Why Individuals Share Their Knowledge: Extending Social Exchange Theory with Personal Traits and Task Characteristics

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Abstract

Motivating people to contribute knowledge has become an important research topic and a major challenge for organizations in the Knowledge Economy. In order to promote knowledge-sharing, managers need to understand the mechanism that drives individuals to contribute their valuable knowledge. Several theories have been applied to study the knowledge-sharing behavior, including social exchange, social capital, social cognitive, expectancy theories, and theory of reasoned action/theory of planned behavior (TRA/TPB). In this study, we use the social exchange theory as our base to develop a model that includes personal traits and task characteristics. We conduct a meta-analysis to see how different factors in the social exchange theory affect knowledge-sharing behavior and then use the trait activation theory to explore the moderating effect of personality trait and task characteristics. The theoretical model will be empirically tested using data collected from the members of a virtual community and employees of companies. We expect to find more insight into how the social exchange theory can be applied to explain the knowledge-sharing behavior in an organization.

Keywords: Knowledge Sharing, Social Exchange Theory, Personality Traits, Task Characteristics

1. Introduction

In the Knowledge Economy, businesses are faced with an entirely new competitive challenge. Currently, numerous organizations view knowledge as a potential source of achieving competitive advantage (Cabrera et al., 2006). Knowledge management (KM) is a key factor that can help traditional businesses in sustaining their
competitive advantage in dynamic environments (Kankanhalli et al., 2005). On the other hand, the rapid growth of network access and the development of Web 2.0 have facilitated a sharp increase in the number of virtual communities (VCs), such as open source software foundries, Wiki systems, and Weblogs (Chiu et al., 2006; Hsu et al., 2007; Hsu and Lin, 2008). The Internet enables knowledge exchange in various ways. More and more individuals are participating in VCs to acquire knowledge for resolving problems at work. Both traditional businesses and VCs rely on the valuable content that employees or members provide. Thus, organizations must promote knowledge-sharing in order to enhance the knowledge base and to gain competitive advantages that will benefit them in the long run.

However, Davenport and Prusak (1998) argue that sharing knowledge is often unnatural because people think their knowledge is too valuable and important. Generally, people who possess great amounts of knowledge are unwilling to share it. A recent survey revealed that the biggest challenge organizations face with regard to knowledge management is “changing people’s behavior,” particularly with regard to knowledge-sharing (Ruggles, 1998). Thus, it is critical for business managers and the owners of VCs to investigate what factors affect employees’ and members’ behavior, and how.

This study draws on both social exchange theory and trait activation theory to investigate the influence of social exchange factors on knowledge-sharing as well as the moderating effect of personality traits and task characteristics on these social exchange factors. Our goal is to present a person–situation interactive model to explore why, with whom, and in which situation individuals share their knowledge. We sought to address the following questions:

1. What kinds of relationships exist between the social exchange factors and an individual’s knowledge-sharing behavior?
2. How do the personalities of these knowledge contributors moderate the effect of social exchange factors on knowledge-sharing behavior?
3. What is the effect of social exchange factors on knowledge-sharing behavior in traditional companies and VCs?

In the next section, we discuss the theoretical background and explain, in turn, each of the variables included in this study and the reasons why they were expected to be related to knowledge-sharing. Then, the hypotheses and model are developed. Finally, the planning methodology used in the empirical study is described.
2. Social Exchange Theory and Knowledge-sharing

The dependent variable we wish to investigate is an individual’s knowledge-sharing behavior. Social exchange theory (Blau, 1964) is one of commonly-used theoretical bases for such an investigation. According to this theory, individuals regulate their interactions with other individuals based on a self-interested analysis of the costs and benefits of such an interaction. People seek to maximize their benefits and minimize their costs when exchanging resources with others (Molm, 2001). These benefits need not be tangible since individuals may engage in an interaction with the expectation of reciprocity (Gouldner, 1960). In such exchanges, people help others with a general expectation of some future return, such as gaining desired resources through social reciprocity. In order to maximize the resources gained, individuals may build social relationships with others by sharing their knowledge.

