092$, p < 0.01), and users' setting of friends' visibility is also negatively associated with Guanxi network ($\beta_1 = -0.129$, p < 0.01). With regard to the control variables of user participation, Fig. 2 demonstrates that user frequency is positively associated with user participation, which is consistent with the previous research findings. While gender, age and education have no significant influences on user participation.

Regarding the explanatory power of the research model. As illustrated in Fig. 2, R^2 value of social interaction and shared understandings are 21.5% and 21.9% respectively. The results indicate that technology affordances of media richness and interactivity can explain a large proportion of variance for structural and cognitive capitals. Moreover, R^2 value of Guanxi network and user participation are 30.2% and 29.2% respectively. The results suggest that the two dimensions of social capitals can explain a large proportion of variance for Guanxi network and user participation, demonstrating a good explanatory power of the theoretical model.

4.3.3. Common method bias analysis

There is a potential for common method bias if all data are collected from the same source (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). Thus, this study further conducted a common method bias (CMB) analysis in SmartPLS 3.0. Following Williams, Edwards, and Vandenberg, (2003) and Liang et al. (2007)'s procedure, this study added a common method factor (method construct) in the structural model that included all the principal constructs' indicators. Then each indicator's variances substantively explained by the principal construct and the method construct is calculated. The analysis results are described in Table 7 (R_1^2 represents indicators' variances explained by the principal construct; R_2^2 represents indicators' variances explained by the method construct).

As illustrated in Table 7, the average variance explained by the principal constructs is 0.631, while the average variance explained by the method construct is 0.002. The ratio of substantive variance to method variance is about 315:1. The results demonstrate that common method bias may not be a serious concern in this study, as suggested in the previous literature (Liang et al., 2007; Williams et al., 2003).
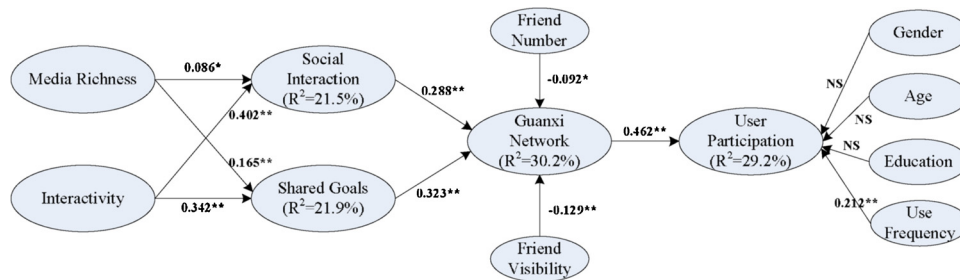
Fig. 2. Structural Model Analysis.

Table 7
Common Method Bias Analysis Results.

Construct	Indicator	Substantive Factor Loading	R_1^2	Method factor loading	R_2^2
Media Richness(MR)	MR1	0.817**	0.667	−0.003	0.000
	MR2	0.805**	0.648	−0.016	0.000
	MR3	0.731**	0.534	0.022	0.000
Active Control(AC)	AC1	0.706**	0.498	0.123*	0.015
	AC2	0.748**	0.559	−0.106*	0.011
	AC3	0.816**	0.666	−0.013	0.000
Two-way	TC1	0.829**	0.687	0.067	0.004
Communication	TC2	0.712**	0.507	0.007	0.000
(TC)	TC3	0.734**	0.539	−0.084	0.007
Synchronicity(SY)	SY1	0.848**	0.719	0.034	0.001
	SY2	0.769**	0.591	−0.060	0.000
	SY3	0.813**	0.661	0.021	0.000
Social Interaction(SI)	SI1	0.768**	0.590	0.012	0.000
	SI2	0.804**	0.646	−0.028	0.001
	SI3	0.828**	0.686	0.016	0.000
Shared	SG1	0.783**	0.613	−0.021	0.000
Understanding	SG2	0.799**	0.638	0.038	0.001
(SU)	SG3	0.822**	0.676	−0.016	0.000
Ganqing(GQ)	GQ1	0.827**	0.684	−0.022	0.000
	GQ2	0.786**	0.618	−0.038	0.001
	GQ3	0.781**	0.610	0.061	0.004
Renqing(RQ)	RQ1	0.751**	0.564	0.001	0.000
	RQ2	0.820**	0.672	0.055	0.003
	RQ3	0.814**	0.663	−0.058	0.003
Xinren(XR)	XR1	0.778**	0.605	−0.025	0.001
	XR2	0.810**	0.656	0.032	0.001
	XR3	0.818**	0.669	0.035	0.001
User Participation	UP1	0.856**	0.733	0.035	0.001
(UP)	UP2	0.789**	0.623	0.075	0.006
	UP3	0.838**	0.702	−0.108*	0.012

