

Relationship Between Psychological Knowledge Ownership and Knowledge Sharing: Adjustment for Organizational Fairness

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Abstract: Knowledge sharing may help knowledge transfer and promote organizational innovation. Employees' knowledge sharing activities are affected by many factors including the psychological factor. An individual's psychological state may affect his knowledge sharing willingness. The psychological ownership is a kind of feeling of owning some objects. This paper took knowledge as the object, intending to study the relationship between employees' psychological knowledge ownership and knowledge sharing as well as the adjustment of organizational fairness on the relationship. It is hopeful that the research may lead enterprises to attend to the negative effects of psychological ownership on knowledge sharing, to adjust and reduce negative effects through just management means and promote employees' knowledge sharing willingness. It is also wished that the research may help enterprises to construct learning organization and build up their core competence.

Key Words: Psychological knowledge ownership; Knowledge sharing; Organizational fairness

1 Introduction

As the knowledge economy era comes, the knowledge has become a key factor determining an enterprise's competitiveness. An employee may acquire his personal competitiveness through knowledge expertise. Knowledge communicating and sharing is the dynamic for the enterprise to innovate knowledge as well as the means for employees to update their knowledge.

Van Dyne^[1] (2004), Bao Shengxiang^[2](2005), Chu Xiaoping and Liu Qingbing^[3](2005) thought that the psychological ownership is the ownership psychology of an object, which may be material or non-material. This psychology may arouse a person's belongingness and connection towards the object. According to scholars' research, employees' psychological ownership of the organization may result in both negative and positive effects on the organization. Therefore, the effects of psychological ownership may differ from person to person or from object to object, which is worth of specific research in connection with specific situation.

Each and every person is eager to pursuit fairness, hoping to maintain and protect their equal benefits in an organization. Whether a person's appeal for fairness is satisfied will affect his thoughts and actions (Pierce, Kostova, & Dirks)^[4].

The research is intended to put forward the complex concept of psychological knowledge ownership, to define the concept, discuss its basic motives, forming paths and affecting factors. The thesis will also discuss the relationship between psychological knowledge ownership and knowledge sharing. It will introduce in organizational fairness including distributive fairness, procedural fairness and interactive fairness. Starting from probing into the mechanism of organizational fairness in the formation of knowledge sharing activities, it will ultimately analyze the adjustment of psychological knowledge ownership and sharing, and establish an organizational fairness adjustment model.

The theoretical significance lies in that, in view of that psychological ownership is short of conceptual expansion, the thesis expands the object of psychological ownership to the knowledge field, which then enriches the psychological ownership theory and provides a theoretical foundation and a breakthrough point for later related research. Through discussing and proving the effects of psychological knowledge ownership on knowledge sharing, it substantiates research on affecting factors of knowledge sharing. Through introducing the adjustment variable in the relationship between psychological knowledge ownership and knowledge sharing, it enriches research on adjustment effects of organizational fairness.

The realistic Significance lies in research on side effects of psychological knowledge ownership on knowledge sharing, which provides a practical measure to ease the contradiction between personal knowledge protection and corporate knowledge sharing, helps the management to fertilize organizational fairness, arouse employees' positive attitude, actions and performance and finally adjust effects of psychological knowledge ownership on knowledge sharing and promote knowledge sharing.

2 Relationship Model between Psychological Knowledge Ownership, Knowledge Sharing and Organizational Fairness

2.1 Psychological knowledge ownership as well as its forming path

Cai Shujin, a scholar from Taiwan, defined psychological knowledge ownership but she did not make further research on its characteristics. She pointed out in 2008 that psychological knowledge ownership is a psychological phenomenon in which the employees build up a sense of ownership over experiences^[5].

The thesis defines psychological knowledge ownership as follows: it is a person's ownership psychology of the related knowledge to meeting his basic motives. In this concept, the related knowledge to meeting his basic motives refers to the knowledge to be used in his learning and working, which is closely related to the person and affects his learning effect and working performance.

Psychological knowledge ownership is formed by knowledge investment, independent knowledge control and knowledge familiarity. It can be analyzed as follows:

(1) Knowledge investment. When a person begins to recognize, learn and finally grasp the knowledge, he must constantly invest tangible costs like resources as well as intangible costs like time, energy and emotion.

