

Collective Psychological Ownership of Knowledge and Individual Knowledge Sharing Behaviors -- An Empirical Study of Taiwanese High-Tech Companies

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Abstract. Perceptions and beliefs of knowledge is a new development in the management of knowledge. The most prevalent perspective presented in the available literature is that individuals' knowledge sharing behaviors are driven by their perceptions and beliefs about the benefits relating to sharing behaviors. This study explores the relationship among collective psychological ownership of knowledge, beliefs of knowledge sharing and individual knowledge sharing behaviors. This study uses structural equation modeling to test a sample of professionals from high-tech companies in Taiwan. This study found that collective psychological ownership of knowledge is a major factor influencing individuals' knowledge sharing behaviors. As a consequence, companies that wish to effectively promote individual knowledge sharing behaviors within the organization may consider starting at the level of knowledge users' perceptions of knowledge and psychological impressions.

Keywords: Collective psychological ownership of knowledge, Beliefs of knowledge sharing, Individual knowledge sharing behaviors

1. Introduction

In recent years, more theories also have been applied to individual knowledge sharing behaviors. For example, from theory of reasoned action, prior research predominantly explains that individuals' knowledge sharing behaviors are driven by their perceptions and beliefs about the benefits relating to sharing behaviors. This emphasis on individually held perceptions and beliefs, however, raises further questions about how such perceptions and beliefs about knowledge sharing are formed and developed (Brock, Zmud, Kim, & Lee, 2005; Kankanhalli, Tan, & Wei, 2005).

Prior studies suggest that knowledge sharing cannot be forced; it can only be encouraged and facilitated (Brock et al., 2005; Gibbert & Krause, 2002). Scholars have explored this issue from two different viewpoints. One focuses on how individual perceptions give rise to sharing. There also is current interest concerning individual perceptions that may help employees' knowledge sharing behaviors (Brock et al., 2005; Gibbert & Krause, 2002). Collective psychological ownership of knowledge has gradually become recognized as essential for beliefs of knowledge sharing. Collective psychological ownership of knowledge is a psychological state in which employees feel that they own knowledge, and feel a psychological connection with their knowledge, which implies that their knowledge becomes a part of their psychological identity (Pierce et al., 2001). It may increase individual incentives to share knowledge either by increasing the perceived benefits of contributing.

The other emphasizes beliefs that may help individual knowledge sharing. Some researchers have analyzed factors that may determine individuals' engagement in intra-organizational knowledge sharing.

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These factors include organizational rewards (Brock&Kim,2002;Kankanhalli et al.,2005; Lin,2007), reciprocity(Ipe, 2003), knowledge self-efficacy (Brock&Kim,2002;Kankanhalli et al.,2005) and altruism(Davenport & Prusak,1998). Based on expectancy-value theory which is from a cognitive-motivational perspective to relate an individual's level of motivation to strive for a certain goal, we then propose for the present study that individuals' belief in their knowledge-sharing ability and their intention to share knowledge are the two critical determinants of how frequently they will engage in knowledge sharing. In order to integrate and extend these existing views, we developed a theoretical frame and undertook an empirical study to explore the relationship between collective psychological ownership of knowledge, beliefs of knowledge sharing and individual knowledge sharing behaviors.

2. Literature Review

Liu(2008) points out that when an individual's concept of ownership and behavioral tendencies are similar to or different from those of the group, the individual will perceive social clues expressing support or opposition. When psychological ownership is shared within a group, so that a specific concept of ownership is established, members of the group will grant their collective esteem on the basis of observations of others and others' behavioral results (Liu,2008;Pierce&Jussila,2010).As a consequence, when an individual gives rise to collective psychological ownership of knowledge via a perception that knowledge is "mine or ours," and this belief is shared within the group, the individual's self-concept will be formed via his or her perception of the group's response, and the individual will rely on this belief to obtain others' approval. Because of this, if the organization's goal is to promote individual knowledge sharing behaviors, members of the organization will be willing to accommodate the organization's needs (individual knowledge sharing behaviors), and will call upon themselves to engage in individual knowledge sharing behaviors in order to achieve the organization's common goals. They will also hope that the incentives given to them by the organization prove that they have completed the requirements the group makes of their role, received the group's praise and support, and consequently obtained the group's approval. Looking from another angle, in line with Skinner's (1938) theory that individuals are always pursuing rewards, in spite of the fact that members of an organization are willing to make the group's goals and norms their own goals and norms because of their collective psychological ownership of knowledge, this study feels that individuals will still expect that their behavior will receive the organization's tangible and intangible encouragement and reward; this study therefore infers that collective psychological ownership of knowledge has a positive correlation with beliefs of knowledge sharing(organizational rewards, reciprocity, knowledge self-efficacy and altruism).