(Notes: ** represents p < 0.01; * represents p < 0.05).

5. Discussions and implications

5.1. Discussion of findings

There are four salient findings concluded from the empirical results. Firstly, this study examines the influences of technology affordance and social capital on user participation in a typical mobile social platform of WeChat Moments. Despite social network and mobile social media usage have attracted the attention of IS scholars, previous literature mostly focused on psychological motivations (Chang & Chuang, 2011; Hau et al., 2013), while ignoring the influence of technology affordance. This study finds that media richness and interactivity have positive influences on social interaction and shared understanding, which in turn facilitate user participation in the mobile social platform. On the one hand, a rich and variety of media and communication channels are beneficial to facilitate members' social interaction and shared understanding in the mobile social platform. On the other hand, the three attributes of interactivity (active control, two-way communication and synchronicity) play significant roles in facilitating individuals' structural and cognitive capitals in the platform. Accordingly, social

interaction and shared understanding among members will be greatly increased when the platform has enabled users to read and comment on their favorite information, communicate and interact intimately with friends, and receive instant feedback from other members.

Secondly, this study examines the relationship between structural capital, cognitive capital and Guanxi in the mobile social platform. Previous literature has tested the influences of structural capital and cognitive capital on relational capital in various situations (Wasko & Faraj, 2005; Zhao et al., 2012; Hau et al., 2013), while ignoring the special meaning of relational capital in the Chinese context. In particular, this study introduces Guanxi network in the research model to better adapt to the specific cultural context in China. The results suggest that structural capital and cognitive capital had positive effects on Guanxi network in the mobile social platform. On the one hand, intense social interactions with other members are advantageous to build Guanxi network in the platform. On the other hand, mutual understandings and common goals can also establish a strong and intimate Guanxi network bonding in the platform.

Thirdly, this study examines the relationship between Guanxi network and user participation in the mobile social platform. Prior literature has justified the significance of Guanxi network in organizational contexts (Davison et al., 2013; Ou & Davison, 2016), yet ignoring its influence on user participation in social networks. Our empirical results demonstrate that individuals are more likely to participate in the WeChat Moments when they have established a strong Guanxi network with other members in the mobile social platform.

Last but not least, this study adds friend number (representing a user's network size) and friends' visibility (representing a user's privacy concern) as significant control variables in the research model. Previous literature in social network has indicated the significance of network size (Ji & Jeong, 2017), while few studies have empirically examined its influence on Guanxi building, especially in the emerging context of mobile social platform. Our empirical results indicate that users with a smaller friend network are more likely to build Guanxi network in the WeChat Moments. They may prefer to establish strong relationships in the mobile social platform by setting up a limit of friend number. While users who care more about their personal privacy are less likely to build Guanxi network in the mobile social platform. They may prefer to use WeChat Moments as a platform for browsing information instead of accumulating social capitals.

5.2. Theoretical implications

For theoretical implications, this study makes at least three major contributions to the extant literature. Firstly, this study uncovers the significant antecedents of user participation in the mobile social platform from a social capital theoretical perspective. Previous literature in this area mostly focused on users' psychological motivations or use gratification (Lien & Cao, 2014; Gan, 2017), while ignoring the influence of social capital on user participation. To our knowledge, this is one of the few studies that applied Nahapiet and Ghoshal (1998)'s social capital framework in the emerging context of WeChat Moments. The empirical results found that structural capital (social interaction),

cognitive capital (shared understanding) and relational capital (Guanxi) play significant roles in facilitating users' active participation behaviors in the mobile social platform. The research findings are consistent with the previous studies that social capital is a significant antecedent of user participation in the virtual communities (Hau et al., 2013; Zhao et al., 2012). Moreover, our research findings further extend previous literature by examining the specific relationships among the three dimensions of social capital in the new research context.