Davenport and Prusak (1998) have analyzed knowledge-sharing behavior and have outlined some of the perceived benefits that may regulate the behavior; these include future reciprocity, status, job security, and promotional prospects. From this perspective, knowledge-sharing will be positively affected when an individual expects to obtain some benefit in the future through reciprocation (Cabrera et al., 2005). Social exchange theory has been successful in explaining the knowledge-sharing behaviors among individuals. Kankanhalli et al. (2005) believed that an individual’s perceived benefit is one of the major factors that encourage employees to contribute knowledge to electronic knowledge repositories. According to Ma (2007), the amount knowledge people contribute to a VC depends on the level of satisfaction they derive from being members of the community. Chiu et al. (2006) studied the effect of interpersonal factors such as social interaction, trust, and norm of reciprocity on knowledge-sharing in VCs. Previous studies have also examined organizational context for explaining knowledge-sharing (Kim and Lee, 2006). Pai (2006) utilized the support of the top management to examine the relationship between knowledge-sharing and the use of IS/IT strategic planning. Further, Watson and Hewett (2006) studied the effect of increased knowledge contribution within the organization.

Although social exchange theory may explain the behavior of knowledge contributors, the constructs used in previous studies were diverse and some provided varying results. Researchers also commonly examine the effect of organizational rewards on knowledge-sharing behavior. However, the studies on the effect of organizational rewards have produced mixed results. Kim and Lee (2006) concluded that reward systems are significant variables that affect employee knowledge-sharing capabilities. However, according to Lin (2007), organizational rewards do not have an effect on employees’ willingness to share knowledge with their colleagues.
This research examines the factors related to social exchange theory based on three dimensions, namely, individual cognition (perceived benefits and organizational commitment), interpersonal interaction (social interaction and trust), and organizational context (organizational support and reward systems). Besides, this study also tests the moderating effect of personality traits and task characteristics based on trait activation theory (Tett and Burnett, 2003). These factors and hypotheses are explained as follows.

2.1 The Effects of Individual Cognitions on Knowledge-Sharing Behavior

We examine the effect of two individual cognition factors—perceived benefits and organizational commitment—on knowledge-sharing behavior. The rationale and hypotheses of these two factors are explained below.

Forsythe (2006) defined the term “perceived benefits” as “the individuals’ subjective perception of gain from their behaviors.” Social exchange theory (Blau, 1964) posits that individuals engage in social interaction based on an expectation that it will lead in some way to social rewards such as approval, status, and respect. This suggests that an individual can benefit from active participation in a social group. Further, Davenport and Prusak (1995) stated that knowledge-sharing behavior may be motivated by perceived benefits. Some people may expect that their contributions will help them build a good reputation and improve their status within their social group. Individuals might believe that their contribution will be worth making, with expectations of receiving some benefit in return (Nahapiet and Ghoshal, 1998). In an organizational electronic network, the possibility of improving one’s reputation serves as an important motivational factor for offering useful advice to others (Constant et al. 1996). Further, in extra-organizational electronic networks, individuals expect to gain status by answering frequently and intelligently (Lakhani and von Hippel, 2003).

On the other hand, some people may choose to contribute their knowledge because they experience positive feelings of sociability (Wasko and Faraj, 2000). This positive feeling is a kind of intrinsic reward, e.g., realizing one’s full personal and professional potential and feeling of pride when others use one’s ideas (Cabrera et al., 2006). Osherloh and Frey (2000) conclude that intrinsic rewards are the most effective in facilitating the sharing of tacit knowledge. Thus, the expectation of personal benefits can motivate individuals to contribute knowledge to others (Constant et al., 1996). This leads to the first hypothesis.

