

The Key Factors of Knowledge Sharing in Online Community

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Abstract. In web 2.0 social network services also provided many attached tools for help social communication, for example, photo sharing and comment mechanism. According to above mentioned, Web 2.0 facilitated web-based information sharing, even knowledge sharing. However, less study examined that knowledge sharing about online users. In this paper, we aim to examine the users' content and social value in knowledge platform impact on knowledge sharing and use. Finally, the study develops a KMO 2.0 success model. In the model, we have proposed 13 hypotheses for testing. From the results, the hypotheses H1, H3, H5, H6, H7, H8, H9, H10, H11, H12, and H13 have been supported.

1 Introduction

1.1 Background

Due to technology development and internet widespread, the new term of "Web2.0" was emerged. The concept "Web 2.0" began with a brainstorming session between O'Reilly and MediaLive in a conference (O'Reilly, 2007). Web 2.0 has many characteristics such as the web as platform, user participation, information with personality, and interactivity responsiveness (Kim, Yue, Hall, & Gates, 2009). Based on the characteristics, Web 2.0 developed two elements: user generated content (UGC) and social networks services (SNS). In Web 1.0, all information on the Internet was provided by the webmaster. For example, users received information passively through the news portal websites or firm official website. In Web 2.0, information could be generated by users like the concept of user generated content. The kinds of platform are such as blog website, Wikipedia, and Youtube. For the concept of social network services, users could maintain offline friendship and meet new one through social network sites such Facebook and Myspace. In addition, social network services also provided many attached tools for help social communication, for example, photo sharing and comment mechanism. According to above mentioned, Web 2.0 facilitated web-based information sharing, even knowledge sharing.

1.2 Motivation

About knowledge management, the past literatures mostly focused on the organization field. For example, the knowledge success model displayed that factors how impact on knowledge use in the organization (Kulkarni, Ravindran, & Freeze, 2006). Moreover, the organization culture influenced the knowledge management (Alavi, Kayworth, & Leidner, 2005). In spite of web-based research, it showed that employees utilized web technology such as forum and community to promote knowledge sharing. But less study examined that knowledge sharing about online users. Based on the gap, the study investigates that the features of user generated content (content value) and social network services (social value) influence on knowledge sharing and use.

1.3 Research Question

This study aims to examine that users' content and social value in knowledge platform impact on knowledge sharing and use. Finally, the study develops a KM 2.0 success model.

2 Literature Review

2.1 Content Value and Social Value

Based on the study of Helen and Wagner (2006), this study investigates the influence of two important factors—content and social values—on knowledge sharing. Kulkarni, Ravindran, and Freeze (2006) tried to define content value as various qualities including its relevance, accuracy, timeliness, applicability, comprehensibility, presentation formats, extent of insight, availability of expertise and advice, and so on. Moreover, there is an abundance of research showing that social value plays an important role in knowledge sharing in the internet. For instance, bloggers hope to link with popular blogs so that more people will view and rate their own (Wagner & Bolloju, 2005).

2.2 Knowledge Sharing

Knowledge sharing is a communication process that includes two parts: (1) the knowledge owner externalizes the knowledge; (2) the knowledge demander internalizes the knowledge (Hendriks, 1999). The knowledge conversion includes both transmission and absorption; therefore an enterprise should not merely absorb knowledge, but also acquire knowledge channels (Davenport & Prusak, 1998). Nonaka (1995) argued that the some of the main obstacles to converting knowledge could be resolved as follows: lack of trust can be improved through face-to-face conversation, lack of learnability can be solved by hiring more competent and open-minded workers, and cultural gaps can be bridged through education, team work, and interactive discussions. Since to knowledge is unlike products, which are easy transferable, during the process of learning new knowledge, a person should be able to rebuild knowledge and equipped his or herself with the basic knowledge that allows for effective learning and sharing.

2.3 User Satisfaction

According to the research of Kulkarni et al. (2006), user satisfaction can be defined as subjective evaluation of the various outcomes due to the knowledge sharing and retrieval capabilities existing within the organization, including ease of getting the information and knowledge needed, satisfaction with the access to knowledge, adequacy of the information/knowledge to meet one's needs.

3 Research Model

H1: Norms of reciprocity is positively related to information value.

H2: Norms of voluntarism is positively related to information value.

H3: Norms of social trust is positively related to information value.

H4: Norms of reciprocity is positively related to social value.

H5: Norms of voluntarism is positively related to social value.

H6: Norms of social trust is positively related to social value.

Knowledge management in open source provides user to search, compose and edit contents according to some basic rules, and absorb knowledge through the knowledge sharing process. People can collaborate with each other to create and share knowledge (Richards, 2009). Blau (1964) asserted that when socializing, every individual expects for feedback. For example, in pair or group interaction individuals want to participate and maintain an important role in the activity (Jones, Hesterly, & Borgatti, 1997). This implies the social value of such platform would effect the knowledge sharing. Besides, Seddon (1997) also claimed in IS success model that if the quality of knowledge content is high, then a knowledge worker is more likely to perceive that knowledge management initiatives contribute to him/her self-efficiency.

