Chinese Journal of Library and Information Science (CJLIS)
(Quarterly)
Sponsored by the Chinese Academy of Sciences

Volume 6 Number 3, September 25, 2013

Chairman of Editorial Board
Jinghai LI
Chinese Academy of Sciences, China

Members of Editorial Board
Alex BYRNE
University of Technology, Sydney, Australia
Ching-Chih CHEN
Graduate School of Library & Information Science, Simmons College, USA
Chuanfu CHEN
School of Information Management, Wuhan University, China

LI CHEN
National Library of China, China
Anthony W. FERGUSON
Library of University of Hong Kong, Hong Kong SAR, China

Changzhu HUANG
Centre for Documentation & Information, Chinese Academy of Social Sciences, China
Michael A. KELLER
Stanford University, USA

Norbert LOSSAU
Niedersächsische Staats- und Universitätsbibliothek Göttingen, Germany
Claudia LUX
Zentral- und Landesbibliothek Berlin, Germany

Paul W. T. POON
University of Macau International Library, Macau SAR, China
Alice PROCHASKA
Yale University, USA
Jian QIN
School of Information Studies, Syracuse University, USA
Guchao SHEN
Department of Information Management, Nanjing University, China
Gary E. STRONG
University of California, Los Angeles, USA

Jianzhong WU
Shanghai Library, China
Weici WU
Department of Information Management, Peking University, China

Yishan WU
Institute of Scientific and Technical Information of China, China
Charles C. YEN
National Science Library, Chinese Academy of Sciences, China
Halbo YUAN
National Science and Technology Library, China

Marcia L. ZENG
School of Library and Information Science, Kent State University, USA
Xiaolin ZHANG
National Science Library, Chinese Academy of Sciences, China
Peter X. ZHOU
East Asian Library, University of California, USA
Qiang ZHU
Library of Peking University, China

Editor-in-Chief
Xiaolin ZHANG
National Science Library, Chinese Academy of Sciences, China

Academic Advisor
Charles C. YEN
National Science Library, Chinese Academy of Sciences, China

Managing Editor
Jing CAO
National Science Library, Chinese Academy of Sciences, China

Editorial Staff
Jing CAO, Lin PENG
National Science Library, Chinese Academy of Sciences, China

Published by: National Science Library, Chinese Academy of Sciences
No. 33, Beishan Lu, Zhongguancun, Haidian District, Beijing 100190, P.R. China.
Tel: 86-10-82624454 or 86-10-82626611 ext. 6628. Fax: 86-10-82624454. E-mail: china@libraries@ailas.ac.cn. Website: http://www.chinalibraries.net.

Copyright © 2013. All rights are reserved by Editorial Office of Chinese Journal of Library and Information Science (CJLIS), National Science Library, Chinese Academy of Sciences. Address: No. 33, Beishan Lu, Zhongguancun, Haidian District, Beijing 100190, P.R. China. Tel: 86-10-82624454 or 86-10-82626611 ext. 6628. Fax: 86-10-82624454. E-mail: china@libraries@ailas.ac.cn. Website: http://www.chinalibraries.net.
Understanding the factors influencing user intention to continue contributing knowledge in social Q&A communities*

Xian GUAN & Shengli DENG†

Center for Studies of Information Resources, School of Information Management, Wuhan University, Wuhan 430072, China

Abstract

Purpose: A social question & answer (SQA) community’s long-term sustainability depends on its members’ willingness to stay and contribute their knowledge continuously in the community. This research aims to investigate the critical factors which influence users’ intention to continue contributing knowledge in the SQA community.

Design/methodology/approach: Grounded on information systems (IS) continuance theory, this study put forward a model of the factors that influence SQA community members’ intention to continue contributing knowledge. Survey was conducted to gather data from knowledge contributors of four major Chinese SQA communities (Baidu Knows, Sina iAsk, Soso Ask and Yahoo! Knowledge). By using the partial least squares (PLS) technique, research hypotheses derived from the proposed model were empirically validated.

Findings: Except enjoyment in helping others and knowledge self-efficacy, all other factors including extrinsic reward, reputation enhancement, realization of self-worth, perceived usefulness, attitude towards knowledge contribution, and satisfaction exert significant impacts on users’ continuance intentions in an SQA community.

Research limitations: First, important factors such as the ease of use of information systems which may influence users’ continuance intentions were not investigated in the study. Second, the study sample needs to be enlarged, and users of smaller SQA communities should also be included, to make the results more representative.

Practical implications: This study will help SQA community designers and managers develop or improve incentive mechanisms to attract more people to contribute their knowledge and promote the development of the SQA community.

Originality/value: This study improves the previous research models and puts forward a model of user continuance intention to contribute knowledge in an SQA community. It will

* This work is supported by Wuhan University Development Program for Researchers Born after the 1970s.
† Corresponding author: Shengli Deng (E-mail: victorydc@sina.com).
extend the understanding of SQA community users’ intention to continue contributing knowledge by distinguishing these users’ different roles and focusing only on knowledge contributors.