(2) Knowledge familiarity. According to Baggen & Brown (1994), the ownership arises usually from relationship. For knowledge ownership, the closeness of relationship will directly affect a person's ownership feeling of the knowledge. Closer relationship will lead to employees' stronger ownership of the knowledge^[6].

(3) Independent knowledge control. An employee will frequently access specific knowledge in work and will independently control the knowledge including internalizing and optimizing it to get better applying effects and constantly meets organizational needs.

Owing to the fact that psychological knowledge ownership will be established by profound learning, internalizing and optimizing through constant use in daily work, it is believed that the knowledge bonding with psychological ownership is tacit knowledge based on empirical laws and intuitive judgment like experience, insight, professional knowledge and know-how, etc.. This knowledge is considered as important because it the source of the organizational competitiveness in competition and the carrier of personal superiority in team. The Figure 1 shows the process of arising motives and forming paths of psychological knowledge ownership.

2.2 Relationship between psychological knowledge ownership and knowledge sharing

Though knowledge sharing may help better interpersonal relationship and form harmonious team atmosphere, it will also ignite risks for the sharers. When the employee forms ownership feeling of certain knowledge, he faces risks as follows:

(1) The ownership psychology may lead the employee to subjective classification of the knowledge, that is, he thinks of the knowledge as his own. The knowledge from which psychological ownership arises is often of important significance for the employee. It is not ordinary knowledge, which can satisfy the employee's demands of safeness, effectiveness and respect.

(2) From the angle of knowledge characteristics, the knowledge resulting in psychological ownership is usually highly tacit and difficult to be expressed and transmitted with language. In order to share the knowledge, the owner will have to spend much time and energy interacting with the requestors but sometimes to fail to achieve the expected result at last, which means investment risk.

(3) According to a survey of Chinese knowledge employees' demands, material income is the most important one. The next is career opportunity and a sense of accomplishment. Knowledge employees may acquire such material and spiritual rewards through knowledge contribution as salaries and awards as well as reputation and promotion opportunities.

2.3 The mechanism of organizational fairness intervening psychological knowledge ownership and knowledge sharing

(1) Analysis on the effects of distributive fairness on knowledge sharing

The distribution result is the basic guarantee to satisfy employees' survival and safety demands. The material characteristic of distribution result is relevant to economic intention of knowledge sharing. The perception of distributive fairness will affect employees' expectation of economic salary satisfaction. When an employee is positive to distributive fairness, he is satisfied with organizational distribution results and he will make positive expectation for the next distribution result. That is, he believes the next distribution result will be just as the same, which inspires stronger economic intention. In contrast, negative perception of distributive fairness will result in employees' distrust in distributive fairness and

negative expectation of the next result. That is, it will lead to worry of unequal repay for labor and thus weaken economic intention.

(2) Analysis on the effects of procedural fairness on knowledge sharing

Organizational procedural fairness is embedded in the process of decision, which means keeping the decision democratic and open and maintaining employees' right to participate and right to say. The procedural fairness is important in the whole course of organizational decisions. It affects employees' judgment on the organizational decisions. A positive procedural fairness may lead employees to consider the decision process as just and identify and support the decision. In an organization of procedural fairness, employees will have a high fairness expectation on their economic income and career development which then will result in stronger economic and social intentions. On the other hand, employees will have little expectation of their income and career and reduce their behavioral economic and social intentions at the same time.

(3) Analysis on the effects of interactive fairness on knowledge sharing

The inspiring principle of interactive fairness on employees may be explained with the social exchange theory. Through interactive fairness, employees feel kind treatment of being appreciated and respected, for which they are willing to exchange with their work share. Therefore, interactive fairness is related with the social intention of knowledge share. The communication between the leaders and subordinates as well as the sincere attitude in communication will lead to positive perception of interactive fairness, ignite employees' positive expectation of being trusted and respected and result in strong social intention. On the other hand, employees will feel little humanitarian care from the organization, will build up little trust and belongingness on the organization. As a result, they will decrease humanitarian expectation of the organization and reduce social intention.

To sum up, different dimension of organizational fairness will affect behavioral intention in different way. Distributive fairness will exert more influence on economic intention; interactive fairness will produce more effects on social intention; and procedural fairness will affect both economic and social intention.