H1a: Perceived benefit is positively associated with an individual’s knowledge-sharing behavior.
Organizational commitment is defined by O’Reilly and Chatman (1986) as the level and type of psychological attachment an employee has with an organization. It refers to a positive attitude toward the organization (Meyer & Allen, 1997; Mowday et al., 1982), and to the quality of the relationship between the employee and the organization. Social exchange theory (Blau, 1964) indicates the influence of an organization’s policies on an employee’s behavior. Within a workplace, there are exchanges that occur between an employee and others in the organization (Kulkarni et al., 2006). Organizational commitment has become a topic of increasing importance in the field of human resource management and organizational behavior. Moreover, it has been found to be related to relevant organizational variables, including turnover, job satisfaction, sense of obligation, and helpfulness (Meyer et al., 1993; O’Reilly and Chatman, 1986).

Wasko and Faraj (2005) claim that commitment to a collective refers to a sense of responsibility to help others within the collective, on the basis of shared membership; and this may play an important role in encouraging an individual to share his or her knowledge. Results from prior research on the usage of knowledge management systems provide evidence that organizational commitment is a strong determinant of individual engagement in knowledge-sharing (van den Hooff and Ridder, 2004; Cabrera et al., 2006). In an electronic network, individual’s commitment served as an important motivational factor for providing more helpful responses to others (Wasko and Faraj, 2005). Accordingly, we made the second hypothesis.

H1b: Organizational commitment is positively associated with an individual’s knowledge-sharing behavior.

2.2 The Effects of Interpersonal interaction on Knowledge-sharing behavior

This study examines two interpersonal interaction factors, namely, social interaction and trust. The rationale for studying these factors and the proposed hypotheses are given as follows.

Social interaction represents the strength of the relationships, the amount of time spent, and the frequency of communication among members. Social interaction may lead to a series of exchanges between parties (Hall, 2003). Based on social exchange theory, exchange refers to the actions of individuals in dyadic relations (Homans, 1958; Blau, 1964; Emerson, 1962). Social interaction is also a channel for information and resource flows (Tsai and Ghoshal, 1998). The more exchange partners engage in social interactions, the greater is the intensity, frequency, and breadth of information exchanged (Larson, 1992).

Nahapiet and Ghoshal (1998) argued that “network ties (social interaction) influence both access to parties for
combining and exchanging knowledge and anticipation of value through such exchange.” Furthermore, social interaction provides the opportunity to combine and exchange knowledge. Recent studies have provided empirical support for the influence of social interaction on individual’s knowledge sharing (Chiu et al., 2006). This results in the third hypothesis:

H1c: Social interaction is positively associated with an individual’s knowledge-sharing behavior.

Trust refers to a set of specific beliefs primarily pertaining to the integrity, benevolence, and ability of another party (Chiu et al., 2006). Trust is essential for the social exchange process (Blau, 1964). When trust exists between the parties, they are more willing to engage in cooperative interaction (Nahapiet and Ghoshal, 1998). Interpersonal trust is important in teams and organizations for creating an atmosphere for knowledge sharing (Nonaka, 1994). An important characteristic of informal interactions is that individuals’ contributions are difficult to evaluate. Therefore, trust is particularly important in volitional behaviors such as knowledge sharing in a VC (Chiu et al., 2006). According to Blau (1964), trust creates and maintains exchange relationships, which in turn may lead to sharing of good quality knowledge. Hypotheses 1d is as follows.

H1d: Trust is positively associated with an individual’s knowledge-sharing behavior.

2.3 The Effects of Organizational contexts on Knowledge-sharing behavior

The last dimension we wish to study is organizational context. We study the following two factors of organizational context: organizational support and reward systems.

