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Why do you return the favor in online knowledge communities? A study of the motivations of reciprocity

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ABSTRACT

Online knowledge community administrators are attempting to encourage their users to contribute knowledge in order to provide value to members and maintain sustainability. A large number of online knowledge communities fail mainly due to the reluctance of users to return the favor and share knowledge. Many studies on this topic have highlighted the importance of reciprocity for knowledge contribution which forms a virtuous feedback loop for the community sustainability. However, it is unclear how reciprocity is developed and what influences its development. Motivated by this, this study focuses on investigating the antecedents of knowledge receivers' reciprocity in online knowledge communities. It formulates and tests a theoretical model to explain reciprocity behavior of community members based on equity theory and Social Identity explanation of De-individuation Effects (SIDE) model. Our proposed model is validated through a large-scale survey in an online forum for English learning. Results reveal that indebtedness and community norm not only are key antecedents of intention to reciprocate but are also positively related to each other. The perceived anonymity of the online knowledge community not only has a positive effect on intention to reciprocate, but also has an interactive effect with community norm on intention to reciprocate. Theoretical and practical implications of this study are discussed.

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1. Introduction

Online knowledge communities comprise of individuals with common interests, goals, or practices, who share and combine knowledge for their own benefits and engage in social or personal interactions (Ye, Feng, & Choi, 2015). They serve not only as sources of information, social support, and recreation, but also as a platform for knowledge exchange (Armstrong & Hagel, 1996; Phang, Kankanhalli, & Sabherwal, 2009). Interactions and knowledge embedded in online knowledge communities are the key factors to allow them to survive and thrive (Wasko & Faraj, 2005). Online knowledge community administrators are hence attempting to encourage their users to contribute knowledge and resources in order to provide value to members and ensure sustainability (Phang et al., 2009). Motivated by this, researchers have been investigating the drivers of online community members' knowledge contribution behaviors. They conclude that various factors motivate the behavior of online knowledge contribution, such as the anticipation of extrinsic benefits (organizational rewards, reputation) (e.g., Kankanhalli, Tan, & Wei, 2005; Wasko & Faraj, 2005), intrinsic benefits (sense of self worth, sense of belongingness, and social affiliation) (e.g., Bock, Zmud, Kim, & Lee, 2005), and social capital (social interaction ties, trust, norm of reciprocity, perceived identity, and shared language) (e.g., Chiu, Hsu, & Wang, 2006; Wasko & Faraj, 2005). Even in the absence of organizational rewards, a key motivator found in these studies is the idea of reciprocity (e.g., Ardichvili, Page, & Wentling, 2003; Chiu et al., 2006; Wasko & Faraj, 2000, 2005). This is because reciprocity enables the formation of a virtuous feedback loop to knowledge contribution and thus the community sustainability. Constructs like subjective norms or pro-sharing norms have been identified to explain how receivers' reciprocity behavior is regulated (e.g., Bock et al., 2005).

In order to understand reciprocity behaviors, researchers (e.g., Mathews & Green, 2009; Nowak & Sigmund, 2005) propose that

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besides being driven by incentives, reciprocity may also derive from a desire to repay the favor or knowledge received from the community before as explained by equity theory. Such a desire to repay tends to exist in those who frequently obtained necessary information from the communities and learned skills for their tasks (Wasko & Faraj, 2000). This desire may derive from the feeling of indebtedness (Kolm, 2008), or from community norm (Wasko & Faraj, 2005). However, no empirical research has systematically examined the effects of indebtedness and community norm on reciprocity behaviors.

Further, online reciprocity behaviors may be driven by certain unique factors since online knowledge communities differ notably from conventional organizations (Chiu et al., 2006). One of the salient differences is the anonymity of online knowledge communities (Wasko, Faraj, & Teigland, 2004). In online knowledge communities, users can interact anonymously and indirectly (Fehr and Gächter 2000). They can easily remain anonymous or change their identities (Ba & Pavlou, 2002), since most forum websites identify users by e-mail addresses, which can be readily obtained from multiple sources. The anonymity of members in the online community makes it more likely that individual interactions will go unnoticed by other network members (Wasko et al., 2004). This may lead individuals to have different psychological responses to social interactions (Faraj, Jarvenpaa, & Majchrzak, 2011; Pinsonneault & Heppel, 1998). Such differences require researchers to investigate the influence of anonymity on online reciprocity. Although prior studies have provided clues about the possibility of anonymity's influence on reciprocity (e.g., Alpizar, Carlsson, & Johansson-Stenman, 2008; Kolm, 2008) in the offline context, there is no empirical study to test the relationship in the online context. Without knowing the effects of anonymity, there will be a gap in our understanding of what affects reciprocity behaviors in online knowledge communities.