H1: The stronger knowledge users' collective psychological ownership of knowledge, the more they will be motivated by organizational rewards to engage in individual knowledge sharing behaviors.

H2: The stronger knowledge users' collective psychological ownership of knowledge, the more they will be motivated by reciprocity to engage in individual knowledge sharing behaviors.

H3: The stronger knowledge users' collective psychological ownership of knowledge, the more they will be motivated by knowledge self-efficacy to engage in individual knowledge sharing behaviors.

H4: The stronger knowledge users' collective psychological ownership of knowledge, the more they will be motivated by altruism to engage in individual knowledge sharing behaviors.

Maurer & Tarulli (1994) discovered that the more value employees create, the closer the relationship between reward and voluntary participation. In accordance with expectation theory, scholars recognize that if individuals expect to receive some reward by adopting a certain behavior, they will tend to engage in that behavior (Lin, 2007). Nevertheless, when there is insufficient reward to compensate employees for the cost of individual knowledge sharing behaviors, employees will be unwilling to share knowledge--this is a commonly-seen obstacle to individual knowledge sharing behaviors (Huber, 2001). Bartol&Locke(2000)state that the provision of compensation by the organization will encourage employees to perform the expected behavior. When employees believe that they can obtain monetary rewards, promotions, or opportunities for education and training from individual knowledge sharing behaviors, they will have greater willing to engage in individual knowledge sharing behaviors. In summary, this study infers

that there is a positive correlation between beliefs of knowledge sharing (organizational rewards, reciprocity, knowledge self-efficacy and altruism) and individual knowledge sharing behaviors.

H5: The more knowledge possessors expect that individual knowledge sharing behaviors will yield organizational rewards, the more they will engage in individual knowledge sharing behaviors.

H6: The more knowledge possessors expect that individual knowledge sharing behaviors will enhance their reciprocal relationships with others, the more they will engage in individual knowledge sharing behaviors.

H7: The greater knowledge possessors' knowledge self-efficacy, the more they will engage in individual knowledge sharing behaviors.

H8: The more knowledge possessors are motivated by altruism, the more they will engage in individual knowledge sharing behaviors.

3. Method

The sample consisted of 460 employees working in 25 high-tech companies in Taiwan. The companies are engaged in applied research in computer systems and other industries; such research is critical for high-tech industries. 25 companies were chosen to provide a representative sample of different firm sizes. Generally, companies with successful experience in knowledge management have large-scale operations; the average total operating revenue of the eleven companies in our sample is more than NT \$24 billion. A preliminary test showed that the sources of data collection make no significant difference in results. In all, 490 questionnaires were completed. Of these, 30 were rejected on the basis of missing data, leaving a useable sample size of 460 for analysis.

As the next step, path models were fitted to the data to test the proposed model. As the hypotheses do not explicitly specify the relations among all the factors and some unexpected relations were found, it was decided to test the fit of a sequence of models. The selection criteria for the final model were: (1) the fit to the data, and (2) the interpretability of the estimated relations. The final path model yielded a test statistic of $\chi^2/df = 2.76$ ($\chi^2 = 489.27, df = 177, p = .00$). The indices of fit were found to be acceptable: GFI = 0.91, CFI = 0.96, NFI = 0.93. Thus, we cannot reject the hypothesis that the path model correctly reproduces the correlations among the latent variables.

