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Lijun Li

School of Economics and Management, Jiangsu University of Science and Technology, Zhenjiang, 212100, China

Jian Tian

School of Economics and Management, Jiangsu University of Science and Technology, Zhenjiang, 212100, China, tianjian@just.edu.cn

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Full Research Paper

Research on the Influencing Factors of Knowledge Sharing Behavior among Makers in IT-enabled Open Innovation Communities

Lijun Li, Jian Tian¹

School of Economics and Management, Jiangsu University of Science and Technology, Zhenjiang, 212100, China

Abstract: In recent years, Open Innovation Community has become the gathering place of enterprise creativity. From the perspective of the individual Maker, this paper explores the influencing factors of knowledge sharing behavior in the IT-driven Open Innovation Community, which is of great significance for enterprises to absorb creative solutions, improve innovation ability and performance. A total of 338 data sets were collected, and the data were analyzed and tested using structural equations and PROCESS. The results show that material interests, social interaction, self-efficacy and willingness to share knowledge have a significant positive impact on knowledge sharing behavior, while perceived personal knowledge ownership significantly negatively affects knowledge sharing behavior. Information technology support plays a moderating role in the willingness and behavior of sharing, and the more information technology support, the stronger the willingness and behavior of sharing.

Keywords: Open innovation community, it driven, maker, knowledge sharing, influencing factors.

1. INTRODUCTION

Open innovation was first proposed by Harvard Business School Chesbrough Professor in 2003, it is defined as “The integration of external resources into the internal innovation of an enterprise through the purposeful inflow and outflow of knowledge, and their application to the market and expansion”^[1]. How to acquire, store and utilize knowledge resources has become the key for enterprises to gain competitive advantages^[2]. As an important carrier of creative knowledge sharing, the Open Innovation Community (OIC) has attracted more and more attention from enterprises. Online users can directly or indirectly involved in innovation-related activities such as creativity, R&D and promotion of products within an enterprise through an open online community^[3]. Wang calls the network platform where companies use emerging information technologies to attract users to participate in internal innovation as OIC^[4]. The well-known OICs around world include P&G’s Connect & Develop, MyStarbucksidea at Starbucks, and Haier Open Partnership Ecosystem (HOPE), etc.

In recent years, the issue of knowledge sharing in the OIC has gradually become the focus of scholars at home and abroad, which can be summarized from the perspectives of enterprise innovation performance, the construction of community platform and the factors affecting the participation of the main body. Some scholars have pointed out that the key activity of Open Innovation is knowledge sharing to realize knowledge innovation^[5]. Haefliger et al. proposed that knowledge protection should be paid attention to in knowledge sharing in OIC considering the nature of enterprise boundaries and competitive advantages^[6]. Based on the internet platform, Xia enjun and others explore the impact of external capability, external innovation source, the relationship between enterprise and external innovation source and guarantee on the performance of Open Innovation^[7]. Based on the classification of Open Innovation, Stefanhrastinski summarizes the seven characteristics of the operation of Open innovation in foreign countries^[8]. Cheng and Yang found that Open innovation’s ability to make a breakthrough depends on its ability to acquire and share knowledge^[9]. Taking into

¹ Corresponding author. Email: tianjian@just.edu.cn

account the characteristics of the Internet, Chen studies the impact of user networks of OIC on innovation performance from the perspective of social capital^[10]. F.V.Briel et al, provided focus and guidelines for community managers by analyzing the problems with the failed Open Innovation case^[11]. Chen nan studies the process of knowledge sharing among participants in internet based Open Innovation platforms^[12]. Researchers point out that social benefits, learning benefits and users' identification with enterprises have an impact on knowledge sharing willingness^[13]. From the perspective of social network, Liu studies the factors that influence the community performance of OIC^[14]. Wang points out that the leading characteristics of users in online communities have a significant positive impact on the level of knowledge sharing^[15].