With the above practical and theoretical motives, we are interested to study the antecedents of reciprocity in online knowledge communities from knowledge receivers' perspective. Based on the equity theory and Social Identity explanation of De-individuation Effects (SIDE) model, this study develops a model to explain the effects of perceived anonymity, community norm, and indebtedness on knowledge receivers' intention to reciprocate in online knowledge communities. A survey was conducted in an English learning forum to test the model. The study expects to contribute to the existing literature in following ways. First, it helps improve our understanding of online reciprocity behaviors by adopting new theoretical lenses, i.e., equity theory and SIDE model. Second, it models and tests the antecedents of online reciprocity through a large-scale survey. Third, it generates new insights about online knowledge contribution from the perspective of knowledge receivers' reciprocity behaviors.

2. Theoretical foundations

Previous theories that have been used to study knowledge contribution motives include motivation theory (Bock et al., 2005; Chiu, Wang, Shih, & Fan, 2011), social exchange theory (Kankanhalli et al., 2005; Wasko & Faraj, 2005; Watson & Hewett, 2006), social capital and social cognitive theories (Chiu et al., 2006; Hsu, Ju, Yen, & Chang, 2007; Lin, Hung, & Chen, 2009), and public goods theory (Hollingshead, Fulk, & Monge, 2002; Wasko & Faraj, 2000). These theories highlight reciprocity as a motive for knowledge contribution but do not investigate the antecedents of reciprocity. For this reason, equity theory has been adopted in this study as the theoretical foundation to investigate the antecedents of reciprocity. Another theoretical foundation for this study is Social Identity explanation of De-individuation Effects (SIDE) model. SIDE model is used to explain social interaction via computer-mediated communication, which fits well with the context of our study.

2.1. Equity theory

Equity theory focuses upon an individual's perception and request of fairness or equity with respect to a relationship (Cohen & Greenberg, 1982). During a social exchange, an individual assesses the ratio of what is output from the relationship to what is input in the relationship, and also the ratio of what the other person in the relationship output from the relationship to what is input into the relationship. Equity theory posits that an equitable relationship exists when individuals perceive that they are receiving equal relative outcomes from the exchange compared with their inputs (Adams, 1965; Watkins, Scheer, Ovnicek, & Kolts, 2006). That is, whether they are receiving a fair return for the efforts or resources that they put into the exchange (Glass & Wood, 1996). A perception of inequity in an exchange results in the feeling of indebtedness (Gouldner, 1960). Such a feeling motivates individuals to commit to a reciprocal behavior in order to avoid being perceived as socially insensitive (Mathews & Green, 2009). For example, in Glass and Wood (1996)'s software piracy study, the debt perceived to be owed to others from a prior exchange are identified as the main factor for an individual's intention to provide an illegal software copy to others. Therefore, the more inequitable the relationship, the more indebted the participants will feel and the greater they will be motivated to reduce the inequity (Greenberg, 1986).

There are two ways that an individual can restore equity in an inequitable relationship. First, the individual can restore "actual equity" by appropriately altering his own outputs or inputs in the exchange. Second, the individual can restore psychological equity by appropriately distorting perceptions of his or her own outputs and inputs compared with other participants' (Walster, Berscheid, & Walster, 1973), or by reducing the importance of the inequity (Watkins et al., 2006).

In the context of online knowledge contribution, the input and output of knowledge exchange in online communities can be considered as the knowledge contributed and the benefits received from the exchange (Chiu et al., 2006). When the benefits received from the exchange (outputs) exceed the perceived value of knowledge contributed (input), knowledge receivers will perceive inequity and feel indebted to the community (i.e., indebtedness). They will generate a desire to reciprocate the community by contributing knowledge with higher quality and quantity, so as to restore the inequity inside (Wiertz & Ruyter, 2007). Therefore, indebtedness is expected to affect individuals' reciprocity intention and behaviors in online knowledge communities. Accordingly, we include indebtedness into our model.

2.2. Social identity model of de-individuation effects (SIDE Model)

SIDE model suggests that anonymity changes the relative salience of personal and social identity, and thereby having a profound effect on group behavior (Spears & Lea, 1994). Anonymity in an online community obscures individual features and interpersonal differences, and hence enhances the salience of social identity. It thereby depersonalizes social perceptions of others and the self (Postmes, Spears, Sakhel, & De Groot, 2001). This decreased visibility of the individual within anonymous groups results in the accentuation of the depersonalization process and amplification of cognitive efforts to perceive the group as an entity (Postmes, Spears, & Lea, 1998).

In online knowledge communities, the de-individuating features (e.g., perceived anonymity, physical isolation, and selective self-presentation) decrease perceptions of individual differences.