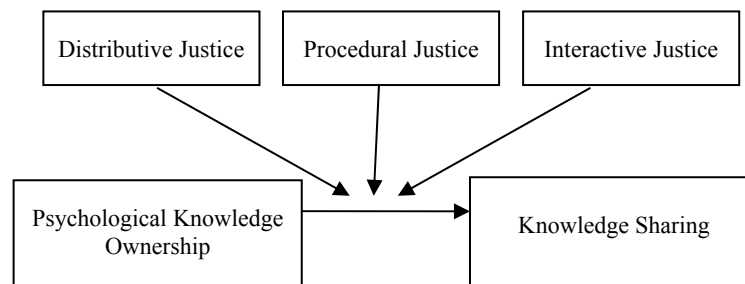


Figure 1 Research Concept Chart

3 Definition and Measurement of Variables

3.1 Selection and measurement of variables

The thesis refers to Dyne & Pierce's research in 2004 to measure psychological knowledge ownership^[7]. It selects 3 from 7 items of their sample table to divide organization into 3 dimensions – distributive, procedural and interactive fairness. To measure organizational fairness, it refers to Chang Tao, Liao Jianqiao's organizational fairness scaling^[8]. To measure knowledge sharing, it refers to Xu Erming, Zhen Ping, Wu Xin's knowledge sharing intention scaling^[9].

3.2 Research sampling

The subjects for this survey were geographically widespread, most come from Wuhan, Shenzhen, Beijing and Xiamen, a few from other cities like Chongqing and Shanghai. The questionnaires of this survey were sent out through 3 paths – e-mail, internet questionnaire flat-form and field. The subjects were surveyed by answering e-mail, answering online from websites or filling tables on spots. 330 questionnaires all together were sent out. 296 were retrieved among which 271 were available. Questionnaire return ratio accounts for 89.7% and valid ratio is 91.5%.

4 Data Analysis

4.1 Reliability and validity analysis on the scaling

Reliability of the scaling reflects the steadiness of the scaling tools, that is, the approximation of the

results obtained from constant measurements with the scaling. Validity reflects the approximation of questionnaire design from expected targets.

Alpha Validity coefficient Method is applied to test the validity of the scaling. Alpha coefficient reflects the conformity of results of each item of research variables. According to the results, only Alpha coefficient of psychological knowledge ownership is relatively low, others are above 0.8. The Alpha coefficient of all 18 items totals up to 0.863, which shows a relatively high internal conformity of the scaling and an excellent validity.

4.2 Related analysis

Table 1 demonstrates correlation coefficient of variables. According to the table, psychological knowledge ownership and knowledge sharing are of highly negative correlation. Meanwhile, distributive fairness, procedural fairness and interactive fairness are of highly positive correlation (correlation coefficient is above 0; $p < 0.01$). Among all, the promotion of distributive fairness and procedural fairness for knowledge sharing is especially important. In addition, it is predicted that distributive fairness, procedural fairness and interactive fairness will play a role in relationship between psychological knowledge and knowledge sharing.

Table 1 Correlation Coefficient of Variables

	Gender	Age	Working Years	Education	kbpo	disfair	profair	interfair	ks
Gender	1	-.223**	-.087	-.069	-.059	-.086	.063	-.045	.015
Age	-.223**	1	.733**	-.012	.047	-.056	-.067	-.080	-.045
Working Years	-.087	.733**	1	-.193**	.018	-.117	-.037	-.071	-.060
Education	-.069	-.012	-.193**	1	.059	.143*	-.018	.100	-.071
kbpo	-.059	.047	.018	.059	1	-.031	-.106	.112	-.491**
disfair	-.086	-.056	-.117	.143*	-.031	1	.457**	.287**	.419**
profair	.063	-.067	-.037	-.018	-.106	.457**	1	.428**	.464**
interfair	-.045	-.080	-.071	.100	.112	.287**	.428**	1	.267**
ks	.015	-.045	-.060	-.071	-.491**	.419**	.464**	.267**	1

N=271; **. $P < 0.01$; *. $P < 0.05$

Kbpo: psychological knowledge ownership; disfair: distributive fairness; profair: procedural fairness; interfair: interactive fairness; ks: knowledge sharing