Secondly, this study introduces Chinese Guanxi in the research framework as a significant relational capital, and uncovers its influence on user participation in the mobile social platform. Previous literature has posited the significance of Guanxi in the organizational context (Ou & Davison, 2016; Davison et al., 2013), yet few studies have examined its influence in social network sites or mobile social platforms. Although social capital theory has been widely applied to explain user behaviors in China, key elements representing Chinese culture such as Ganqing and Renqing are neglected to some extent. Given the salient characteristics of interpersonal relationship in China and the ubiquitous of Guanxi across the whole society (Fu, Tsui, & Dess, 2006; Gan, 2017; Zhang et al., 2017; Davison et al., 2013), this study integrates social capital with Guanxi to examine their joint influences on user participation in the mobile social platform. The analysis results found that social interaction and shared understandings are positively associated with Guanxi network, which in turn facilitates user participation in the mobile social platform. The empirical research findings can enrich the extant literature of Guanxi in the emerging context of mobile social platform, and further confirm the significance of Guanxi network building in China across various situations (Fu et al., 2006; Gan, 2017; Zhang et al., 2017; Davison et al., 2013).

Thirdly, this study reveals the impact mechanism of media richness and interactivity on Guanxi network in the WeChat Moments from a technology affordance theoretical perspective. Previous literature has posited the importance of social media in developing and maintaining Guanxi network in organizational contexts (Ou & Davison, 2016; Davison et al., 2013), while ignoring its influence in the context of mobile social network sites. Originated from China, WeChat Moments is a typical mobile social platform with various types of media formats and interactive functionalities, which can add value to the social interactions and communications among users. Although prior literature provides us theoretical foundations related to technology affordance (Liu & Shrum, 2002; Sundar, 2008; Dennis et al., 2008; Fan et al., 2016), to our knowledge, few studies have examined what specific technology attributes are most beneficial to build Guanxi network in the mobile social platform. In particular, research that applies media richness and interactivity theories in the context of mobile social platform is scant. Drawing upon technology affordance theory, this study examines the impact mechanism of media richness and interactivity affordances on individuals' Guanxi network in the WeChat Moments. The research findings can enrich the existing literature of media richness and interactivity in the emerging context of mobile social network sites.

5.3. Practical implications

For practical implications, this study can provide guidelines for the developers and administrators of social network sites and mobile social platforms. Given the significance of technology affordance in building Guanxi network, the developers of the platform should design and implement various types of social media affordances based on the criteria of media richness and interactivity. Firstly, the attribute of media richness has a significant effect on social interaction and mutual understanding in the mobile social platform. Thus, the platform developers are advised to extend the richness of media by purveying various languages, symbols, pictures, emoji, music, videos, and 3D views. For example, WeChat has implemented various "micro-innovations" in media formats such as real-time voice message, small video, social

game plug-in, red envelope and advertising since its release. WeChat users can send "red envelope" to their friends as a gift in the platform during the traditional festivals. The technology affordance of media richness can help accumulate structural capitals and promote a better understanding among friends in the mobile social platform.

Secondly, the attribute of interactivity (in terms of active control, two-way communication and synchronicity) is also identified as a significant driver of social interaction and shared understanding. Accordingly, the platform developers and administrators should design and implement more interaction modules and ameliorate an effective communication environment in the mobile social platform. For instance, WeChat has designed various interaction modules such as chat room and official account to satisfy users' specific interests and preferences. In the WeChat Moments, users can follow up their favorite information, release dynamics, give thumbs-ups and comment on friends' posts without the constraints of time and location. The technology affordance of interactivity is beneficial for users to accumulate social and cognitive capitals in the mobile social platform.

