Understanding the continuance intention of knowledge seeking in virtual communities: The moderating role of habit

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ABSTRACT
An increasing number of internet users worldwide use virtual communities (VCs) to seek and contribute knowledge for their own purposes. Continued knowledge seeking and contribution ensure the sustainable development of VCs. Although knowledge seeking is seen as an indispensable component of users’ activities in VCs, there has been little research focusing on this issue. Based on IS continuance model and self-perception theory, this study develops a theoretical model to explore the antecedents of users’ continuance intention to seek knowledge in VCs. The survey data collection was conducted in several popular VCs in China, and eventually 220 valid data was collected. Then the partial least squares structured equation modelling was employed to verify the research model. The results show that users’ prior experience positively affects the perceptions of knowledge growth and flow, which further significantly impact users’ satisfaction with knowledge seeking. What’s more, habit negatively moderates the effect of satisfaction on users’ continuance intention. Implications for research and practice are discussed.

1 INTRODUCTION
With the maturity and popularization of internet, Web 2.0 technologies have led to the emergence of virtual communities (VCs). An increasing number of internet users worldwide use VCs to share knowledge for their own purposes (Chiu, Hsu and Wang, 2006; Lai, Chen and Chang, 2014). Knowledge sharing is an indispensable part of users’ activities in VCs (Bouty, 2000), and users’ initiative knowledge sharing activities promote the sustainable development of VCs greatly (Zhao, Stylianou and Zheng, 2013). Knowledge sharing involves knowledge seeking and contribution, which are closely interrelated, and the absence of either one would make VCs unsustainable (He and Wei, 2009, Lai et al., 2014). Users’ continuance of seeking and contributing knowledge are the essence of VCs (Lin, Hung, Chen, 2009). Once either of
them is stopped, VCs will lose their vitality (Chiu et al., 2006).

Most prior studies have examined the motivations for continued knowledge contribution in VCs, such as reciprocity (Chiu et al., 2006; Jin, Zhou, Lee and Cheung, 2013), self-efficacy (Liao et al., 2013; Lu and Hsiao, 2007) and enjoying helping others (Jin et al., 2013). However, research on knowledge seeking, especially continuance intention of knowledge seeking, are limited (He and Wei, 2009; Lai et al., 2014). Given on this, it’s necessary to develop a theoretical model to look deeply into the influencing factors of users’ continued knowledge seeking behavior in VCs.

Bhattacherjee (2001) extended expectation confirmation theory and theorized a model to explore users’ intention to continue using information systems (IS), which is one of the first IS continuance models. Many subsequent research advanced this model in many fields, including continued knowledge sharing behavior (He and Wei, 2009). Based on Bhattacherjee’s IS continuance model, the current study explore the effect of users’ prior experience on their continuance intention of knowledge seeking. Habit is considered as a moderator variable. The research questions are: 1) What is the effect of VCs users’ prior experience on perceived knowledge growth and flow? 2) Would users’ satisfaction with the knowledge seeking lead to continuance intention? 3) Does habit moderate the effect of users’ satisfaction on continuance intention of knowledge seeking?

Following this introduction, we review the theoretical background. Then the research model and hypotheses are developed. After that, the method and data collection are described. Finally, a discussion of these results is reported before concluding the paper.

2 THEORETICAL BACKGROUND

2.1 IS Continuance Model

An information system’s success is depended on users’ continuance intention rather than the initial acceptance (Bhattacherjee, 2001). According to the expectation confirmation theory, satisfaction plays a determinant role in influencing people’s repeated intention (Anderson and Sullivan, 1993; Oliver, 1977). Bhattacherjee (2001) adapted the expectation confirmation theory and develop a theoretical model to examine individuals’ continuance behavior within the context of IS. Bhattacherjee (2001) believed that IS continuance intention was determined by users’ satisfaction and perceived information usefulness, which were affected by users’ confirmation of prior expectations.

Bhattacherjee’s IS continuance model has been widely employed and advanced to investigate the continuance intention in various settings, taking as consumers’ repeated purchase intention (Kalifa and Liu, 2007) and continuance intention of knowledge sharing (He and Wei, 2009). Thus we believe it is reasonable to employ the IS continuance model to explore the antecedents of continued knowledge seeking intention in VCs.

2.2 Self-perception Theory and Prior Experience

The relationship between behavior and attitude is mutual influence (Melone, 1990). Many
research focused on the influence of attitude on behavior, whereas the influence of behavior on attitude were largely overlooked. Based on self-perception theory, individuals’ attitudes and other inner states are shaped from their perceptions of their own past behavior (Bem, 1967).

Individuals’ future decisions are somewhat lean on their perceptions of past behavior, and the more frequency the behavior performed, the more favorable individuals evaluate the behavior (Melone, 1990). Individuals’ prior experience has a primary role in the formation of their perceptions and attitudes (Hoffman and Novak, 1996). Knowledge gained from the past experience will help users shape their perceptions, which are more salient and enduring. Several research have verified the fact that prior experience could influence the future intention and behavior (Triandis, 1979), such as continued usage of social media (Lee and Ma, 2012) and continuance intention of repurchase (Khalifa and Liu, 2007).