**Keywords** Social question & answer (SQA) community; Knowledge contribution; Continuance intention; Knowledge contributor

1 Introduction

Social question & answer (SQA) communities become more and more popular in the Web2.0 environment. Motivating members to answer questions continuously is essential to the long-term sustainability of these online communities. While there are abundant studies on the factors influencing user knowledge contribution intention in virtual communities, limited researches have been published in understanding users’ continuance intention to contribute knowledge in the SQA community context. Cheung & Lee\(^1\) examined continuance behaviors of an online teacher community in 2007 and found that knowledge self-efficacy and satisfaction of using experience were the main factors driving members to continue sharing knowledge in a professional virtual community (PVC). Chen\(^2\) classified the users according to how much time a user spent in the community, and studied how a contextual factor and technological factors would influence those inexperienced users’ intention to continue participating in PVCs’ knowledge activities.

Since 2009, there have been some researches published focusing on continuous knowledge contribution in an SQA community. Jin\(^3\) carried out a survey of the users of Yahoo! Knowledge, and investigated the impact of satisfaction and knowledge self-efficacy on knowledge contribution intention and found that users who valued collective interests would be less satisfied with increasing extrinsic rewards offered. Nam et al.\(^4\) conducted a telephone interview to study why people would continue to contribute knowledge. They put forward some suggestions for improving the system settings of an SQA site and the online points based incentive mechanism. Based on information system (IS) continuance model, Hashim\(^5\) found that continuance behaviors were affected by satisfaction both directly and indirectly. Although prior studies have investigated some factors that can influence users’ intention to continue contributing knowledge, some important factors are missing from their models. For example, although these studies stressed the impact of satisfaction and knowledge self-efficacy on continuance intention, the model built up by Jin\(^3\) ignored the attitude toward knowledge contribution and besides, perceived usefulness was not considered. Hashim\(^5\) did not consider the impact of knowledge self-efficacy in his model. If users cannot perceive the usefulness of knowledge contribution, they will not be willing to keep sharing their knowledge with others.
Understanding the factors influencing user intention to continue contributing knowledge in social Q&A communities

Even if they are capable of doing so. Perceived usefulness and knowledge self-efficacy are important factors that influence users' continuance intention, so they should be included in the models for a better understanding of users' intention to continue contributing knowledge in online communities.

Researchers found that when people systematically participate in online discussion forums, they can be seen as playing a social role. Welser et al. distinguished one particular role from others, the role of the answer person. An answer person is a participant in an online discussion group who provides helpful, informative responses to other group members' questions. Most online community members can be classified into the category of the ask people or the answer people, and only a few are both ask and answer people. The answer person is a well recognized social role in online discussion spaces, including SQA communities. Substantively, it is the answer people that collectively contribute vast amounts of valuable advice to those who ask questions, resulting in the rise of the number of SQA community users and questions asked.

Most prior studies explored online community participants' knowledge contribution behavior based on social exchange theory, social capital theory and social cognitive theory. However, there were few studies published about the continuous knowledge contribution of the online community participants, and moreover, these studies did not distinguish the different roles of the ask people and the answer people. Therefore, based on information systems (IS) continuance theory, this study will build a model to investigate the factors that influence those answer people's continuance intention to contribute knowledge and test the proposed research model through the questionnaire survey with the answer people of four Chinese major SQA communities. The study results will provide insights for designers and managers of SQA communities to develop or improve their incentive mechanisms.

2 Theoretical background

2.1 Continuous knowledge contribution in SQA communities

2.1.1 SQA community

A social question & answer (SQA) community aims at making use of collective wisdom and helping information seekers find what they need. People can freely ask or answer questions in an SQA community, which has the following characteristics:

- Compared with other virtual communities established based on community relationships, an SQA community is a website where people come together to ask and answer questions. We regard answers towards the questions as knowledge contributions from knowledge contributors. SQA community
participants tend to focus on either seeking knowledge or contributing knowledge without having motivations to build social ties.

- In other virtual communities, community members can discuss about topics and publish their opinions and a final answer may not be necessary. The members in online Q&A communities, however, have to answer specific questions, and one best answer will be voted by the community members.
- Most SQA sites encourage more community engagement with points, badges and status indicators. Users can redeem their points for gifts or lucky draws. Compared with other virtual communities, more material rewards in SQA website are provided.

2.1.2 Continuous knowledge contribution

Knowledge contribution is the process of transferring or sharing knowledge\(^1\). Compared with knowledge sharing, knowledge contribution emphasizes one-sided exchanges of knowledge and focuses on knowledge transmission. In an SQA community, knowledge contribution is the process during which some users answer others’ questions with their knowledge, allowing everyone to benefit from the collective wisdom of many and knowledge base is therefore being built little by little. Continuous knowledge contribution is a combination of knowledge contribution and continuous use, with an emphasis on continuous and long-term behavior.