Organizational support refers to the general perception that an organization cares for the well-being of its employees and values their contributions (Eisenberger, Cummings, Armeli, and Lynch, 1997). The social exchange perspective assumes that the relationship between employees and their employer is built on the trade of effort and loyalty for benefits such as pay, support, and recognition (van Knippenberg, 2006). Organizational support describes the quality of employee–organization relationship as indexed by employees’ leadership commitment, top management, supervisor and coworker support, and direct or indirect support (Kulkarni, 2006). Supervisor and coworker support is a subjective measure of the degree of encouragement provided to and experienced by an employee in sharing solutions to work-related problems through the openness of communication, opportunity for face-to-face and electronic meetings to share knowledge, and so on. This reasoning leads to the fifth hypothesis.
H1e: Organizational Support is positively associated with an individual’s knowledge-sharing behavior.

A reward system refers to the incentives that the organization provides to its members for shaping their behaviors (Cabrera and Bonache, 1999) or driving employees’ performance (Lee and Kim, 2001). As extrinsic benefits, rewards motivate individuals to exchange valuable resources with others (Heath, 1968). Organizational rewards can range from monetary incentives such as increased salary and bonuses to nonmonetary rewards such as advanced promotions and other tangible rewards (Davenport and Prusak, 1998; Hargadon, 1998). Organizational rewards are typically based on performance so as to improve employee motivation (Lee and Kim, 2001). However, some organizations frame their reward policies not only on the basis of performance, but also on the basis of employees’ conduct (Pham and Swierczek, 2006).

Hall (2001) explored the theme of incentives for knowledge sharing and has classified rewards into two categories: (1) explicit/hard rewards and (2) soft rewards. In the present study, the rewards system was similar to the explicit/hard rewards that the organizations provide to motivate employees to share knowledge, such as enhanced pay, stock options, bonuses, promotion, and guarantees of future contracts. This leads to the sixth Hypothesis.

H1f: Reward systems are positively associated with an individual’s knowledge-sharing behavior.

2.4 Trait Activation Theory and Personality Traits

The situational specificity of personality–job performance relations calls for a better understanding of how personality is expressed as valued work behavior. Recent research has shown that personality measures are linked to important organizational outcomes, including job performance, training success, team functioning, sales, turnover, self-ratings of performance, promotability, compensation, career development, and leadership efficacy (Mount et al., 1998; Judge et al., 1999a; Judge and Bono, 2000; Salgado, 1997, 2000).

However, results from some studies showed that the relationship of personality–job performance is not as straightforward as it appears (e.g., Tett et al., 1999). Therefore, Tett and Burnett (2003) proposed a person–situation interactionist model—trait activation theory—that lays the groundwork for specifying the conditions under which certain personality traits will predict performance in particular jobs.

Some researchers showed that personality is influenced by knowledge sharing (Ridings et al., 2002; Wasko and Faraj, 2005; Cabrera et al., 2006). However, according to trait activation theory, personality traits require trait-relevant situations for their expression. In other words, an individual behaves in trait-like ways only in
situations that are relevant to the given trait. The situations that individuals deal with may be present at the task, social, and organizational levels. Thus, we want to explore whether personality could also account for the moderating effect of social exchange factors in knowledge sharing. Hypotheses 2a to 2f are as follows.

H2a: Personality traits mediate the relationship between an individual’s perceived benefits and his or her knowledge-sharing behavior.

H2b: Personality traits mediate the relationship between an individual’s organizational commitment and his or her knowledge-sharing behavior.

H2c: Personality traits mediate the relationship between an individual’s social interaction and his or her knowledge sharing behavior.

H2d: Personality traits mediate the relationship between an individual’s trust in the organization and his or her knowledge sharing behavior.

H2e: Personality traits mediate the relationship between organizational support provided and an individual’s knowledge-sharing behavior.

H2f: Personality traits mediate the relationship between reward systems and an individual’s knowledge-sharing behavior.