The pattern of direct effects revealed by the path model provides mixed evidence in support of the study's hypotheses. Based on Hypothesis 1, we expected a significantly positive direct relationship between collective psychological ownership of knowledge and organizational rewards, and that is what we observed (.53). Thus, Hypothesis 1 is supported. Based on Hypothesis 2, we expected a significant positive effect of collective psychological ownership of knowledge on reciprocity. The result from the path model (.74) supports this hypothesis. Based on Hypothesis 3, we expected a significantly positive direct relationship between collective psychological ownership of knowledge and knowledge self-efficacy, and that is what we observed (.78). Thus, Hypothesis 3 is supported. Based on Hypothesis 4, we expected a significant positive effect of collective psychological ownership of knowledge on altruism. The result from the path model (.81) supports this hypothesis.

Based on Hypothesis 5, we expected a significantly positive direct relationship between organizational rewards and individual knowledge sharing behaviors, and that is what we observed (.11). Thus, Hypothesis 5 is supported. Based on Hypothesis 6, we expected a significant positive reciprocity on individual knowledge sharing behaviors. The result from the path model (.12) supports this hypothesis.

Hypothesis 7 proposed that there should be a positive effect of knowledge self-efficacy on individual knowledge sharing behaviors. As the result (.02) is not significant, Hypothesis 7 is not supported. This study concludes that the cause of this may be that, in spite of the fact that knowledge possessors are quite confident that their knowledge is valuable to the organization, can help resolve work-related problems, and can boost work efficiency, they do not necessarily have a positive attitude toward individual knowledge sharing behaviors, will not necessarily be willing to engage in individual knowledge sharing behaviors, and do not necessarily share knowledge. From another angle, if an organization's norms do not encourage individual knowledge sharing behaviors, even employees with high levels of knowledge self-efficacy may be unwilling

to actively share their knowledge. Because of this, this study believes that knowledge self-efficacy does not directly influence individual knowledge sharing behaviors behavior, and there may be other factors that mediate the indirect relationship between knowledge self-efficacy and individual knowledge sharing behaviors. Examining the literature, the research results of Bock & Kim (2002) indicate that knowledge self-efficacy indirectly influences individual knowledge sharing behaviors behavior via attitude toward individual knowledge sharing behaviors and willingness to share knowledge. Hsu et al. (2007) also suggest that knowledge self-efficacy indirectly influences individual knowledge sharing behaviors behavior via individuals' expectations of results. Based on Hypotheses 8, we expected altruism have a positive effect on individual knowledge sharing behaviors. The result from the path model (.40) supports this hypothesis.

4. Discussions and Implications

This study found that the collective psychological ownership of knowledge is a major factor influencing individuals' individual knowledge sharing behaviors behavior. As a consequence, companies that wish to effectively promote individual knowledge sharing behaviors within the organization may consider starting at the level of knowledge users' perceptions of knowledge and psychological impressions. We recommend that organizational leaders strengthen knowledge workers' right to control knowledge, so that they consider it a part of their selves, while also providing learning opportunities and channels that enable knowledge workers to continuously enrich their professional knowledge and commit effort to the creation of knowledge. This will boost knowledge workers' psychological ownership of organizational knowledge, and encourage them to make the group's goals and norms their own goals and norms. Because of this, when the organization encourages employees to engage in individual knowledge sharing behaviors, the employees will be motivated to share knowledge in order to fulfill the organization's expectations, and will feel that individual knowledge sharing behaviors is their duty. This course of action can enable an organization to effectively promote individual knowledge sharing behaviors activities.

To summarize the empirical results of this study, we found that believes of knowledge sharing are by no means mutually exclusive. Employees may have believes of knowledge sharing, which differ only in magnitude. Managers should therefore pay attention to their employees' need for believes of knowledge sharing, and implement appropriate motivation measures to encourage employees to maintain a positive attitude toward individual knowledge sharing behaviors. Feasible measures include enhancing the perception among knowledge possessors that sharing knowledge will yield significant rewards, leading knowledge sharers know that their individual knowledge sharing behaviors will make the organization even better, increasing the fun and satisfaction that knowledge sharers obtained from sharing knowledge, and providing opportunities to altruistic organization members and enhancing the satisfaction and pleasure they obtain from helping others.

5. Reference

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