2.2 Theoretical background of continuous knowledge contribution

There have been two major different theories about continuous use. One is based on innovation diffusion theory (IDT), which views continuous use as an extension of acceptance behaviors. According to this theory, there exists a post-acceptance stage when information system (IS) use transcends a user’s conscious behavior and becomes his/her part of normal routine activity\(^1\). Researchers supporting this theory argue that an IS user decides to use and continue to use one technology or product out of the same motivation. However, this theory is unable to explain why some users discontinue IS use after accepting it initially\(^1\). Another limitation of IDT-based theory is that it overly emphasized the relationships between users’ cognitive beliefs (e.g. usefulness, ease of use) and behavioral intentions, disregarding the complex societal, psychological, economic and other factors that affect a user’s intention to continue using a technology or product\(^1\).

The other theory is based on IS continuance theory, which is derived from expectation confirmation theory (ECT) put forward by Oliver\(^1\). As the basic theory of consumer satisfaction study, ECT is used to explain and predict consumer satisfaction and repurchase intention. The theory proposes that a consumers’ intention of repurchasing a product or reusing a service is primarily determined by this consumer’s satisfaction with prior usage of that product or service.
Consistent with ECT, IS continuance theory argues that acceptance and continuance behaviors are entirely different. Karahanna et al.\textsuperscript{[18]} pointed out the distinctions between these two different behaviors and explained that acceptance and continuance behaviors were influenced by different types of experiences. For example, continuous use is influenced by a user’s direct experience. Bhattacherjee\textsuperscript{[14]} theorized a model of IS continuance based on ECT and his empirical study results indicated that while post-acceptance usefulness perception continues to influence users’ continuance intention, user satisfaction with prior use has a relatively stronger effect on it. User satisfaction, in turn, is determined primarily by users’ confirmation of expectation from prior use and secondarily by perceived usefulness. Between them, users’ confirmation of expectation from prior use also has a direct impact on perceived usefulness.

A series of researches\textsuperscript{[15,19,20]} showed that IS continuance theory has been identified as the most adopted theory to examine continuance behavior. In fact, this theory has been adopted by some studies to predict continuous use of information system applications such as knowledge management system, e-learning, virtual community, etc. Based on the theory, continuous knowledge contribution is different from knowledge contribution, and the factors that determine users’ knowledge contribution intention may not necessarily affect users’ intention to continue contributing knowledge.

3 Research model and methodology

Users in an SQA community can be divided into question askers or knowledge seekers and question repliers or knowledge contributors. Previous studies, however, did not distinguish the roles of knowledge seekers and knowledge contributors in an SQA community. Based on the prior research models about online communities, this study will establish a research model targeted on knowledge contributors. A questionnaire survey will be conducted to investigate the factors influencing continuous knowledge contribution proposed by the model in this paper.

3.1 Research model and hypotheses

According to the characteristic of an SQA community, we built a research model as shown in Fig. 1.

The expectation confirmation theory (ECT) put forward by Oliver\textsuperscript{[17]} suggests that users would decide whether continue using a commodity or service based on their satisfaction with prior use of that product or service. If users in online communities are satisfied with the process and result of using the information system, they would probably continue to stay and use the system. The impact of satisfaction on a user’s
intention of continuously using an IS has been confirmed. Through an online questionnaire survey, Jin et al.\(^{[21]}\) found that whether users continued to attend an online community or not was determined by their satisfaction and emotional commitment. Therefore, we put forward the following hypothesis:

H1: Knowledge contributors’ satisfaction with knowledge contribution behavior is positively correlated with their intention to continue contributing knowledge in an SQA community.

IS continuance theory put forward by Bhattacherjee\(^{[14]}\) emphasized the perceived usefulness after using an information system. He believed that an information system would be continuously used if an individual found that using it would enhance his or her job performance\(^{[22]}\). In an SQA community, a knowledge contributor would judge the usefulness of his/her knowledge contribution by the benefits s/he has gained from knowledge contribution. The perceived usefulness has an important impact on their satisfaction and their continuous use intention. Therefore, we hypothesized:

H2: Knowledge contributors’ perceived usefulness is positively correlated with their satisfaction in an SQA community.

Prior studies found that IS users perceive knowledge contribution as more useful when their motives to contribute knowledge are fulfilled. Specifically, Majchrzak et al.\(^{[23]}\) found that users would contribute knowledge more frequently in Wikipedia with more extrinsic reward offered and their reputation improved. Lou et al.\(^{[24]}\) reported that enjoyment in helping others and rewards led to more knowledge contributions. Bock et al.\(^{[25]}\)’s study revealed that people were willing to contribute knowledge with the motive for recognition for their expertise and realization of their self-worth. Therefore, we put forward the following four hypotheses:
Understanding the factors influencing user intention to continue contributing knowledge in social Q&A communities

Xian GUAN & Shengli DENG

Research Paper

National Science Library,
Chinese Academy of Sciences

http://www.chinalibraries.net

H3: The extrinsic reward for contributing knowledge is positively correlated with knowledge contributors’ perceived usefulness in an SQA community.