Thirdly, our research findings suggest that social interaction and shared understanding are beneficial to build Guanxi network, which in turn galvanizes users' participation behaviors in the mobile social platform. Originated from China, Guanxi is recognized as a significant interpersonal relationship that represents Chinese culture. Thus, the operators and administers should pay more attention to the establishment of Guanxi network when developing and maintaining social network sites and mobile social platforms. The success of WeChat Moments is a good example. By developing and popularizing the application of "WeChat Moments", Tencent successfully leads the market of mobile social applications in China. For the extensive usage of WeChat in surroundings, users can get to know their friends' daily lives by reading through dynamics and invite new friends they know offline to join in the WeChat platform. The accumulation of social capitals can help solidify users' Guanxi network. Once users have established a strong Guanxi network in the WeChat Moments, they are more likely to actively participate in the platform and will not easily swift to other social platforms. Apart from that, WeChat Moments is now occupying overseas markets and attracting people all over the world by developing applications with different versions of language (Huang et al., 2018). The popularity and success of WeChat can provide effective guidelines to other social network sites and mobile social platforms.

6. Conclusions and future research directions

Drawing upon social capital theory and technology affordance theory, this study develops a research model to examine the impact mechanism of media richness and interactivity on Guanxi network and user participation in the WeChat Moments platform. We conducted an online survey in China and collected 287 valid data from WeChat users. Structural equation modelling analysis results suggest that users' perception of media richness and interactivity are significant antecedents of social interaction and shared understanding, which in turn promote users' Guanxi network and active participation behaviors in the mobile social platform. In addition, analysis results of the control variables further suggest that users with a smaller friend network are more active in building Guanxi network in the WeChat Moments, while users who limit their friend visibility are less likely to build Guanxi network in the WeChat Moments platform because of privacy concern.

This study has several limitations that leave open future research directions. Firstly, this study used cross-sectional data to examine the theoretical model and all data were collected from one source. Although the statistical analysis results suggest that common method bias may not be a concern in this study, future studies could take a longitudinal approach and collected data in different periods from different sources, in order to further confirm the causal relationship among the constructs. Secondly, this study conducted a survey in China, which may limit the generalization of the empirical research findings.

Future studies can extend the sample size and investigate users from other countries, in order to obtain more reliable statistical analysis results and explore if there exist cultural differences. Thirdly, future studies can add users' social network size and privacy concern as contingency factors in the research model, in order to examine their moderating effects on the influence of technology affordance and social capitals. Last but not least, future studies can further classify the overall social network friends into three types: stranger, acquaintance and the one that just met. A mixed method comprised of experiment and survey can be conducted to explore if there is any significant difference for Guanxi network building among the three groups. The multi-group analysis may lead to more interesting research findings.

Acknowledgements

Appendix A

Constructs	Items
Media Richness	I can use various media (text, picture, video) to release dynamic information in the WeChat Moments
	I can use small video to sharing information with my friends in the WeChat Moments
	I can express my arguments using various emoji packages in the WeChat Moments.
Active Control	I can choose freely what I wanted to see in the WeChat Moments
	I can read and comment on my favorite information in the WeChat Moments
	I can set up friends' access limit of my personal information in the WeChat Moments
Two-way Communication	WeChat Moments enables me to conveniently communicate with friends
	WeChat Moments facilitates current communication among friends
	WeChat Moments provides me the opportunity to convey information and share knowledge with friends
Synchronicity	Releasing and achieving information in the WeChat Moments is fast
	I can quickly find the required information in the WeChat Moments without delay.
	I was able to obtain the newest released information in the WeChat Moments.
Social Interaction	I keep close interactions with friends in the WeChat Moments
	I have frequent communications with friends in the WeChat Moments
	I spend a lot of time interacting with friends in the WeChat Moments
Shared Understanding	I have common goals and values with friends in the WeChat Moments
	I have common interests with friends in the WeChat Moments
	I have similar experiences with friends in the WeChat Moments.
Ganqing	I care about my friends' feelings when releasing dynamic information in the WeChat Moments
	I care about my friends' feelings when giving thumbs-ups or comments in the WeChat Moments
	I would try my best to help out my friends when they are in need in the WeChat Moments
Renqing	WeChat Moments maintains the practice of "give and take" among friends
	I am happy to do a favor for friends in the WeChat Moments in order to tighten up relationships with them.
	WeChat Moments allows me to return favors to my friends who have helped me
Xinren	Friends in the WeChat Moments are trustworthy
	Friends in the WeChat Moments behave in a consistent manner
	Friends in the WeChat Moments will always keep my interests in mind
User Participation	I often release dynamics in the WeChat Moments
	I often thumb up and comment in the WeChat Moments
	I spent a lot of time participating in the WeChat Moments.

