

Altruistic Knowledge Sharing in Online Communities

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Abstract— This article focuses on social collaboration in online communities and examines how users' altruism affects their knowledge sharing behavior. This article proposes an other-regarding conceptualization of altruism based on the Utility Interdependence Theory of Voluntarism. Awareness of the community's knowledge need is hypothesized to dampen one's free-riding tendency and strengthen knowledge sharing intention. Data from a survey of 100 users of an online community supported the hypotheses. The findings extend our understanding of knowledge sharing by looking beyond egoistic factors and open up several new lines of inquiry that focus on other-regarding factors.

Keywords— Community, social collaboration, knowledge sharing, altruism

INTRODUCTION

This article focuses on social collaboration in online communities, such as question-and-answer websites and wiki communities, and examines how users' altruism affects their knowledge sharing behavior. The development and success of online communities critically depends on voluntary knowledge sharing [1]. Knowledge sharing on online communities is often viewed and studied as an altruistic behavior, which emphasizes concern for the good of others over one's own personal welfare. Although prior studies have shown the significance of altruism, they have yet to directly account for the notion that altruism is other regarding in nature. Since addressing others' need is inherent in altruism, this article seeks to extend prior research by examining whether one's knowledge sharing is affected by the knowledge need of the community.

In practice, highlighting the need for knowledge is an important feature of many online communities. For example, in Wikipedia, many pages have cleanup tags that identify contents needing editing and quality improvement (e.g., "expert needed"); Wikipedia pages often contain "red links", which pinpoint knowledge topics that are significant but do not yet have a page and lead to a prompt to create a new page; Lists of pages needing cleanup and most-wanted pages are also maintained. These features seek to clarify the community's knowledge need and are expected to promote knowledge sharing. Nevertheless, there has been a lack of theoretical basis and empirical evidence for their effectiveness.

Based on the Utility Interdependence Theory of Voluntarism, we develop a model to explain the effect of

community's knowledge need on members' knowledge sharing behavior. To preliminarily test the proposed model, survey data were collected from 100 respondents and analyzed using partial least squares. Results indicate support for the existence of utility interdependence in online communities, as awareness of a community's knowledge need has a significant positive effect on one's knowledge sharing intention.

This article contributes to research on collaboration in social networks by being one of the earliest to understand the effect of an other-regarding conceptualization of altruism on individuals' knowledge sharing intention. The findings open up several new lines of inquiry in social collaboration research, such as characterizing different aspects of a community's knowledge need.

LITERATURE REVIEW

Although knowledge sharing in online communities is commonly viewed as an altruistic behaviour [1, 2], which "emphasizes concern for the good of others over one's own personal welfare... aims solely to benefit others without any intent to promote a gain or improve his or her situation" (Kuznetsov, 2006; pp. 3-4), our review indicates that prior research has mostly focused on egoistic factors, i.e., those related to one's conformance to social norms (e.g., we intention [3]), maintenance of one's belief-behavior consistency (e.g., attitude [4]), avoidance of cognitive dissonance (e.g., expectation confirmation of community value [5]), and accrual of personal benefits (e.g., attainment value [5]). The few studies that examine altruism have also adopted an egoistic conceptualization, in terms of personal belief (e.g., ideal belief of doing good for humanity) or intrinsic motivation (e.g., enjoy sharing knowledge with others) [2, 6]. This article seeks to extend research by looking beyond self-interest factors to examine whether the other-regarding factor of community's need for knowledge has a significant effect on knowledge sharing. A theory that accounts for the effect of community need is described next.

UTILITY INTERDEPENDENCE THEORY OF VOLUNTARISM

The Utility Interdependence Theory of Voluntarism goes beyond a self-interest focus to consider the need of others in determining individuals' level of voluntary contribution

[7]. The theory is rooted in economics and suggests that the level of altruistic contribution varies directly with socioeconomic status (e.g., income), varies inversely with the price of contribution (e.g., time available, free-riding tendency), and varies directly with the consumption of others in the absence of contribution (i.e., community's need for volunteering). In the theory, altruism involves one incurring costs for the benefit of someone else and increasing the level of contribution as the need of others increases, because one derives utility from others' consumption. That is, a volunteer's utility is not limited to his or her own income or consumption; rather, it reflects the need of the community.

RESEARCH MODEL AND HYPOTHESES

The interest of this article is on altruistic knowledge sharing in online communities. For the purpose of understanding knowledge sharing, this study focuses on knowledge as the key resource being volunteered in online communities and adapts constructs in the Utility Interdependence Theory accordingly (see Table 1): Community need is specified as community's need for knowledge; Socioeconomic status focuses on education level, which indicates one's knowledge level; In place of the time available as a cost of volunteering, the proposed model accounts for knowledge codification effort.