2.3 Research Model And Hypotheses Development

Grounded on Bhattacharjee’s IS continuance model and self-perception theory, we develop our research model to explore how users’ prior experience affects their perceptions (knowledge growth and flow experience) and further on satisfaction, which leads to their continuance intention to seek knowledge in VCs. Meanwhile, habit is treated as a moderator, so as to make prediction about the effect of satisfaction on continuance intention under different levels of it. The research model with six constructs is presented in Figure 1.

Users prior experience refers to VC users’ experience obtained from knowledge seeking behavior in the past. Prior experience determines the perceptions and future behavior. The more experience users have, the more favorable their attitudes become. Lee and Ma (2012) found that prior experience with social media was a significant determinant of news sharing intention. The results of Khalifa and Liu (2007) as well as Lin and Lekhawipat (2014) revealed that consumers’ prior experience can significantly influences the satisfaction of consumers. Thus, we make the hypothesis as follows:

H1: Users’ prior experience has a positive effect on knowledge growth.
H2: Users’ prior experience has a positive effect on flow experience.

Knowledge growth refers to knowledge seekers’ perceived knowledge benefits of enhancing their own expertise and learning (He and Wei, 2009). The study of Lai et al. (2014) has proved that users perceived knowledge growth can positively affect their attitudes towards knowledge seeking in VCs. We believe that when VC users recognize that their expertise and other learnings are enhanced by seeking knowledge in VCs, they would be satisfied with the knowledge seeking. Thus, we hypothesize that:
H3: Knowledge growth has a positive effect on users’ satisfaction.

Flow experience refers to the fully immersed state that people experience when they act with total involvement (Csikszentmihalyi, 1975). The study of Chang and Zhu (2012) revealed that flow experience positively influences the satisfaction of usage in social media. It is reasonable that when knowledge seekers experience a flow state in the process of knowledge seeking, they would probably satisfy with the knowledge seeking activities. Thus, we hypothesize that:

H4: Flow experience has a positive effect on users’ satisfaction.

Satisfactory experiences enhance the tendency to repeat the same behavior (Aarts et al., 1998). A number of research have examined the effect of satisfaction on continuance intention, and proved that users’ satisfaction is a vital factor in influencing their continuance intention. He and Wei (2009) found that users’ satisfaction with VCs can positively affect their continued knowledge sharing intention. Thus, we hypothesize that:

H5: Users’ satisfaction has a positive effect on users’ continuance intention of knowledge seeking.

Habit is a determinant impactor in predicting people’s future behavior (Bamberg, Ajzen and Schmidt, 2003). A certain number of research have explored the effect of habit on continuance intention. The results of Khalifa and Liut (2007) and Lin and Lekhawipat (2014) revealed that habit positively moderates the effect of satisfaction on repurchase intention. Thus, we hypothesize that:

H6: Habit positively moderates the effect of users’ satisfaction on users’ continuance intention of knowledge seeking.

3 DATA COLLECTION

All the constructs in the research model and their corresponding measure items were adapted from existing research literature, so as to fit the context of this study. To be specific, the items that measure users’ prior experience were adapted from Lu and Hsiao (2007); the items measuring flow experience were adapted from Novak, Hoffman and Yung (2000); the items measuring knowledge growth were adapted from Wasko and Faraj (2000) as well as Chiu, Wang, Shih and Fan (2011); the items measuring satisfaction were adapted from Davis (1989); the items measuring habit and continuance intention of knowledge seeking were adapted from He and Wei (2009).

Before the large scale survey, twenty active users were invited to take part in a pilot survey. Based on their feedback and comments, wordings were adjusted in several items to improve the understandability. All items were measured with a 7-point disagree-agree Likert scale (1 represents “strongly disagree” while 7 represents “strongly agree”). Then, data collection lasted for 8 weeks through an online survey website. Several popular virtual communities in China such as Baidu Know, Baidu Document, Douban and Quaro were listed. Users in these VCs are randomly invited to visit the online questionnaire by click the link that we set to them. The response rate was nearly 50%. Eventually, data collected from 220 users of VCs were used for data analysis.
4 DATA ANALYSIS AND RESULTS

4.1 Measurement Model

In the current study, the partial least squares (PLS) method of structured equation modelling was used to verify the proposed measurement and research model.

Generally, measurement validation was measured through content validity, convergent validity and discriminant validity (Straub, Boudreau and Gefen, 2004). In terms of content validity, since all the constructs and their measurement items were adapted from existing studies, it is reasonable to believe that these constructs and items each have a clear meaning with correct expression. The results of calculations indicate that all values of Composite Reliability (CR), average variance extracted (AVE) and Cronbach’s Alpha are above the recommended benchmarks of 0.70, 0.50 and 0.70, suggesting higher reliability and convergent validity of all the constructs (Straub et al., 2004). Discriminant validity can be assessed by comparing the square root of each construct’s AVE with its correlation with other constructs (Fornell and Larcker, 1981). The results of calculations show that the square root of each construct’s AVE is larger than its correlation with other constructs, suggesting that discriminant validity is achieved in the study.