H7: Information value is positively related to perceived usefulness of knowledge sharing.

H8: Social value is positively related to perceived usefulness of knowledge sharing.

In line with the IS success model, we propose that content value, social quality, and perceived usefulness of knowledge sharing together determine the level of overall user satisfaction, which, like its equivalent in the IS success model (Rai, Lang & Welker, 2002), is a subjective measure of the various outcomes of the knowledge sharing, retrieval, and knowledge reuse capabilities existing within the firm as a result of the knowledge management initiatives undertaken.

H9: Information value is positively related to user satisfaction.

H10: Social value is positively related to user satisfaction.

H11: Perceived usefulness of knowledge sharing is positively related to user satisfaction.

Comparing model proposed by DeLone & McLean (2003) with Seddon (1997), it is interesting to note the difference between D&M and Seddon in the treatment of IS use. The D&M model includes a causal path from user satisfaction to system dependence (same as IS use), as well as one from system dependence to perceived usefulness. Seddon (1997) includes only one causal relationship leading from user Satisfaction to IS use; the model does not propose that perceived usefulness causes IS use or vice versa. In line with Seddon’s IS success model, we propose that user satisfaction causes intention of knowledge use. Further, we argue that a relationship between usefulness and use is entirely possible in the knowledge management context.

H12: Perceived usefulness of knowledge sharing is positively related to intention of knowledge use.

H13: User satisfaction is positively related to intention of knowledge use.

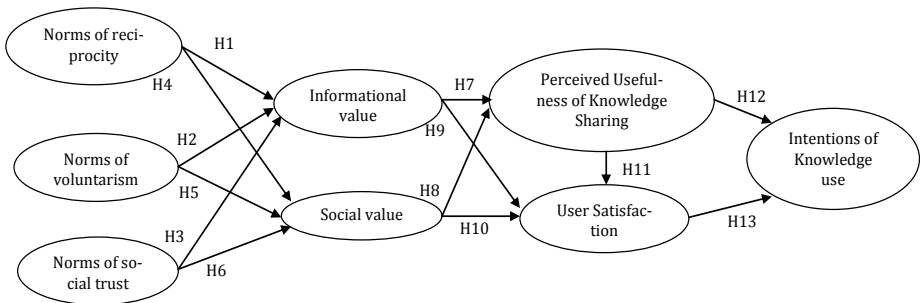


Fig. 1. Research model

4 Methodology

This study used survey method to test the hypothesis. The detail information of methodology is in the following sections.

4.1 Measurement

Social capital consisted of three dimensions: norms of reciprocity, norms of voluntarism, and norms of social trust. This study used a two-item scale which was developed by Wasko and Faraj’s (2000) to measure norms of reciprocity. To measure norms of voluntarism, this study adopted Podsakoff, Ahearne, and MacKenzie’s (1997) three-item scale. This study utilized norms of social trust scale. The three-item scale was developed by Moorman, Zaltman, and Deshpande (1992). Moreover, this study adopted a three-item scale for informational value and a four-item scale for social value. These scales were developed by Mathwick and Klebba (2003).

For perceived usefulness of knowledge sharing, this study used a six-item scale which developed by Kulkarni, Ravindran, and Freeze (2006). This scale was originally adopted in the organization condition. Therefore, this study deleted one item to further measure. And this study also adopted Kulkarni, Ravindran, and

Freeze's (2006) three-item to measure user satisfaction. Finally, this study utilized a three-item which was developed by Goodhue and Thompson (1995) to measure intentions of knowledge use.

All items of three dimensions of social capital, information value, social value, perceived usefulness of knowledge sharing, user satisfaction, and intentions of knowledge use were the seven-point Likert-type, with a measuring range of from 1 (strongly disagree) to 7 (strongly agree).

4.2 Participant

This study recruited in total 305 subjects which were from the online community. After deleted subjects without using online community experiences, the remaining 298 completed responses were accepted for data analysis. The subjects consisted of 146 (49.00%) students and 152 (51.00%) non-students. The subjects included 154 (51.68%) males and 144 (48.32%) females. The age of subjects ranged from 16 to 56 years (Mean = 25.76, SD = 4.66). In the amount of education, 50.67% of the subjects had university degrees and 44.97% of the subjects had master degrees. The subjects have adopted online community averagely 4.48 years (SD = 2.16). The subjects averagely used 12.18 hours (SD = 8.94) per week.