RESEARCH METHOD

A survey was conducted to collect data for preliminarily testing the proposed model. The survey instrument was developed by adapting items from existing validated scales. community's knowledge need was measured with items in Unger's [7] community need scale and Shiarella et al.'s [8] awareness of need scale; Education level was measured with an item requesting respondents to indicate their highest level of education; Free-riding tendency, knowledge codification effort, and knowledge sharing were measured with items adapted from Gabbiadini et al. [9], Kankanhalli et al. [10], and Cho et al. [11] respectively. Other than education, each item was measured with a seven-point Likert scale, anchored by terms such as strongly disagree and strongly agree.

The target population is individuals who are knowledgeable about a topic and have access to sharing in online communities. To ensure variance in the constructs of interest (i.e., education, etc.), a sample comprising members of a popular online discussion forum was used. The forum had various sub-forums on topics related to information technology, consumer electronics, travel, and current affairs.

DATA ANALYSIS AND RESULTS

The sample's demography was first analyzed, followed by tests of the measurement model and structure model using partial least squares (PLS) analysis.

The results indicate that a community's knowledge need significantly reduces free-riding tendency (i.e., H2 was

supported), which in turn increases knowledge sharing intention (i.e., H2 was supported). The direct effect of community's knowledge need on knowledge sharing intention is also significant (H3 was supported). The socioeconomic indicator of education level did not significantly affect free-riding tendency, knowledge codification effort, and knowledge sharing intention (i.e., H4, H6, and H7 were not supported). Knowledge codification effort also did not significantly affect knowledge sharing intention (i.e., H5 was not supported). Among the control variables, editing frequency, sense of belonging, and knowledge self-efficacy significantly affected knowledge sharing intention, while age and gender, and attitude towards the community were not significant. The model with control variables explained 69.1% of the variance in knowledge sharing intention.

DISCUSSION

The most important finding of this preliminary study is that increasing members' awareness of a community's knowledge need can significantly reduce their free-riding tendency and increase knowledge sharing intention. The effect of community's knowledge need was strong and remained so even when other factors found to be salient in prior studies were controlled for (e.g., sense of belonging). This is one of the first studies to examine and empirically assess the effects of community's knowledge need, grounded on the Utility Interdependence Theory of Voluntarism (Unger, 1991).

The finding extends our theoretical understanding of knowledge sharing in online communities by showing that research should consider other-regarding factors, in addition to the more commonly studied egoistic factors. In our study, the model that includes knowledge need as well as egoistic factors found significant in prior studies (as control variables) explained 69.1% of the variance in knowledge sharing. Accounting for other-regarding factors should advance theoretical development and lead to a more comprehensive conceptual understanding of knowledge sharing in online communities, especially as the behavior is largely altruistic.

This study's results also open up several new lines of inquiry. First, future research could identify other theoretical mechanisms underlying the effect of community's knowledge need on knowledge sharing intention. Based on the Utility Interdependence Theory, the current study has shown that one such mechanism is reducing free-riding tendency. Nevertheless, the direct effect of community knowledge need on knowledge sharing intention remained significant, indicating that other mediating mechanisms may be at work. For example, research on volunteering behavior suggests that people tend to offer more help in high-need situations, driven by the belief in a just world and the need to rectify injustice (Unger, 1991). This suggests that awareness of others' knowledge need may trigger a sense of responsibility with respect to knowledge getting its value for the community as

a whole.

Second, the concept of others' knowledge need can be further developed by characterizing it. The main research question for this line of inquiry is: what kind of knowledge need drives knowledge sharing more strongly? Future studies can identify the characteristics of the knowledge needed (e.g., timeliness of topic, codifiability of knowledge, specificity of knowledge request), as well as characteristics of the community believed to need the knowledge (e.g., community size, structure, sense of community, community's knowledge proficiency). The latter is especially interesting in that it requires community-level studies and presents opportunities for researchers to explore whether others' knowledge need has a significant effect in different online communities.

This article has provided a theory-grounded explanation for the effect of increasing community members' awareness of knowledge need on their knowledge sharing intention. The empirical evidence for the existence of utility interdependence offers some support for existing approaches that seek to highlight the community's knowledge needs (e.g., "cleanup" template messages, "red links", and lists of requested and most-wanted articles). Since the awareness of need has a strong effect in reducing free-riding tendency and knowledge sharing intention, more proactive approaches that clearly articulate knowledge needs, such as suggesting pages that a user is likely to have expertise to create or edit based on his or her user profile or editing history, may further promote knowledge sharing. This may turn more community members into editors and propel the development of online communities as a useful knowledge source.

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