References

Anandarajan, M., Zaman, M., Dai, Q., & Arinze, B. (2010). Generation Y adoption of instant messaging: An examination of the impact of social usefulness and media richness on use richness. *IEEE Transactions on Professional Communication, 53*(2), 132–143.

Arias, J. T. G. (1998). A relationship marketing approach to Guanxi. *European Journal of Marketing, 32*(2), 145–155.

Alalwan, A. A., Rana, N. P., Dwivedi, Y. K., & Algharabat, R. (2017). Social media in marketing: A review and analysis of the existing literature. *Telematics and Informatics, 34*(7), 1177–1190.

Aswani, R., Kar, A. K., Ilavarasan, P. V., & Dwivedi, Y. K. (2018). Search engine marketing is not all gold: Insights from twitter and SEOClerks. *International Journal of Information Management, 38*(1), 107–116.

Chang, H. H., & Chuang, S. S. (2011). Social capital and individual motivations on knowledge sharing: Participant involvement as a moderator. *Information & Management, 48*(1), 9–18.

Carlson, J. R., & Zmud, R. W. (1999). Channel expansion theory and the experiential nature of media richness perceptions. *Academy of Management Journal, 42*(2), 153–170.

Chen, X. P., & Chen, C. C. (2004). On the intricacies of the Chinese guanxi: A process model of guanxi development. *Asia Pacific Journal of Management, 21*(3), 305–324.

Cheng, H.-H., Huang, & Shih-Wei (2013). Exploring Antecedents And consequence of online group-buying intention: An extended perspective on theory of planned behavior. *International Journal of Information Management, 33*(1), 185–198.

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.

Chin, W. W., Marcolin, B. L., & Newsted, P. R. (2003). A partial least squares latent variable modeling approach for measuring interaction effects: Results from a Monte carlo simulation study and an electronic-mail emotion/adoption study. *Information systems research, 14*(2), 189–217.

Chiu, C. M., Hsu, M. H., & Wang, E. T. G. (2006). Understanding knowledge sharing in virtual communities: An integration of social capital And social cognitive theories. *Decision Support Systems, 42*(3), 1872–1888.

Chong, A. Y. L., Lacka, E., Boying, L., & Chan, H. K. (2018). The role of social media in enhancing guanxi and perceived effectiveness of E-commerce institutional mechanisms in online marketplace. *Information & Management.* https://doi.org/10.1016/j.im.2018.01.003.

CNNIC (2015). *Social media user behavior in China.* Retrieved from http://www.cnnic.net.cn/hlwfzyj/hlwxzbg/sqbg/201604/t20160408_53518.htm.

CNNIC (2018). *41th statistical report on internet development in China* Retrieved from http://www.cnnic.net.cn/hlwfzyj/hlwxzbg/hlwtjbg/201803/P020180305409870339136.pdf.

Daft, R. L., & Lengel, R. H. (1984). Information richness: A new approach to manager information processing and organization design. In B. Staw, & L. L. Cummings (Eds.). *Research in organizational behavior.* Greenwich, Conn: JAI Press.

Davison, R. M., Ou, C. X. J., & Martinsons, M. G. (2013). Information technology to support informal knowledge sharing. *Information Systems Journal, 23*(1), 89–109.

D'ambra, J., Rice, R. E., & O'connor, M. (1998). Computer-mediated communication and media preference: An investigation of the dimensionality of perceived task equivocality and media richness. *Behaviour & Information Technology, 17*(3), 164–174.

Dennis, A. R., Fuller, R. M., & Valacich, J. S. (2008). Media, tasks, and communication processes: A theory of media synchronicity. *MIS Quarterly, 32*(3), 575–600.

Dwivedi, Y. K., Kapoor, K. K., & Chen, H. (2015). Social media marketing and advertising. *The Marketing Review, 15*(3), 289–309.