To sum up, knowledge sharing in the OIC has been studied from different perspectives at home and abroad, but the knowledge sharing in OIC under information technology has not been fully studied. In addition, more than 90% of enterprises believe that open innovation is of great significance in helping enterprises speed up product research and development, enhance customer intimacy and improve supply chain efficiency. However, some scholars have pointed out that most global Fortune 1000 companies have built OIC communities that do not deliver the economic benefits and rewards that companies expect^[16]. Guo believes that the members of OIC include internal employees, Makers, customers from outside the enterprise and general users in the community^[17]. It's likely that the OIC isn't working well because the company doesn't differentiate between community members in terms of operations, standardized management, or incentives, and fail to consider different individual participation motives or large differences in needs. Makers are the primary providers of innovative resources who are passionate and interested in innovation and are loyal to making use of their knowledge to make the innovation come true. The Maker is an indispensable innovation subject in the innovation activities of enterprises, the level of activity and the content of shared knowledge directly affect the quality of Enterprise's creative generation. As Xu Jiabo said, the "Maker" to hold up the "New wave"^[18]. Therefore, from the perspective of IT driving, this paper focuses on the OIC, studies the factors that influence the participation of Makers in knowledge sharing, and explores the moderating effect of IT support, it is of great significance to improve enterprise's innovation ability, Enterprise's performance, enhance enterprise's competitiveness and realize enterprise's strategic goal.

2. RESEARCH HYPOTHESIS AND MODEL CONSTRUCTION

2.1 Makers engage in extrinsic motivation and shared willingness

Material benefits, as an external stimulus, refer to the interests or encouragement after people finish a certain task. Material interests can be money, bonuses, community virtual coins, gifts, community rating, etc. According to the theory of reasonable conduct (TRA), an action will be taken only when the expected benefits and compensations of an action are greater than the perceived moral costs and risks. Koo et al. took the hotel industry as the research object, and the results showed that external material interests had a positive effect on employees' work^[19]. Based on the Social Exchange Theory, Ren Ling et al. proposed that the more benefits users in OIC gain from the exchange of knowledge sharing and material interests, the greater the willingness of individual innovative users to share^[20]. With the development of the society, the Makers are no longer pursuing the realization of self-satisfaction, and gradually become commercialized, and will also consider the investment and return. In the process of knowledge sharing, the Makers also pay some costs, such as time and energy, and they also hope to have the corresponding material rewards to compensate for their losses.

Social interaction is a process of social exchange. Through certain interaction, participants can obtain valuable resources for themselves. The motivation of individual behavior is to obtain certain benefits and have the purpose of exchanging with others^[21]. The ability of members to express their views, comments and solve problems not only enables the transfer of resources, but also increase the level of goodwill and trust among

members through frequent communication, thus facilitating more effective and long-term communication and knowledge-sharing. In the social interaction, the Maker can feel the sense of organizational identity and belonging, which is more conducive to the creation of knowledge sharing tendency. Through research, Bohari has found that interaction and sense of identity in groups are the main motivations for knowledge sharing [22]. Social interaction is generally considered to be a channel and means for the flow of resources and information, and good social interaction enhances information exchange among users^[23]. The more Makers communicate in social interaction, the more social network groups will share resources, complement each other's strengths, and build consensus to create new knowledge through constant brainstorming of ideas and creativity. Therefore, material interests and social interaction driven by extrinsic motivation are taken as two measurement indexes of makers' participation in knowledge sharing behavior, and the following hypotheses are proposed:

H1: Material interests have a significant positive effect on knowledge sharing willingness;

H2: Social interaction has a significant positive effect on knowledge sharing willingness;

2.2 Makers' Intrinsic Motivation and Willingness to Share Knowledge

Self-efficacy is a kind of cognition and judgment of self-competence, which refers to the degree of confidence of an individual to take part in and successfully completing a certain job or task. Self-efficacy is a belief, believe that you can clearly express and share thoughts, experiences, and can successfully complete a certain behavior. The high-self-efficacy Makers have no pressure on knowledge sharing, and will show great interest and be willing to participate in knowledge sharing. Kim et al. indicated that individuals with high self-efficacy have higher enthusiasm in knowledge sharing willingness^[24]. When problems are complex, difficult, and challenging, sharing knowledge to solve them not only increases your confidence in your ability to solve them, but also increases your sense of self efficacy^[25], Makers are someone who are interested in things, loves challenges, and has relevant experience that is different from the average user and the organization's employees, they start out with a high level of creativity, curiosity, and the willingness to put their ideas into action.

