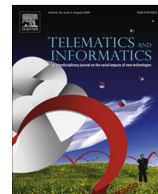Contents lists available at ScienceDirect

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Integrating *guanxi* into technology acceptance: An empirical investigation of WeChat

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ABSTRACT

Social influence is an important research topic in the technology acceptance literature, in particular for social media. Prior empirical studies have for the most part employed social influence theory to investigate user intentions to continue with social media, while culture driven theories have been neglected. Rather than using social influence theory, we introduced *guanxi* theory to explore how *guanxi* social mechanisms (or processes) influence Chinese users' continuance intentions in WeChat. Specifically, we developed a model that examines the role of *guanxi* as manifested by *renqing*, *mianzi* and *ganqing* in perceived usefulness, perceived enjoyment and continuance intention in WeChat. A survey research method was adopted to test the proposed hypotheses. This study found that *ganqing* has a positive impact on perceived usefulness and continuance intention. *Mianzi* exerts a negative effect on continuance intention but exhibits a positive effect on perceived usefulness. *Renqing* was found to have no significant impact on perceived usefulness and continuance intention. Our study advances the Technology Acceptance Model (TAM) by introducing *guanxi*-based constructs in a Chinese mobile social-messaging application context. Our study also offers alternative insights on *guanxi*-based social influence processes in the Chinese technology acceptance literature.

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1. Introduction

With the pervasiveness of wireless networks and mobile devices, mobile social-messaging applications have proliferated in China. These are integrated social media and instant messaging software applications that are designed to run on mobile devices, including smartphones and tablet computers (Karpisek et al., 2015; Walnycky et al., 2015). The China Internet Network Information Center (CINIC) reported that 90.7% of 1.29 billion mobile phone users used mobile social-messaging applications in 2015 (CINIC, 2015). Specifically, WeChat is the most popular form of social media and accounts for 81.6% of the penetration rate in China. Many Chinese, in particular the young and well educated, own smartphones and possess the knowledge to use WeChat to connect with others (Su, 2016).

Researchers have made significant progress in identifying and predicting user acceptance in social media or mobile social-messaging applications. Social influence is one of the predominant theories to explain mechanisms that affect user acceptance in social media technologies (e.g., Gruzd et al., 2012; José Carlos Martins Rodrigues and Ana Maria, 2011; Zhao et al., 2016). Social influence theory posits that compliance, group norms and social identification processes influence user

acceptance of social media technologies. Specifically, prior works have integrated social influence into the TAM model to investigate continuance intention in social media technologies (e.g., Gruzd et al., 2012; José Carlos Martins Rodrigues and Ana Maria, 2011; Lin and Lu, 2011; Rupak et al., 2014; Zhao et al., 2016). In this regard, social image and subjective norms are two social influence constructs that are frequently used to examine user behavioral intentions. While the social influence theory is derived from the Western behavioral perspective, the theory has been applied to technology acceptance studies in the global context.

To date, there has been very little research on culture theory-driven research regarding users' behavioral intentions in social media (Jin and Yoon, 2014; José Carlos Martins Rodrigues and Ana Maria, 2011). A recent qualitative study by Keith et al. (2016) explored the importance of social media in *guanxi* relationships by showing that business professionals use social media to establish *guanxi* with their peers in China. Additionally, the descriptive study by China Internet Network Information Center (CINIC) shows that WeChat was used to build *guanxi* in social networking (CINIC, 2015). WeChat is viewed as a mobile social-messaging application featured with low anonymity, high privacy and closed community and thus it is appropriate for *guanxi* based social interactions (Wang, 2016). Notably, the role for *guanxi* in the continuance intention of WeChat users has not been explored empirically. To address this knowledge gap, we draw on *guanxi* theory to integrate culture-based social constructs into the technology acceptance model. The distinctive pattern of social processes in Chinese society is reflected in the *guanxi* concept where interpersonal relationship between non-family members is built upon instrumental and affective components (Chen et al., 2013; Keith et al., 2016; Michailova and Worm, 2003). Thus, *guanxi* can be applied to explain the continuance intention of WeChat in Chinese societies. We assume that *guanxi* influences the social mechanisms for Chinese societies that have deep social-psychological roots with their own cultural values. Some roles of *guanxi* would influence technology acceptance, namely perceived usefulness, perceived ease of use and continuance intention, among WeChat users. Additionally, the affective component of *guanxi* may relate to perceived enjoyment, which in turn is believed to predict continuance intention. The aim of this study is to examine continuance intention of WeChat in Chinese societies as a reflection of *guanxi* based social influence processes. Specifically, this study intends to answer the following research questions:

(1) Do *guanxi*-based social constructs relate to the continuance intention among WeChat users?
(2) Does perceived enjoyment mediates the effect of *guanxi* on continuance intention among WeChat users?

This study answered the recent calls to use culture theory to understand how social influence processes affect the use of social media among societies with distinctive cultural values (Jin and Yoon, 2014; José Carlos Martins Rodrigues and Ana Maria, 2011; Yuan, 2013). The major contribution of this study will be the empirical test on the extension of TAM model with *guanxi*-based social constructs in the context of the Chinese mobile social-messaging applications. This study also provides alternative analysis of the Chinese social influence processes, which consist of affective and instrument elements, and thus may generate new insights for the technology acceptance literature.

2. Theoretical background

2.1. Technology acceptance theories

The Technology Acceptance Model (TAM) is one of the most frequently used theories in information systems (IS) research. Similar to the Ajzen's (1985) Theory of Planned Behavior (TPB), the TAM is an extension of the Theory of Reasoned Action (TRA). Specifically, TAM was designed by Davis (1986) to explain IS usage behavior among potential users in an organizational context through a series of causal relationships (external factors-beliefs–attitude–behavioral intention–actual behavior). The TAM introduces two belief variables into the TRA model, namely, perceived usefulness (PU) and perceived ease of use (PEOU) (Davis et al., 1989; Davis, 1986). These beliefs represent the user's subjective probability of engaging in IS adoption behavior. PU can be interpreted as the subjective probability of whether a specific IS will increase the job performance of a user. PEOU is regarded as the extent to which a user believes that adopting the IS will be free of effort. In the TAM model, PU and PEOU have a direct effect on attitudes toward using IS, which influences behavioral intentions and actual information systems adoption. PU also mediates the influence between PEOU and attitudes toward using IS. Additionally, the TAM is a useful model for researchers to identify and manipulate the impacts of external factors on PU and PEOU, thus controlling the ultimate adoption behavior of users.

TAM was extended to the TAM2 to explain user acceptance of IS in workplace settings (Venkatesh and Davis, 2000). Several external factors, moderating factors and relationships are proposed in TAM2. First, social influence and cognitive instrumental processes are conceptualized to have a direct effect on PU. Second, individual differences (or anchors) and system characteristics (or related adjustments) are proposed to influence PEOU. Two moderators, namely experience and voluntariness, are proposed to moderate the relationship between external factors and beliefs and external factors and behavioral intention.

After introducing TAM2, Venkatesh and his colleagues proposed the TAM3 model. TAM3 is a "complete nomological network of the determinants of IT adoption and use" (Venkatesh and Bala, 2008). There are two important theoretical extensions of TAM3. First, TAM3 suggests that the determinants of PU, namely, social influence and cognitive instrumental