Eye (2007). *Online Chinese english, english Chinese dictionary, (online).* Available:http://www.dreye.com.

Fang, T. (1999). *Chinese business negotiating style.* California, U.S.A: Sage Publications.

Fan, L., Liu, X., Wang, B., & Wang, L. (2016). Interactivity, engagement, and technology dependence: Understanding users' technology utilisation behaviour. *Behaviour & Information Technology, 36*(2), 113–124.

Fu, P. P., Tsui, A. S., & Dess, G. G. (2006). The dynamics of guanxi in Chinese hightech firms: Implications for knowledge management and decision making. *Management International Review, 46*(3), 277–305.

Gan, C. (2017). Understanding WeChat users' liking behavior: An empirical study in china. *Computers in Human Behavior, 68*, 30–39.

Gefen, D., Straub, D., & Boudreau, M. C. (2000). Structural equation modeling and regression: Guidelines for research practice. *Communications of the association for information systems, 4*(1), 7.

Giesbers, B., Rienties, B., Tempelaar, D., & Gijselaers, W. (2013). Investigating the relations between motivation, tool use, participation, and performance in an elearning course using web-videoconferencing. *Computers in Human Behavior, 29*(1), 285–292.

Hau, Y. S., Kim, B., Lee, H., & Kim, Y. G. (2013). The effects of individual motivations and social capital on employees' tacit and explicit knowledge sharing intentions. *International Journal of Information Management, 33*(2), 356–366.

Huang, H., Akbaria, H., Alef, N., Liukitithara, P., Marazzi, M., Verhaelen, B., et al. (2018). *International users' experience of social media: A comparison between facebook and WeChat. International Conference on Cross-Cultural Design.* Cham: Springer341–349.

Hsia, J. W., Chang, C. C., & Tseng, A. H. (2014). Effects of individuals' locus of control and computer self-efficacy on their E-learning acceptance in high-tech companies. *Behaviour & Information Technology, 33*(1), 51–64.

Jin, X. L., Zhou, Z. Y., Lee, M. K. O., & Cheung, C. (2013). Why users keep answering questions in online question answering; Communities: A theoretical and empirical investigation. *International Journal of Information Management, 33*(1), 93–104.

Jiang, Z., Chan, J., Tan, B. C. Y., & Wei, S. C. (2010). Effects of interactivity on website involvement and purchase intention. *Journal of the Association for Information Systems, 11*(1), 34–59.

Ji, H. Y., & Jeong, E. J. (2017). Psychosocial effects of SNS use: A longitudinal study focused on the moderation effect of social capital. *Computers in Human Behavior, 69*, 108–119.

Kapoor, K. K., Tamilmani, K., Rana, N. P., Patil, P., Dwivedi, Y. K., & Nerur, S. (2018). Advances in social media research: Past, present and future. *Information Systems Frontiers, 20*(4), 1–28.

Kamboj, S., Sarmah, B., Gupta, S., & Dwivedi, Y. K. (2018). Examining branding co-creation in brand communities on social media: Applying paradigm of stimulus-organism-response. *International Journal of Information Management, 39*(4), 169–185.

Koh, J., Kim, Y.-G., Butler, B., & Bock, G. W. (2007). Encouraging participation in virtual communities. *Communications of the ACM, 50*(2), 69–73.

Lan, Y.-F., & Sie, Y.-S. (2010). Using RSS to support mobile learning based on media richness theory. *Computers Education, 55*, 723–732.

Lien, C. H., & Cao, Y. (2014). Examining WeChat users' motivations, trust, attitudes, and positive word-of-mouth: Evidence from China. *Computers in Human Behavior, 41*, 104–111.

Lien, C. H., Cao, Y., & Zhou, X. (2017). Service quality, satisfaction, stickiness, And usage intentions: An exploratory evaluation in the context of WeChat services. *Computers in Human Behavior, 68*, 403–410.

Li, H., Daugherty, T., & Biocca, F. (2002). Impact of 3-D advertising on product knowledge, brand attitude, and purchase intention: The mediating role of presence. *Journal of Advertising, 31*(3), 43–58.