The ownership in this paper refers to the individual's psychological ownership of knowledge, that is, psychological ownership, which can not be protected by law, such as the individual from the practice of experience, capacity and so on. Xu Jianzhong pointed out that when employees have higher awareness of personal ownership of knowledge, they tend to be exclusionary, unwilling to share knowledge^[26]. Baer and Brown have found that individuals with high perceptual ownership of knowledge feel violated territory and loss when their knowledge is used by others^[27]. The research object of this paper is Maker, as an independent individual, so only the influence of individual perceived knowledge ownership on knowledge sharing willingness is studied. From the perspective of self-interest, the Makers will take measures to protect their own "knowledge territory" whether for the purpose of realizing self-worth or obtaining corresponding rewards, and are unwilling to share with others. Therefore, self-efficacy and perceived knowledge ownership, which are driven by intrinsic motivation, are taken as the two measurement indicators of creative knowledge sharing behavior:

H3: Self-efficacy has a significant positive effect on knowledge sharing willingness;

H4: Perceived personal knowledge ownership has a significant negative impact on knowledge sharing willingness;

2.3 Knowledge sharing willingness and knowledge sharing behavior

Willingness is the tendency of an individual to take a specific behavior, and it is the prerequisite for an individual to complete a specific behavior. Scholars point out that the generation of knowledge sharing behavior is composed of motivation and execution, and knowledge sharing willingness is the only way for knowledge sharing behavior to happen. Bock and Kim studied knowledge sharing behavior from the theory of Rational Behavior, which states that the stronger a person willingness to act, the more likely they are to perform a certain

behavior^[28]. Willingness is the subjective tendency of an independent individual to take a certain action or make a certain decision. The degree of inclination directly affects the occurrence of behavior and is easy to be affected by various external factors. According to the theory of Rational Behavior, an individual's behavior needs to be determined by willingness before it occurs, which affects the execution of the behavior. Chang's research results show that knowledge sharing willingness can significantly promote the occurrence of knowledge sharing behavior^[29]. The Makers is a group of innovation passion. They are keen on innovation and have a strong sense of innovation. Therefore, the following hypotheses are proposed:

H5: Knowledge sharing willingness has a significant positive effect on knowledge sharing behavior;

2.4 The moderating effect of information technology support

In the context of Open Innovation, high-tech technologies such as information and communication in community network platforms are regarded as a necessary condition to knowledge sharing. With the emergence of high-tech technologies such as cloud computing and big data, network technology has penetrated into all aspects of people's life; And people have long been accustomed to the convenience of technology, and even rely on technology. According to Zhou Tao, information support in a virtual health community is not only about the willingness of the user to stay in touch with the provider, but also about the trust and willingness to share knowledge through communication^[30]. Open innovation refers to the global information exchange and knowledge sharing and participation in innovation creation. The universality of knowledge resources and the risk of globalization, emphasizing the degree of openness of technology strategies within the enterprise Open Innovation^[31], The breakthrough of information technology breaks the barriers of communication and improves the timeliness and convenience of information communication through multi-channel and barrier free communication. Even if the Maker is willing to share knowledge, if communication barriers result in information receiving in a timely manner, technology backwardness leads to low efficiency of sharing, difficulty in operating information and time-consuming, etc. , it will no doubt weaken the willingness to participate, and even the willingness of Makers to reject knowledge sharing. The rapid development of mobile network and other technologies has widened the channels for users to participate in knowledge sharing, the convenience and flexibility of mobile terminal greatly enhance the enthusiasm of users to participate in knowledge sharing behavior^[32]. Therefore, the support of information technology can significantly affect the transformation of knowledge sharing willingness to knowledge sharing behavior. Therefore, the following hypothesis is proposed:

H6: Information technology strengthens the relationship between knowledge sharing willingness and knowledge sharing behavior, that is, the more supportive information technology is, the stronger the willingness to participate in knowledge sharing will be, and the more it can stimulate the occurrence of sharing behavior.

Based on the above assumptions, the model construction in this paper is shown in Figure 1:

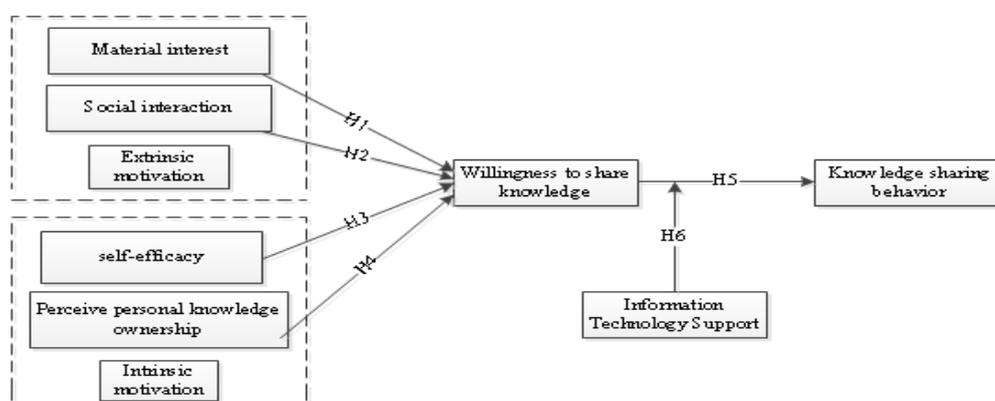


Figure 1. Conceptual model.

3. QUESTIONNAIRE DESIGN AND DATA COLLECTION

3.1 Variable measurement

In order to ensure the validity and reliability of the scale, this paper draws on the maturity measurement scales at home and abroad. However, due to the different research perspectives and theoretical models, the emphasis on the measurement indicators of the influencing factors of knowledge sharing in open innovation communities is different, and some variables cannot be directly applied by the appropriate maturity measurement scales. Therefore, most of the indicators in this paper are properly modified according to the specific situation of this paper, while a small part of the scale is designed by itself according to the connotation of independent variables. The measurement indexes of each variable are shown in Table 1. All items were measured with 5-point Likert scale, in which “1” means “Totally disagree” and “5” means “Totally agree”.

Table 1. Measurement items of Makers' Participation in Knowledge Sharing in Open Innovation Community.

Variable	Measurement index	source
Material interest(MI)	It is very important for me to get economic interests when I participate in knowledge sharing.	[33]
	Under similar conditions, I prefer to participate in open innovation communities with economic interests.	[34]
	I want my knowledge sharing behavior to earn me virtual interests (network points, forum gold, level upgrades, etc.).	[35]
	I hope that knowledge sharing can bring me some material benefits.	[36]
Social interaction(SI)	Community allows members to communicate, exchange and share knowledge and information.	[37]
	Through knowledge sharing, the communication channels between me and members have been broadened, which helps me make more friends, improve social relations, and cooperate smoothly with community members.	[38,39]
	It helps to maintain social interaction in the community through knowledge sharing.	[40]
	I am confident that I can provide valuable knowledge in the community.	
Self-efficacy(SE)	I am confident that my expertise, skills, experience, and insights will provide valuable knowledge to community members.	[32]
	I am confident that I can easily answer and supplement questions from other members of the community.	
	I believe it's easy to comment on and respond to community members' posts.	[41]
Perceiving Personal Knowledge Ownership (PPKO)	I consider the knowledge I share in the community to be my own.	[30]
	The knowledge and experience accumulated in the innovation activities of the open innovation community have nothing to do with others, but only belong to me.	[29]
	In the community, when I perceive that the ownership of knowledge is violated, I will refuse to share knowledge.	[34]
Willingness to share knowledge(WTSK)	I would like to recommend to my friends to join the open innovation community.	
	I am willing to browse the community information and actively participate in the community discussion.	[23]
	I am willing to actively share my knowledge, experience and skills in the community.	[34]
	I am happy to put forward my ideas and express my opinions in the community.	[42]

Information	The support of information technology in the community will improve my work efficiency and strengthen my willingness to participate, thus generating knowledge sharing behavior.	[43]
Technology Support (ITS)	In the community, the simpler the operation of information technology is, the more time and effort is saved, and the more willing I am to participate in knowledge sharing.	
	In the community, the better the information technology conditions, the stronger my willingness to participate in knowledge sharing.	self-designed
Knowledge sharing behavior(KBS)	In the open innovation community, I often share my creative knowledge and problem solutions with others through knowledge sharing.	[36]
	I often participate in knowledge sharing and innovation activities with community members.	
	I will often retweet and share valuable content from myself.	self-designed
	I will often share my accumulated experience, skills and my relevant views and insights with other members.	[32]