4.3 Procedure

This study recruits voluntary participants in an online community. This study posts messages of call for voluntarily subjects on questionnaire boards about two weeks. The participants can click the hyperlink which posts in the call for voluntarily subjects to join this study. This study builds an online questionnaire web page to collect data. Each participant is provided 50 p coins as souvenirs for complete responses.

4.4 Reliability and Validity

Factor analysis was conducted by using the principal component factor analysis with the varimax rotation. The results displayed that loadings of items were higher than .73 and considered significant (Hair, Jr., Tatham, & Black, 1998). Cronbach's α was usually used to estimate the reliability of a construct. This study calculated Cronbach's α to estimate reliabilities for all measurement scales. In the study, Cronbach's α value range for all measurement scales was from .74 for intention of knowledge use to .91 for perceived of usefulness knowledge sharing. All Cronbach's α values were over .70 and in the commonly acceptable range of reliability (Nunnally, 1978). In addition, this study employed average variance extracted (AVE) and composite reliability (CR) to evaluate convergent validity. For all measurement scales, the range of average variance extracted (AVE) value was from .65 for intention of knowledge use to .80 for norms of reciprocity. Moreover, composite reliability value range was from .85 for intention of knowledge use to .93 for perceived of usefulness knowledge sharing. All average variance extracted (AVE) values exceeded .50, and composite reliability (CR) values was over .70. They were in the commonly acceptable range of average variance extracted (AVE) and composite reliability (CR) (Fornell & Larcker, 1981).

5 Results

Due to our sample being medium-sized, this study used SmartPLS 2.0 to estimate the research model. After analyzing the data, figure 2 presents the PLS model estimation output. The explanatory power of the constructs were 48% for informational value, 44% for social value, 55% for perceived usefulness of knowledge sharing, 60% for user satisfaction, and 65% for intentions of knowledge use. Except that the path linkages from norms of reciprocity to social value and norms of voluntarism to informational value were not significant, other path linkages were significant. The results supported hypotheses H1, H3, H5, H6, H7, H8, H9, H10, H11, H12, and H13.

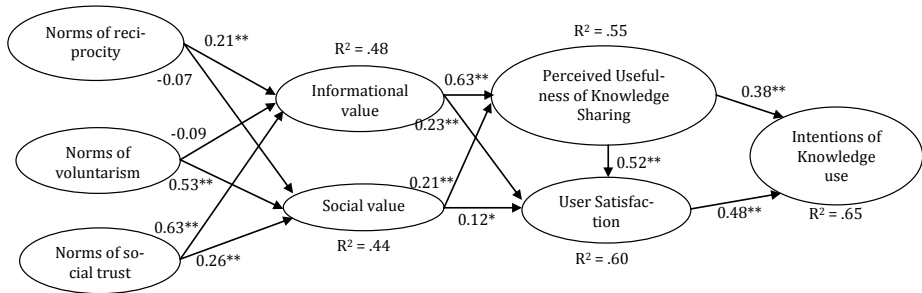


Fig. 2. Results of PLS analysis * $p < .05$, ** $p < .01$

In order to observe the gender effect, the data were divided into two groups, male and female, to compare the different results. Figure 3 revealed the PLS model estimation outcome for male group. The explanatory power of the constructs were 57% for informational value, 45% for social value, 59% for perceived usefulness of knowledge sharing, 69% for user satisfaction, and 68% for intentions of knowledge use. Except that the path linkages from norms of reciprocity to informational and social value and norms of voluntarism to informational value were not significant, other path linkages were significant. Moreover, figure 4 shows the PLS model estimation results for the female group. The explanatory power of the constructs were 42% for informational value, 44% for social value, 50% for perceived usefulness of knowledge sharing, 49% for user satisfaction, and 62% for intentions of knowledge use. And the path linkages from norms of reciprocity to social value, norms of voluntarism to informational value, and social value to user satisfaction were not significant. The other path linkages were significant. Comparing the PLS results for male and female groups, the relationship between norms of reciprocity and informational value was significant for female group whereas it was not significant for male group. In addition, the path coefficient from norms of social trust to social value was higher for female group than for male group. On the contrary, the path coefficient from norms of voluntarism to social value was less for female group than for male group. Based on the results, female group were more willing to reciprocity with other community members than male group. On the other hand, male group preferred to more voluntarism than female group in online community.