H4: The level of the enjoyment in helping others is positively correlated with knowledge contributors’ perceived usefulness within an SQA community.

H5: The reputation enhancement is positively correlated with knowledge contributors’ perceived usefulness in an SQA community.

H6: The self-worth realized in contributing knowledge is positively correlated with knowledge contributors’ perceived usefulness in an SQA community.

In addition to factors above, Cheung & Lee\(^{26}\) proposed that knowledge self-efficacy could also promote knowledge sharing. Knowledge self-efficacy refers to a user’s confidence in his or her ability in contributing valuable knowledge in online communities. Because people prefer and enjoy behaviors that they feel they are capable of performing, the users with confidence will have better experience and higher intention to contribute knowledge. Hence:

H7: Knowledge contributors’ knowledge self-efficacy is positively correlated with their satisfaction about knowledge contribution in an SQA community.

Shu & Chuang\(^{27}\) found that the attitude towards knowledge contribution was positively related to users’ willingness to contribute knowledge in virtual communities. The attitude towards knowledge contribution, which means individuals’ general assessment of knowledge contribution behavior, is closely related to personal characteristics and collective sense of honor instead of expected return. The users who have positive opinions toward knowledge contribution will be more satisfied with the experience and thus are more willing to contribute knowledge. Therefore, we hypothesized:

H8: Knowledge contributors’ attitude about knowledge contribution is positively correlated with their satisfaction about knowledge contribution in an SQA community.

3.2 Questionnaire design

A questionnaire was designed based on the proposed research model. There are 9 potential variables in the model, and each of them includes 2 to 4 observation variables. As shown in Table 1, in order to ensure the reliability and validity, the items of the questionnaire were adapted from the existing literature. All of the items on the questionnaire were measured using a five-point Likert-type scale (1 - strongly disagree; 3 - neutral/not familiar; 5 - strongly agree).

The study was targeted on knowledge contributors, who contribute their knowledge in an SQA community instead of searching for knowledge. Because SQA community users can get points by contributing knowledge, we consider users with a lot of points as knowledge contributors. In a survey of the top 100 users in point ranking of Baidu Knows\(^{10}\), we found that until April 26, 2013, the number of their answers

\(^{10}\) http://zhidao.baidu.com/
<table>
<thead>
<tr>
<th>Construct</th>
<th>Item</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Extrinsic reward (ER)</td>
<td>By answering questions, I gain enough points to redeem gifts.</td>
<td>Lou et al.</td>
</tr>
<tr>
<td></td>
<td>By answering questions, I get extra gifts with higher points ranking.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>By answering questions, I gain enough points to redeem a virtual badge.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>With the level up, I get more privileges.</td>
<td></td>
</tr>
<tr>
<td>Enjoyment in helping others (EHO)</td>
<td>I enjoy the process of answering other users’ questions and contributing my own knowledge.</td>
<td>Lou et al.</td>
</tr>
<tr>
<td></td>
<td>I feel happier in constantly helping others.</td>
<td></td>
</tr>
<tr>
<td>Realization of self-worth (SW)</td>
<td>Higher ranking gives me a sense of accomplishment.</td>
<td>Lou et al.</td>
</tr>
<tr>
<td></td>
<td>I have a sense of accomplishment when my answer is accepted by the question asker.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Being elected standout contributor makes me feel proud and reinforces my feelings of self-worth.</td>
<td></td>
</tr>
<tr>
<td>Reputation enhancement (REP)</td>
<td>With the higher ranking, I gain more reputation among my friends in the real world.</td>
<td>Jin</td>
</tr>
<tr>
<td></td>
<td>Being shown on the front page as standout contributor draws users’ attention to me.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>The honorary title I get in an SQA community makes me feel more respected by others.</td>
<td></td>
</tr>
<tr>
<td>Knowledge self-efficacy (KSE)</td>
<td>I have confidence in my ability to provide knowledge that others consider valuable.</td>
<td>Jin</td>
</tr>
<tr>
<td></td>
<td>I have the expertise needed to provide valuable knowledge.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>I think my answers are useful to other people.</td>
<td></td>
</tr>
<tr>
<td>Attitude towards knowledge contribution (KCA)</td>
<td>I regard knowledge contribution as a wise behavior.</td>
<td>Shu &amp; Chuang</td>
</tr>
<tr>
<td></td>
<td>I consider knowledge contribution as pleasant behavior.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>I think knowledge contribution is valuable and contributes to society.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>I think answering others’ questions broadens my horizons and I gain more knowledge myself at the same time.</td>
<td></td>
</tr>
<tr>
<td>Perceived usefulness (PU)</td>
<td>I think what I get is fair compared with my help to other members.</td>
<td>Fang &amp; Chiu</td>
</tr>
<tr>
<td></td>
<td>I think what I get is fair compared with the positive attitude that I have about answering other members’ questions.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>I think what I get is fair compared with my speed in answering other members’ questions.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>I think what I get is fair compared with the effort and time that I spend in contributing knowledge to an SQA community.</td>
<td></td>
</tr>
<tr>
<td>Satisfaction (SA)</td>
<td>Answering questions in an SQA community is interesting.</td>
<td>Chen et al.</td>
</tr>
<tr>
<td></td>
<td>When I answer questions in an SQA community, I am very satisfied.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>After I answer questions continuously in an SQA community, I am very satisfied.</td>
<td></td>
</tr>
<tr>
<td>Continuous knowledge contribution intention (CI)</td>
<td>I am planning to participate in knowledge contribution activities in an SQA community.</td>
<td>Chen et al.</td>
</tr>
<tr>
<td></td>
<td>I am planning to spend a lot of time in answering others’ questions and contributing my own knowledge.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>I want to be involved in the subsequent interactions when discussing a complicated issue.</td>
<td></td>
</tr>
</tbody>
</table>
Understanding the factors influencing user intention to continue contributing knowledge in social Q&A communities