Liang, H., Saraf, N., Hu, Q., & Xue, Y. (2007). Assimilation of enterprise systems: The effect of institutional pressures and the mediating role of top management. *Management Information Systems Quarterly, 31*(1), 59–87.

Liu, Y., Li, Y., Tao, L., & Wang, Y. (2008). Relationship stability, trust and relational risk in marketing channels: Evidence from China. *Industrial Marketing Management, 37*(4), 432–446.

Liu, Y. (2003). Developing a scale to measure the interactivity of websites. *Journal of Advertising Research, 43*(2), 207–216.

Liu, Y. P., & Shrum, L. J. (2002). What is interactivity and is it always such a good thing? Implications of definition, person, and situation for the influence of interactivity on advertising effectiveness. *Journal of Advertising, 31*(4), 53–64.

Liu, L., Cheung, C. M. K., & Lee, M. K. O. (2016). An empirical investigation of information sharing behavior on social commerce sites. *International Journal of Information Management, 36*(5), 686–699.

Liu, Q., Shao, Z., & Fan, W. (2018). The impact of users' sense of belonging on social media habit formation: Empirical evidence from social networking and microblogging websites in China. *International Journal of Information Management, 43*, 209–223.

Lin, J., Luo, Z., Cheng, X., & Li, L. (2018). Understanding the interplay of social commerce affordances and swift guanxi: An empirical study. *Information & Management.* https://doi.org/10.1016/j.im.2018.05.009.

Lu, Y., Kim, Y., Dou, X., & Kumar, S. (2014). Promote physical activity among college students: Using media richness and interactivity in web design. *Computers in Human Behavior, 41*, 40–50.

Lu, Y., Zhao, L., & Wang, B. (2010). From virtual community members to C2C e-commerce buyers: Trust in virtual communities and its effect on consumers' purchase intention. *Electronic Commerce Research and Applications, 9*(4), 346–360.

Luk, S. T. K., Fullgrabe, L., & Li, S. C. Y. (1999). Managing direct selling activities in China: A cultural explanation. *Journal of Business Research, 45*, 257–266.

Luo, Y. (1997). Guanxi: Principles, philosophies, and implications. *Human Systems Management, 16*(1), 43–51.

Ma, L., Zhang, X., & Yan Ding, X. (2018). *Social media users' share intention and subjective well-being: An empirical study based on WeChat.* Online Information Review. Available Onlinehttps://doi.org/10.1108/.

Martinsons, M. G. (2008). Relationship-based E-commerce: Theory and evidence from China. *Information Systems Journal, 18*(4), 331–356.

Maity, M., Dass, M., & Kumar, P. (2018). The impact of media richness on consumer information search and choice. *Journal of Business Research, 87*, 36–45.

Nahapiet, J., & Ghoshal, S. (1998). Social capital, intellectual capital, and the organizational advantage. *The Academy of Management Review, 23*(2), 242–266.

Newberry, B. (2001). Raising student social presence in online classes. *Proceedings of the World Conference on the WWW and Internet, 7*.

Niedermeier, K. E., Wang, E., & Zhang, X. (2016). The use of social media among business-to-business sales professionals in china: How social media helps create and solidify guanxi relationships between sales professionals and customers. *Journal of Research in Interactive Marketing, 10*(1), 33–49.

Ou, C. X. J., & Davison, R. M. (2016). Shaping guanxi networks at work through instant messaging. *Journal of the Association for Information Science & Technology, 67*(5), 1153–1168.

Ou, C. X., Pavlou, P. A., & Davison, R. M. (2014). Swift Guanxi in online marketplaces: The role of computer-mediated communication technologies. *MIS Quarterly, 38*(1), 209–230.

Paul, B. L., Nicholas, C. R., Jeffrey, L. J., & Randy, W. G. (2009). The CMC interactivity model: How interactivity enhances communication quality and process satisfaction in lean-media CMC groups. *Journal of Management Information Systems, 26*(1), 155–196.

Petter, S., Straub, D., & Rai, A. (2007). Specifying formative constructs in information systems research. *Mis Quarterly, 31*(4), 623–656.