4.3 Test of adjustment of organizational fairness

To test the adjustment of organizational fairness in the relationship between psychological knowledge ownership, the regression and hierarchy analysis is applied, with knowledge sharing as the fixed dependant variable. First, demographics variables are put into Model 1 as controlled variable. Then, on the basis of Model 1, the independent variable – psychological knowledge ownership is put into Model 2. Finally, on the basis of Model 2, 3 interferential items are added – they are respectively interactive variables of distributive, procedural and interactive fairness with psychological knowledge ownership. They are demonstrated in the form of $kbpo * disfair$, $kbpo * profair$ and $kbpo * interfair$. Then Model 3, 4 and 5 are established. Coefficient R^2 shows the explanation of regression model for the independent variables. The corrected R^2 has nothing to do with the number of variables, which can better reflect the fitness of the models. As in Table 2, compared with Model 1, the explanation of Model 2 rises from 1.1% to 24.8%, which shows that the introduction of independent variable – psychological knowledge ownership is effective. Compared with Model 2, the explanation of Model 3, 4 and 5 for changes of knowledge sharing is also strengthened, respectively from 24.8% to 42%, 42.5% and 38.4%. The fitness - R^2 is much higher and the regression model totals up to a remarkable level ($F_3=31.9$, $F_4=32.5$, $F_5=27.47$; $p < 0.001$), which shows that distributive, procedural and interactive fairness are adjustable in the relationship of psychological knowledge ownership and knowledge sharing.

Table 2 Regression Analysis Results of Organizational Fairness

Variable	Adjustment		Disfair			Prodair	Interfair
	Model 1	Model 2	Model 3	Model 4	Model 5		
Controlled variable							
Gender	.010	-.031	.028	-.061	.016		
Age	.028	.052	.036	.080	.114		
Working Years	-.095	-.098	-.057	-.105	-.115		
Education	-.128	-.090	-.152	-.075	-.142		
Independent Variable							
kbpo		-.456***	-.722***	-.674***	-.785***		
Disturbing Variable							
kbpo * disfair			.103***				
kbpo * Profair				.093***			
kbpo * Interfair					.095***		
F value	.740	17.442***	31.899***	32.497***	27.473***		
R ²	.011	.248	.420	.425	.384		
Corrected R ²	-.004	.233	.407	.412	.370		

N=271; the values corresponding to the variables in the model are non- standard regression coefficients of the regression equation

***. P<0.001; the values corresponding to the variables in the model are non- standard regression coefficients of the regression equation

5 Conclusions

We conclude from the above empirical research: (1) psychological knowledge ownership and knowledge sharing is negatively correlated with each other, that is, the higher the psychological knowledge ownership is, the more knowledge sharing will be hindered, the knowledge sharing willingness will be lower and vice versa. (2) Perception of organizational fairness including distributive, procedural and interactive fairness is positively correlated with knowledge sharing, that is, the higher the perception of organizational fairness is, the willingness of knowledge sharing will be stronger and vice versa.

References

- [1] Van Dyne L., Le Pine J.A. Helping and Voice Extra-role Behaviour:Evidence of Construct and Predictive Validity [J].Academy of Management Journal.2004(23)
- [2] Bao Shengxiang. Psychological Ownership:Explaining to Holding Stock by Employee[J]. Finances and Economics,2005,2 (In Chinese)
- [3] Chu Xiaoping and Liu Qingbing. Psychological Ownership Explaining to Positions Occupied Behavior of Professional Managers[J]. Management World,2005,(7):83-93 (In Chinese)
- [4] Pierce J.L., Kostova T., and Dirks, K.T.. Toward a Theory of Psychological Ownership in Organizations[J].Academy of Management Review,2001,26(2): 298–310.
- [5] Cai Shujin. Affections of Psychological Knowledge Ownership on Knowledge Sharing: with Perception of Knowledge Sharing as the disturbance [D]. Gaoxioang: Yishou University, 2008 (In Chinese)
- [6] Baggen J.K., & Brown E. M. Association as a Psychological Justification for Ownership.Journal of Psychological, 1994, 128,365-380
- [7] Dyne L.V., & Pierce J.L. Psychological Ownership and Feelings of Possession: Three Field Studies Predicting Employee Attitudes and Organizational Citizenship Behavior[J]. Journal of Organization Behavior, 2004, 25(4):439-459
- [8] Chang Tao, Liao Jianqiao. Research on Affections of Team Performance Appraisal on Knowledge Sharing[J]. Research On Science of Sciences. 2010,1(28):118-126 (In Chinese)
- [9] Xu Erming, Zhen Ping, Wu Xin. Research on Organizational Factors Affecting Knowledge Sharing[J]. Economic Management, 2006,12:10-16 (In Chinese)