Xian GUAN & Shengli DENG

Research Paper

National Science Library, Chinese Academy of Sciences
http://www.chinalibraries.net

averaged 82,942, while the number of their questions averaged 92. These people answered far more questions than asking questions. So the users who have earned high points from four Chinese major SQA sites (Baidu Knows, Sina iAsk®, Soso Ask® and Yahoo! Knowledge®) were chosen as the target for data collection. We distributed questionnaires by e-mail addresses to them during the period from April 15 to May 1, 2013.

3.3 Data analysis

3.3.1 Sample data

We sent invitation e-mails to 2,700 high-point users in the four Chinese major SQA websites. In total, 220 responded to the online survey with a response rate of 8.1%. The low response rate was due to a lack of material reward offered to respondents and the fact that some users do not trust or respond a stranger’s e-mails. Table 2 summarized the detailed descriptive statistics relating to the respondents’ characteristics. Among these respondents, there were far more males than females, and a majority of them were aged between 20 and 40 years old with college or higher degrees. They often contribute their knowledge in an SQA community.

Table 2 Demographic characteristics of survey respondents

<table>
<thead>
<tr>
<th>Profile</th>
<th>Characteristics</th>
<th>Frequency (N=220)</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>Male</td>
<td>174</td>
<td>79.09</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>46</td>
<td>20.91</td>
</tr>
<tr>
<td>Age</td>
<td>10—20</td>
<td>15</td>
<td>6.82</td>
</tr>
<tr>
<td></td>
<td>21—30</td>
<td>95</td>
<td>43.18</td>
</tr>
<tr>
<td></td>
<td>31—40</td>
<td>45</td>
<td>20.45</td>
</tr>
<tr>
<td></td>
<td>41—50</td>
<td>31</td>
<td>14.09</td>
</tr>
<tr>
<td></td>
<td>Above 50</td>
<td>34</td>
<td>15.45</td>
</tr>
<tr>
<td>Education</td>
<td>Junior high school or lower</td>
<td>3</td>
<td>1.36</td>
</tr>
<tr>
<td></td>
<td>High school/vocational school</td>
<td>28</td>
<td>12.73</td>
</tr>
<tr>
<td></td>
<td>Associate degree</td>
<td>52</td>
<td>23.64</td>
</tr>
<tr>
<td></td>
<td>Bachelor degree</td>
<td>108</td>
<td>49.09</td>
</tr>
<tr>
<td></td>
<td>Master degree</td>
<td>24</td>
<td>10.91</td>
</tr>
<tr>
<td></td>
<td>Doctoral degree</td>
<td>5</td>
<td>2.27</td>
</tr>
<tr>
<td>Frequency of answering questions</td>
<td>≥5 times a day</td>
<td>107</td>
<td>48.64</td>
</tr>
<tr>
<td></td>
<td>1–5 times a day</td>
<td>78</td>
<td>35.45</td>
</tr>
<tr>
<td></td>
<td>Once every few days</td>
<td>26</td>
<td>11.82</td>
</tr>
<tr>
<td></td>
<td>Once a week</td>
<td>9</td>
<td>4.09</td>
</tr>
</tbody>
</table>

® http://iask.sina.com.cn/
® http://wenwen.soso.com/
® http://ks.cn.yahoo.com (The service has stopped since September 1, 2013).
3.3.2 Measurement model assessment

Considering that the observed variables do not comply with multivariate normal distribution and the sample size is relatively small, this study utilized the partial least squares (PLS) technique to analyze data. SPSS20\(^{[31]}\) and smartpls\(^{[32]}\) were used for reliability analysis, validity analysis and hypothesis testing in the paper.