3.2 Sample survey

In this paper, we select “Xiaomi community”, Huawei’s “Pollen Club” and the creators of Haier’s HOPE platform, which are well-known enterprises in China, as the Open innovation. The questionnaire issued a total of 380, rejected the unqualified questionnaire, the final access to a valid questionnaire 338. Among the valid sample data, 50.9% and 49.1% were males, 40.7% were aged from 18 to 25, 2.1% were under 18, 22.5% were aged from 26 to 30, “31-40 years old” accounted for 7.7% , “41-50 years old” for 5.9% , “51-60 years old” for 0.9% , “61 and above” for 0.1% . The percentages of “Occupation” were 42.3% , 12.1% , 22.8% , 10.7% , 3.3% and 8.9% respectively for students, government officials, ordinary staff, professionals, manual workers and other occupations, 61.2% , 4.7% , 8.0% , 26.0% , and 74.3% , 15.7% , and 10.1% , respectively, have been involved in innovation for less than one year, 1-3 years and more than three years.

4. DATA ANALYSIS AND RESULTS DISCUSSION

4.1 The reliability analysis

This paper uses Cronbach’s consistency coefficient is used to test and analyze the reliability of the questionnaire. SPSS25.0 is used to analyze the questionnaire data, and the results are shown in Table 2. The reliability Cronbach α of all variables is greater than 0.7, indicating that the questionnaire data had good reliability and good internal consistency.

Table 2. Factor load of measurement index, Cronbach α .

Latent variables	Item quantity	Cronbach α	KMO
MI	4	0.873	0.806
SI	3	0.879	0.736
SE	4	0.923	0.837
PPKO	3	0.826	0.672
WTSK	4	0.927	0.844
ITS	3	0.882	0.744
KSB	4	0.930	0.854

MI--material interests, SI--social interaction, SE--self-efficacy, PPKO--perceived personal knowledge ownership, WTSK--willingness to share knowledge, TIS -- information technology support, KBS--behavior of sharing knowledge

4.2 Confirmatory Factor Analysis (CFA)

Table 3 shows that the factor load is greater than 0.6 and Ave is greater than 0.5, which shows that the questionnaire has good convergence validity. The diagonal of Table 4 is the AVE value of latent variable. It is observed that the average of AVE of each latent variable is larger than the coefficient of correlation between the variable and other variables.

Table 3. Convergence validity.

The path			Non-standardized factor load	S.E.	C.R.	P	Standardized factor load	AVE	CR
MI4	<--	MI	1				0.807		
MI3	<--	MI	1.078	0.065	16.572	***	0.821	0.634	0.874
MI2	<--	MI	1.022	0.067	15.351	***	0.809		
MI1	<--	MI	0.977	0.07	13.937	***	0.747		
SI3	<--	SI	1				0.854		
SI2	<--	SI	1.004	0.054	18.733	***	0.88	0.710	0.880
SI1	<--	SI	0.938	0.057	16.575	***	0.791		
SE4	<--	SE	1				0.793		
SE3	<--	SE	1.147	0.062	18.586	***	0.877	0.752	0.924
SE2	<--	SE	1.215	0.064	18.966	***	0.903		
SE1	<--	SE	1.166	0.062	18.913	***	0.892		
PPKO3	<--	PPKO	1				0.751		
PPKO2	<--	PPKO	1.295	0.09	14.323	***	0.887	0.631	0.836
PPKO1	<--	PPKO	1.074	0.085	12.603	***	0.737		
WTS4	<--	WTSK	1				0.876		
WTS3	<--	WTSK	0.986	0.045	22.078	***	0.871	0.762	0.928
WTS2	<--	WTSK	1.057	0.049	21.725	***	0.878		
WTS1	<--	WTSK	0.961	0.045	21.51	***	0.867		
ITS3	<--	ITS	1				0.869		
ITS2	<--	ITS	1.006	0.056	18.125	***	0.835	0.714	0.882
ITS1	<--	ITS	0.939	0.052	18.074	***	0.83		
KSB4	<--	KSB	1				0.916		
KSB3	<--	KSB	0.937	0.044	21.285	***	0.825	0.773	0.931
KSB2	<--	KSB	1.042	0.04	26.243	***	0.908		
KSB1	<--	KSB	0.955	0.04	23.862	***	0.864		

Note: *** stands for $P < 0.001$

Table 4. Discriminating validity.