4.2 PLS Structural Model

The structural model with results is presented in Figure 2. Following the recommendation that the sample size should be at least 500 (Wetzels, Odekerken-Schroder and vanOppen, 2009), the bootstrap resampling procedure with 1,000 samples was performed to assess the path significances. The explained variances of satisfaction and continuance intention of knowledge seeking are 0.605 and 0.557, respectively, suggesting a good predictive validity of the model (Straub et al, 2004). As shown in Figure 2, H1~H5 are supported, except H6.

5 DISCUSSION AND FUTURE RESEARCH

5.1 Discussions and Implications

The major contribution of this study is the findings that users’ prior experience with VCs significantly affects the perceptions on knowledge growth and flow experience, which further influence their satisfaction, and eventually affects the continuance intention, as well as the habit negatively moderates the effect of satisfaction on continuance intention of knowledge seeking. We believe that the current study usefully contributes to the development of the
theoretical model exploring the individuals’ decision-making process in VCs usage within the context of Chinese VCs and more generally.

People infer their own attitudes and inner states towards the behavior from observation of the past behavior (Bem and McConnell, 1970). Users’ prior experience strongly affect future intention and behavior (Lin, et al., 2010). And the more frequency people use a product or service, the more positive they evaluate it (Melone, 1990). From Figure 2, users’ prior experience significantly affects users’ perceptions of knowledge growth and flow experience, in accord with the findings of Lin and Lekhawipat (2014). When users get more experiences with knowledge seeking in VCs, their feelings and attitudes towards their activities in VCs are more positive, involving perceptions of knowledge growth and flow experience. Thus, VC managers or designers should encourage users to use VCs more frequently via various ways, such as inviting known professionals to answer questions from knowledge seekers, improving the correctness and response time of responses and alike.

Figure 2 also shows that knowledge growth and flow experience significantly influence users’ satisfaction, and further affects the continuance intention of knowledge seeking behavior, accordant with the studies of He an Wei (2009). If users believe that they can benefit from knowledge obtained in VCs, these would satisfy them to some extent, which eventually stimulates users’ continual intention to seek knowledge in VCs. We thus recommend the VC managers should pay more attention to both seekers’ knowledge growth and flow experience, and take measures to enhance users’ perceptions of extrinsic gains and intrinsic feelings, such as providing much more valuable and renewed knowledge, as well as offering personalized services, so as to fulfill both users’ knowledge needs and affective cognitions.

What’s more, Figure 2 indicates that habit negatively moderates the effect of satisfaction on continuance intention of knowledge seeking, inconsistent with the studies of Lin and Lekhawipat (2014) as well as Khalifa and Liu (2007), but concordant with Chiu, Hsu, Lai and Chang (2012). Habit is an automatic behavior, and habitual behaviors require few conscious thoughts (Aarts et al., 1998). When people perform a habitual behavior, they do not need to be aware of the behavior, nor do they need to be required to give thoughts or rational evaluations to carrying out this behavior (Ouellette and Wood, 1998). Thus it is understandable that users who have formed a habitual behavior of seeking knowledge in VCs, they are very likely to repeat the activity unconsciously in a stable context, driven mostly by habit, and at this time, the effect of satisfaction on continuance intention is weaker. On the other hand, if an individual is a freshman or not a regular in VCs, the satisfaction with knowledge seeking is vital to the decision to continue seeking knowledge in VCs or not. We thus recommend that VC managers and designers should be much more concerned with the formation of users’ habit. Some measures can be taken, such as making the look and functions of VCs more friendly and easily to deal with, enhancing users’ positive feelings about VCs, and alike.

5.2 Limitations and Future Work

The present study has several limitations. First, prior research have proposed a number of impactors of knowledge seeking (i.e., perceived usefulness, knowledge quality, trust, self-efficacy), however, this study only considered several antecedents. Further research
involving more variables is invited. Second, this study employed the method of PLS structure equation model to explore the influencing factor of continued knowledge seeking intention, more analysis method can be utilized to explore the knowledge seeking behavior in VCs. For example, independent samples t-test and one-way analysis of variance can be used to examine the individual differences among user groups. Lastly, in view of large population of VC users, the sample in this study is somewhat small. Thus, we expect to widen the investigation in the future.

6 CONCLUSION

Building on IS continuance model and self-perception theory, the current study explores the effect of users’ prior experience on knowledge growth and flow experience, and further on users’ satisfaction, which eventually influences continuance intention. Habit negatively moderates the effect of satisfaction on continued knowledge seeking intention. The current study can usefully help VC managers and designers to gain deeper insight into users’ decision-making process, and be better aware of the importance of habit in this process. They can take various measures to enhance users’ perceptions of knowledge seeking, cultivate users long-term usage, as well as encourage the habit formation of knowledge seeking in VCs.

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