(i) Reliability and validity analysis  Reliability means the consistency and stability of measurement. In PLS analysis, reliability is evaluated using composite reliability (CR). Acceptable CR values should be above 0.7, and the questionnaire is regarded to be very reliable when the CR values are above 0.9. Validity includes convergent validity and discriminate validity. Convergent validity, which measures the correlations between indicators in the same construct, is generally assessed by examining average variance extracted (AVE). In contrast to convergent validity, discriminate validity is used to measure the distinction between different constructs. As illustrated in Table 3, the values of CR and AVE are greater than 0.7 and 0.5, respectively, and the square root of the AVE for a given construct is greater than the correlations between the construct and all other constructs. The result means that the questionnaire can be used for the research into users’ continuance intention to contribute knowledge with acceptable reliability and validity.

(ii) Test of structural model  Smartpls\(^{[32]}\) was used to calculate path coefficient and \(R^2\) value in this study, and the bootstrapping function was used to test the significant level of each relationship. Path coefficient represents the strength of the relationship between dependent and independent variables. Figure 2 illustrated the results for the structural model.

The percentages of the variance explained (\(R^2\)) of perceived usefulness, satisfaction, and continuance intention were 48.5%, 49.8%, and 54.5%, respectively. All the structural paths were found statistically significant except H4 and H7 in the research model. The research results demonstrate that all hypotheses were supported, except H4 and H7.
4 Discussions and conclusions

This study aims to reveal the factors that influence users’ intention to continue contributing knowledge in an SQA community. The measurement model has been confirmed with adequate convergent and discriminate validity of all measures, and the structural model explains 54.5% of the variance. The following is the summary of our results and some suggestions to managers in an SQA community to formulate or improve their incentive strategies.

- Consistent with previous literature\cite{1,3,11} about information system continuance, our study findings show that the knowledge contributors’ satisfaction with knowledge contribution experience is positively correlated with their intention to continue contributing knowledge, which is also reflected in the path coefficient (0.738) between satisfaction and continuance intention (Fig. 2). In order to encourage user continuance of knowledge contribution in an SQA community, community designers and managers should focus on users’ satisfaction with the SQA community. Apart from carrying out regular questionnaire surveys, they should pay special attention to the activities of users with high rankings and take incentive measures to stimulate their continued participation if these users are found no longer active in answering questions.

- Knowledge contributors’ perceived usefulness and attitude towards knowledge contribution are positively correlated with their satisfaction, which means the higher the perceived reward is, the more satisfied knowledge contributors are.

Fig. 2 Summary of the structural model analysis. Note: *** significant at p<0.001.
with the process of answering questions, and the greater their readiness to continue answering questions. Meanwhile, those users with a positive view of knowledge contribution will enjoy doing so once more. The path coefficient in Fig. 2 indicates that perceived usefulness (coefficient is 0.442) is more crucial than attitude (coefficient is 0.353) toward knowledge contribution for satisfaction. Therefore, the managers of an SQA community should help users find valuable information via pushing services while the users are contributing knowledge in an effort to improve these users’ perceived usefulness of knowledge contribution.

• Knowledge self-efficacy does not have a significant impact on user satisfaction in this study. Knowledge contributors’ assessment of whether or not they possess enough expertise to contribute knowledge will not influence their continuance decision or their feelings about their continuance behavior. This result is different from prior studies. For instance, Wasko & Faraj[33] found that knowledge self-efficacy could affect users’ satisfaction significantly in a discussion forum. The reason for different results may be that the exchange of knowledge in an SQA community needs less expertise and insight than that in other online communities focusing on a particular subject. Nevertheless, in order to improve answer quality, the community managers should attract more users who are capable and have professional knowledge as knowledge contributors. Professional people from different industries or fields, library reference consultants in particular, may be invited to answer questions.

• Extrinsic reward, reputation enhancement and realization of self-worth are positively correlated with users’ perceived usefulness. This means user continuance intention can be improved by providing more extrinsic rewards, strengthening incentive mechanism, raising user reputation, and offering opportunities for users to realize self-worth. Hung & Cheng[34] found that the factors that influence perceived usefulness included enjoyment in helping others, while this research result shows that knowledge contributors in an SQA community did not consider happiness from altruism as the usefulness of knowledge contribution. The difference between Hung & Cheng’s research and ours is due to different user groups. Most previous researches were aimed at studying virtual communities or professional communities, whereas this study was focused on knowledge contributors with high-rankings in an SQA community. However, in order to promote better development of an SQA community, an emphasis can be put on enjoyment in helping others as the benefit of knowledge contribution by showing slogans such as “contributing knowledge for more happiness” on the Web pages, which may also help increase users’ perceived usefulness from altruism.
Understanding the factors influencing user intention to continue contributing knowledge in social Q&A communities

- In the survey, we also found that most knowledge contributors perceived knowledge contribution as useful and they were satisfied with their knowledge contribution behaviors, and they would like to continue contributing their knowledge, indicating a higher user viscosity of the SQA community.