2.5 Task Characteristics and Knowledge-sharing

Task characteristics are external situations that a person uses to reach some goal. Information systems are seen as an external situations used by individuals when they share their knowledge. Two models of information systems have been identified to support knowledge management: the repository model and the network model (Alavi 2000). The repository model corresponds to the codification approach to KM (Hansen et al. 1999). Most of KM systems implemented by traditional organizations follow this model. The network model corresponds to the personalization approach to KM (Hansen et al. 1999). An important technological component of this approach is the electronic forum software that allows people to interact within VCs (Brown and Duguid 1991).

Previous studies that used these two models produced some mixed results. Wasko and Faraj (2005) confirmed that reputation, a kind of social benefit, is a perceived value derived from knowledge sharing in VCs. However, based on his study in a packaged consumer-goods organization, Burgess (2005) found that perceived social benefit is not a motivator for employees to share knowledge. Hsu et al. (2007) argued that trust is more important in VCs than in traditional organizations because members of VCs voluntarily contribute their knowledge without
receiving monetary rewards. Thus, we also want to explore whether task characteristics could also account for the moderating effect of social exchange factors in knowledge sharing. The hypotheses are as follows.

H3a: Task characteristics mediate the relationship between an individual’s perceived benefits and his or her knowledge-sharing behavior.

H3b: Task characteristic mediates the relationship between an individual’s organizational commitment and his or her knowledge-sharing behavior.

H3c: Task characteristics mediate the relationship between an individual’s social interaction and his or her knowledge sharing behavior.

H3d: Task characteristics mediate the relationship between an individual’s trust in the organization and his or her knowledge-sharing behavior.

H3e: Task characteristics mediate the relationship between organizational support provided and an individual’s knowledge-sharing behavior.

H3f: Task characteristics mediate the relationship between reward systems and an individual’s knowledge-sharing behavior.

Figure 1 presents a summary of our research model and hypotheses.

![Figure 1. Research model](image)

### 3. Research Methodology
In this paper, we examine (1) social exchange variables that affect knowledge-sharing behavior and (2) the moderating effect of personality traits and task characteristics on these factors. A survey design is employed to empirically test the hypotheses derived from the model. A questionnaire survey methodology was chosen. The methods of data collection and measurement of variables used in the study are explained below.

3.1 Data Collection

In order to test our hypotheses about individual engagement in knowledge sharing, we plan to collect survey data from two sources in Taiwan. First, we survey the members of a VC; and second, we survey the employees who work for the companies that have implemented knowledge management systems for over a year.

The questionnaire informs the respondents that participation is completely voluntary and that all data would remain confidential. It is administered through both an e-mail and an online survey. There are two possible approaches for conducting the data sampling. (1) Random Sampling, whereby the participants are chosen randomly based on the consent of the owner of the VC and the managers of the firms. (2) Semi-random sampling, whereby the snow ball method is used for firm workers and a banner with a hyperlink to our Web survey on the homepage is posted for the members of the VC. The participants are expected to randomly select the one of the two methods. However, it depends on the coordination results with the owner of the VC and the managers of target companies.

3.2 Variable Measurement

Six independent variables, one moderating variable, and one dependent variable were employed in the analyses. The instruments of the study are developed on the basis of relevant literature. These instrument items are rated on a 5-point Likert-type scale ranging from 1 ("totally disagree") to 5 ("totally agree"). The questionnaire contains 51 items plus 5 items (gender, age, education, salary range, and work industry) at the end for background information. The items from the previous studies will be translated into Chinese. A back-translation technique is employed to convert the Chinese language version of the questionnaire into English. The translated English version will be compared with the original English items to ensure that the translation process did not introduce artificial translation biases in our Chinese language questionnaire.

Two university professors familiar with knowledge management will be asked to examine the Chinese wording of each scale item and comment on its readability and content validity. These comments are used to reword correct, or remove inappropriate items. A pilot test will be conducted with 25 part-time MBA students to
evaluate the reliability of the items. Based on subjects’ suggestions in the pilot test, some items may be reworded or dropped in order to improve the scale reliability and validity for the data collection. Items measuring multiple dimensions are randomly ordered in each scale in the final version.

Reference