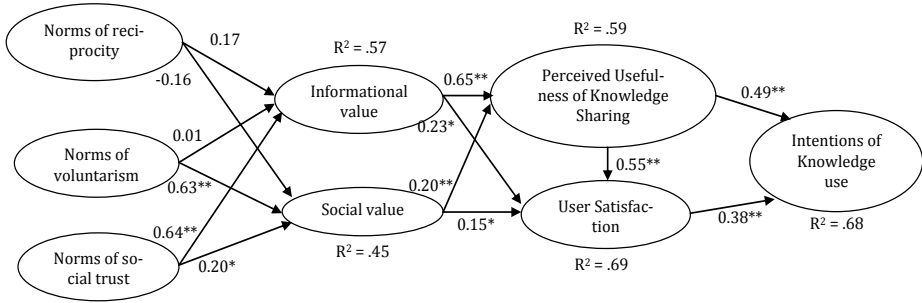


Fig. 3. Results of PLS analysis for male group **p* < .05, ***p* < .01

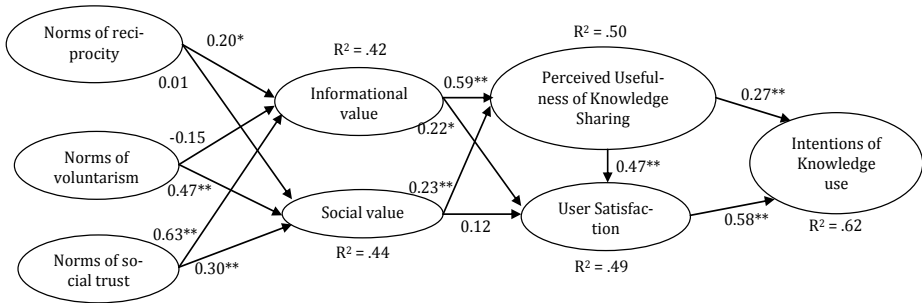


Fig. 4. Results of PLS analysis for female group **p* < .05, ***p* < .01

In addition, this study also wanted to test the occupation effect. Therefore, the data were divided into two groups, student and non-student, to compare the different results. Figure 5 revealed the PLS model estimation outcome for student group. The explanatory power of the constructs were 48% for informational value, 43% for social value, 53% for perceived usefulness of knowledge sharing, 64% for user satisfaction, and 60% for intentions of knowledge use. Except that the path linkages from norms of reciprocity and norms of social trust to social value, norms of voluntarism to informational value, and social value to user satisfaction were not significant, other path linkages were significant. And figure 6 shows the PLS model estimation results for the non-student group. The explanatory power of the constructs were 49% for informational value, 48% for social value, 56% for perceived usefulness of knowledge sharing, 58% for user satisfaction, and 70% for intentions of knowledge use. Furthermore, the path linkages from norms of reciprocity to social value, norms of voluntarism to informational value, and informational value to user satisfaction were not significant. The other path linkages were significant. Comparing the PLS results for student and non-student groups, the relationship between norms of social trust and social value was significant for non-student group, but for student group it was not significant. Furthermore, the path coefficient from norms of social trust to informational value was higher for non-student group than for student group. Conversely, the path coefficient from norms of reciprocity to informational value was less for non-student group than for student group. According to the results, non-student group had more social trust than student group in online community. On the contrary, student group would like to reciprocity with others than non-student group.

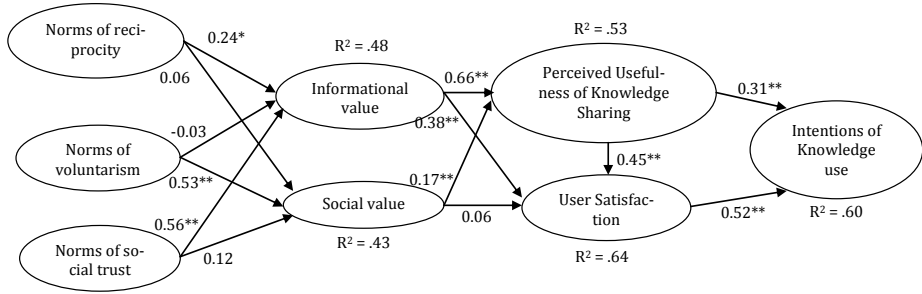


Fig. 5. Results of PLS analysis for student * $p < .05$, ** $p < .01$

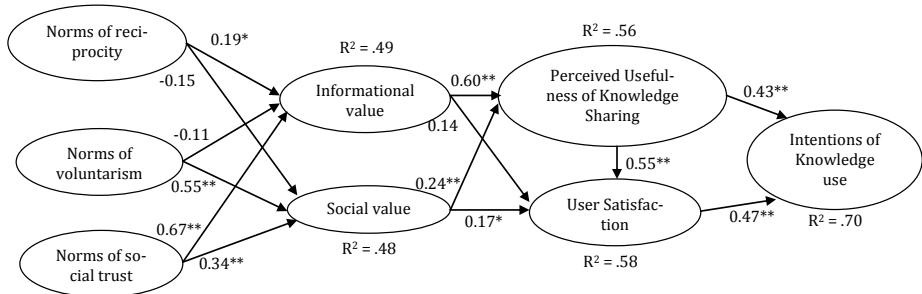


Fig. 6. Results of PLS analysis for non-student * $p < .05$, ** $p < .01$

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