This study contributes to the existing user continuance intention research in several ways. First, it adds to the limited studies done with user continuance intention in an SQA community. Second, one of the main weaknesses of previous studies on factors influencing user continuance intention is a lack of differentiation among users. This study seeks to distinguish the different roles of users in an SQA community and is focused on only knowledge contributors, the main force of answering questions and keeping an SQA community sustainable. Compared with the study of all users in an SQA community, exploring factors influencing knowledge contributors’ continuance intention can make us better understand why they would contribute knowledge continuously in the SQA community. Third, the results of this study also provide some insights to help community designers and managers to build a sustainable SQA community.

There are several limitations in this research. First, the model explains 48.5% of the variance in perceived usefulness, 49.8% in satisfaction and 54.5% in continuance intention (Fig. 2), which means that some important factors may be missing. The influence of the factors such as the ease of use of information systems, opportunity cost and actual cost on users needs to be studied. Second, the study subjects were knowledge contributors in four major Chinese SQA communities, and users of many smaller SQA communities were not included. The different operation patterns between different SQA communities of varying sizes may result in the different knowledge contributors’ behavior patterns, and that users of smaller SQA communities are included in the study sample will make the results more representative. All these problems remain to be addressed in our future research.

References


Understanding the factors influencing user intention to continue contributing knowledge in social Q&A communities


Research Paper


The 2014 annual meeting of Global Research Council will be held in Beijing

The Annual Meeting of Global Research Council 2014 will take place in Beijing hosted by the Chinese Academy of Sciences (CAS) and the Natural Sciences and Engineering Research Council of Canada (NSERC).

The 2nd Annual Global Meeting of the Global Research Council (GRC) has ended in Berlin on 29 May 2013. Over three days, the heads of about 70 science and research councils around the world as well as high-ranking guests from science and research, science administration and research policy attended the meeting. The topics of discussion and endorsement were an Action Plan towards Open Access, a high-level Statement of Principles for Research Integrity as well as new statutes for the GRC.

The outcomes of the meeting’s discussions as well as the endorsed documents were presented at a press conference on 29 May 2013 in the Berlin-Brandenburgische Akademie der Wissenschaften in Berlin. DFG-President Professor Peter Strohschneider stressed the relevance of “Open Access” to publications as a main paradigm of scientific communication in the following years. The participants agreed that sharing research publications openly is a means to increase the quality of research communication and thus of research itself. The endorsed Action Plan includes activities by which GRC member organisations can foster the open exchange of research results with a high degree of flexibility. Therefore the plan specifies three basic principles: Encouragement, awareness rising, and support for researchers that wish to provide their results in Open Access. The implementation requires engaging a number of stakeholders, for instance, scientists and scholars themselves, universities, science organisations, libraries, and publishers.

The endorsed Principles for Research Integrity point out that researchers and institutions themselves remain ultimately responsible for undertaking research with integrity on the one hand. On the other hand, research funding agencies have an obligation to ensure that supported research corresponds to the highest standards possible, as CNPq-President Professor Glaucius Oliva stated.

Hosted jointly by the German Research Foundation (DFG) and the National Council of Technological and Scientific Development (CNPq) of Brazil, the 2nd Annual Global Meeting was the largest of its kind so far and represented some 80 percent of the world’s public, non-ministerial research potential.

(Available at http://www.globalresearchcouncil.org/meetings/2013-meeting)
Chinese Journal of Library and Information Science
(CJLIS, Chinese Title:《中国文献情报》)

ISSN 1674-3393, CN 11570/G2; Price: $US 199/Volume

Chinese Journal of Library and Information Science (CJLIS) is the first and only English-language academic journal in the field of Library and Information Science (LIS) that has been published in Mainland China so far. It aims to establish a platform for students, researchers and professionals in LIS and archive science to engage in intellectual dialogs and to share best professional practices of their experience.

CJLIS adopts a double-blind peer-review process for each published article. The Editorial Board of CJLIS is composed of well-known scholars both from national and international LIS fields. The main aim of CJLIS is to serve librarians, information professionals, researchers and practitioners in the LIS field for their various purposes and keep them well informed of the latest development of LIS field both in China and the world.

CJLIS mainly publishes original research articles, including research papers, library practice papers, progress reports, research reviews and perspectives. For subscription, you can use the following channels:

1) Via EBSCO International, Inc (USA)

2) To order at any post office inside China, with a distribution code 82-563.

3) To contact with the Editorial Office
   Address: No.33 Beisihuan Xilu, Zhongguancun, Haidian District, Beijing 100190, P.R. China
   Tel: 86-10-82624454 or 86-10-82626611 ext. 6628
   Fax: 86-10-82624454
   Email: chinalibraries@mail.las.ac.cn
   Website: http://www.chinalibraries.net

4) Via Beijing China Science Journal Publishing Co., Ltd.
   Address: Room 301, Building B, Desheng International Center, No. 83 Deshengmenwai Street, Beijing 100088, P.R. China
   Tel: 86-10-59790736 ext. 8028
   Fax: 86-10-59790736 ext. 8092
   E-mail: sunzhipeng@mail.sciencep.com
Submission Guidelines

Aims

Chinese Journal of Library and Information Science (CJLIS), being sponsored by the Chinese Academy of Sciences (CAS) and published quarterly by the National Science Library of CAS, is a scholarly journal in the field of library and information science (LIS). Its aim is to provide an international communication link between researchers, educators, administrators, and information professionals.