Podsakoff, P. M., MacKenzie, S. B., Lee, J. Y., & Podsakoff, N. P. (2003). Common method biases in behavioral research: A critical review of the literature and recommended remedies. *Journal of Applied Psychology, 88*(5), 879–903.

Putnam, R. D. (1995). Tuning in, tuning out: The strange disappearance of social capital in America. *Political Science and Politics, 28*(4), 664–683.

Shiau, W.-L., Dwivedi, Y. K., & Yang, H.-S. (2017). Co-citation and cluster analyses of extant literature on social networks. *International Journal of Information Management, 37*(5), 390–399.

Shiau, W.-L., Dwivedi, Y. K., & Lai, H.-H. (2018). Examining the core knowledge on Facebook. *International Journal of Information Management, 43*, 52–63.

Sundar, S. S. (2008). The MAIN model: A heuristic approach to understanding technology effects on credibility. In M. J. Metzger, & A. J. Flanagin (Eds.). *Digital media, youth, and credibility.* Cambridge, MA: The MIT Press.

Suh, K. S., & Lee, Y. E. (2005). The effects of virtual reality on consumer learning: An empirical investigation. *MIS Quarterly, 29*(4), 673–697.

Temme, D., Kreis, H., & Hildebrandt, L. (2006). *PLS path modeling-a software review.* Berlin: Humboldt-University Berlin.

Tsang, E. W. K. (1998). Can Guanxi be a source of sustained competitive advantage for doing business in China? *Academy of Management Executive, 12*(2), 64–73.

Wasko, M. M., & Faraj, S. (2005). Why should I share? Examining social capital and knowledge contribution in electronic networks of practice. *MIS Quarterly, 29*(1), 35–57.

Walther, J. B. (1996). Computer-mediated communication impersonal, interpersonal, and hyperpersonal interaction. *Communication research, 23*(1), 3–43.

Wang, C. L. (2007). Guanxi vs. relationship marketing, exploring underlying differences. *Industrial Marketing Management, 36*(1), 81–86.

Williams, L. J., Edwards, J. R., & Vandenberg, R. J. (2003). Recent advances in causal modeling methods for organizational and management research. *Journal of Management, 29*(6), 903–936.

Wetzels, M., Odekerken-Schröder, G., & Oppen, C. V. (2009). Using PLS path modeling for assessing hierarchical models: Guidelines and empirical illustration. *MIS Quarterly, 33*(1), 177–195.

Wu, J. J., & Chang, Y. S. (2005). Toward understanding members' interactivity, trust, and flow in online travel community. *Industrial Management & Data Systems, 105*(7), 937–954.

Wong, Y. H., & Chan, R. Y. K. (1999). Relationship marketing in China: Guanxi, favouritism and adaptation. *Journal of Business Ethics, 22*(3), 107–108.

Wong, Y. H., & Tam, J. H. L. (2000). Mapping relationships in China: Guanxi dynamic approach. *Journal of Business and Industrial Marketing, 15*(1), 57–70.

Yen, D. A., Barnes, B. R., & Wang, C. L. (2011). The measurement of guanxi: Introducing the GRX scale. *Industrial Marketing Management, 40*(1), 97–108.

Yoon, S. Y., Laffey, J., & Oh, H. (2008). Understanding usability and user experience of web-based 3D graphics technology. *International Journal of Human–Computer Interaction, 24*(3), 288–306.

Zhang, C. B., Li, Y. N., Wu, B., & Li, D. J. (2017). How WeChat can retain users: Roles of network externalities, social interaction ties, and perceived values in building continuance intention. *Computers in Human Behavior, 69*, 284–293.

Ziegler, C. N., & Golbeck, J. (2007). Investigating interactions of trust and interest similarity. *Decision Support Systems, 43*(2), 460–475.

Zhao, L., Lu, Y. B., Wang, B., Chau, P. Y. K., & Zhang, L. (2012). Cultivating the sense of belonging and motivating user participation in virtual communities: A social capital perspective. *International Journal of Information Management, 32*(6), 574–588.

Zhu, Y., Li, Y., Wang, W., & Chen, J. (2010). What leads to implementation success of

ERP? An empirical study of the Chinese retail industry. *International Journal of Information Management, 30*(3), 265–276.

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