With the publication of the research results both from China and from other foreign countries, the Journal CJLIS strives to balance between theory and practice. With its goal to provide an open forum for Chinese and international scholars in this field to exchange their research results, CJLIS also offers new possibilities in the advancement of Chinese library operations. The CJLIS tries to establish a platform for LIS students, researchers and library staff all over the world to engage in intellectual dialog and also to improve library services so as to promote even more quickened and substantial development of LIS in China.

Scope

Striving toward academic excellence, innovation, and practicality, the CJLIS mainly includes research papers both on the theoretical as well as on the practical fronts in all aspects of the field. More specifically, it includes but not limited to informatics, library management, information technology application, knowledge organization system, knowledge management, archives, permanent preservation of library resources, LIS education, and so on.

Refereeing Process

Articles and papers covering the topics or themes mentioned above will be refereed through a double-blind peer review process.

Editorial Advisory Board

The Editorial Board is composed of the nationally and internationally well-known scholars and researchers in the LIS field and the high quality of this Journal is thus reasonably assured.

Manuscripts Categories

As the first English-language academic journal on LIS published in Mainland China, the CJLIS will take a proactive attitude to trace and report the prevailing hot issues in the field around the globe as well as the more serious scholarly communications. As such, the submitted manuscripts are classified into constant categories and unfixed categories. In the former category, research papers, library practice and progress reports are the essential components. In the latter, book reviews, biographical sketches, anecdotes, reminiscence of prominent librarians and brief communications will appear occasionally.

Research papers represent original research work or a comprehensive and in-depth analysis of a topic. More than 3,000 words are considered as a proper length for such manuscripts, with a structured abstract ca. 200 words.

Library practice covers the latest development and application in any segment of library field work and information service. The length of the manuscript is preferred to be more than 3,000 words, with a structured abstract ca. 200 words.

Progress reports reflect the projects result or research progress on the key topics of the library and information science. Submissions of articles to this section are expected to be comprehensive and analytical, which may deepen the understanding of the discussed issue and stimulate further researches on the topics, or give a new perspective on future technological applications. The manuscript length should be within 5,000 words, with a structured abstract ca. 200 words.

Manuscripts Requirements

All papers can be submitted either in English or in Chinese (or both) with a double-line space. For the assurance that all the materials of the to-be-submitted are included, please check the following:

Title. Please give a brief biographical introduction to all contributing authors and their research background on a separated paper. For a better organization of the paper, please use the headings and subheadings.

Authors and affiliations. Please do not forget to write down the mailing address of each and every article contributors.

References. Be sure all the references used should be cited properly both in in-text and in bibliography. Particular attention should be paid to the proceedings. Do not forget adding the name(s) of editors of the compilation, as well as the name of the publishers. For the detailed information, please request a copy of Reference Citation Format.

Copyright

All submitted papers normally should not have been previously published nor be currently under consideration for publication elsewhere. For all the materials translated or obtained from other published resources, they should be properly acknowledged. All copyright problems should be cleared without any legal entanglements prior to the publication.

Notes for Intending Submissions

A guide for authors and other relevant information, including submitting papers online, is available at the website of the Editorial Office of the CJLIS (http://www.chinalibraries.net). For any questions, you can e-mail the Office or directly to:

Prof. ZHANG Xiaolin
Editor-in-Chief of CJLIS
The CJLIS Editorial Office
National Science Library, Chinese Academy of Sciences
No.33 Beishuan Xilu, Zhongguancun, Haidian District,
Beijing 100190, P.R. China
Tel: 86-10-82624454 or 86-10-82626611 ext. 6628
Fax: 86-10-82624454
E-mail: chinailibraries@mail.las.ac.cn
Website: http://www.chinalibraries.net

Subscription

For single-copy subscription in China: RMB ¥ 200/Issue. For subscription outside of China, US $ 199/Volume yearly (including air shipping)
CONTENTS

■ Research Papers

1 Identifying user intent through query refinements
   Xiaojuan ZHANG & Wei LU

15 Social bookmarking behaviors of college students: A survey of Wuhan University Library users
   Dan WU, Xiaomei XU & Wenting YU

31 Understanding trust-related factors affecting citizen adoption of e-government services
   Li ZHAO & Chuanfu CHEN

44 Public library services to older adults in China: An empirical study based on content analysis
   Xue XIAO

59 A multidimensional and hierarchical model of library mobile service quality
   Yang ZHAO & Guo CHEN

75 Understanding the factors influencing user intention to continue contributing knowledge in social Q&A communities
   Xian GUAN & Shengli DENG

91 News: The 2014 annual meeting of GRC will be held in Beijing

92 Subscription