Variable	MI	SI	SE	PKO	WTSK	ITS	KSB
MI	0.634						
SI	0.464***	0.710					
SE	0.491***	0.445***	0.752				
PPKO	0.366***	0.477***	0.530***	0.631			
WTSK	0.487***	0.518***	0.535***	0.297***	0.762		
ITS	0.426***	0.355***	0.418***	0.180***	0.607***	0.714	
KSB	0.373***	0.376***	0.477***	0.197***	0.485***	0.484***	0.773
AVE square	0.796	0.842	0.867	0.795	0.873	0.845	0.879

Note: *** stands for $P < 0.001$, the diagonal line is AVE to evaluate the amount of variance variation extraction.

4.3 Hypothesis testing

AMOS24.0 software is used to analyze the model, and the calculated results are shown in Table 5 and Table 6. The fitting indexes and parameter estimates of the structural equation model as well as the test results are shown in Figure 2 below. The results show that the fitting degree of each index reaches the ideal state, and there are no problems such as collinearity. All research hypotheses are valid:

Table 5. Fitting index of structural equation model.

Indicators	Evaluation standard		This model values	Fitting situation	
	Can accept	ideal			
Absolute fitting exponent	CMIN/DF	[3.0,5.0)	(2.0,3.0)	2.040	ideal
	RMSEA	<0.09	<0.08	0.056	ideal
	GEI	[0.70,0.9)	>0.9	0.905	ideal
Relative fitting index	NFI	[0.70,0.9)	>0.9	0.930	ideal
	CFI	[0.70,0.9)	>0.9	0.963	ideal
	IFI	[0.70,0.9)	>0.9	0.963	ideal
Concise fitting index	PNFI		>0.5	0.785	ideal
	PGFI		>0.5	0.698	ideal

Table 6. Hypothesis testing.

The path	Nonstandardized coefficient	Normalized coefficient	S.E.	C.R.	P	hypothesis
WTSK <--- MI	0.198	0.192	0.058	3.419	***	support
WTSK <--- SI	0.272	0.297	0.052	5.195	***	support
WTSK <--- SE	0.346	0.4	0.052	6.619	***	support
WTSK <--- PPKO	-0.141	-0.142	0.057	-2.484	0.034	support
KSB <--- WTSK	0.998	0.821	0.116	8.632	***	support

Note: *** stands for $P < 0.001$

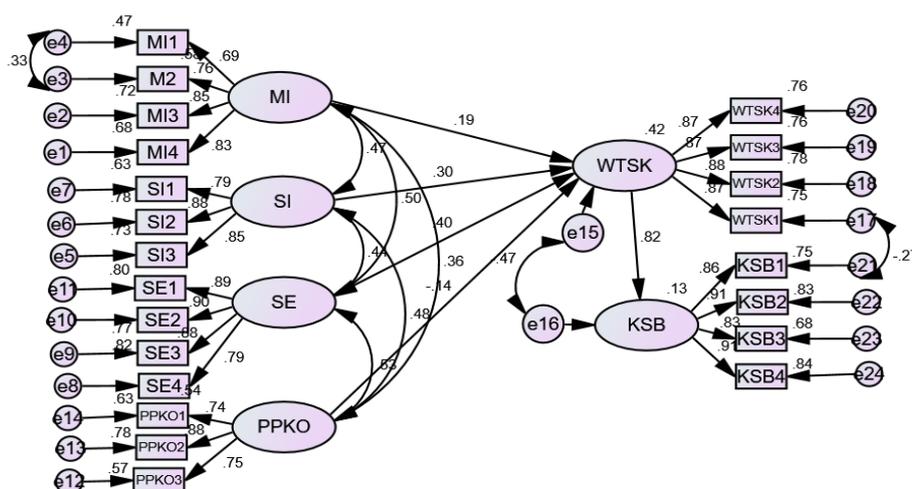


Figure. 2. Structural equation model of influencing factors of makers' participation in knowledge sharing in open innovation communities

This paper uses PROCESS to test the moderating effect of information technology on sharing willingness and sharing behavior. The results shown in Table 7 below are significant. In combination with the test chart in Figure 3, it can be seen that information technology has a significant positive moderating effect, that is to say, the support of information technology strengthens knowledge sharing willingness.

Table 7. Test results of regulatory effect.

	Model 1			Model 2		
	Beta	T	significant	Beta	T	significant
WTSK	0.367	7.478	***	0.393	8.624	***
IST	0.367	7.495	***	0.361	7.928	***
Interactive items				0.291	7.437	
R square		0.408			0.492	
F		115.249			107.725	

Note: *** stands for P<0.001

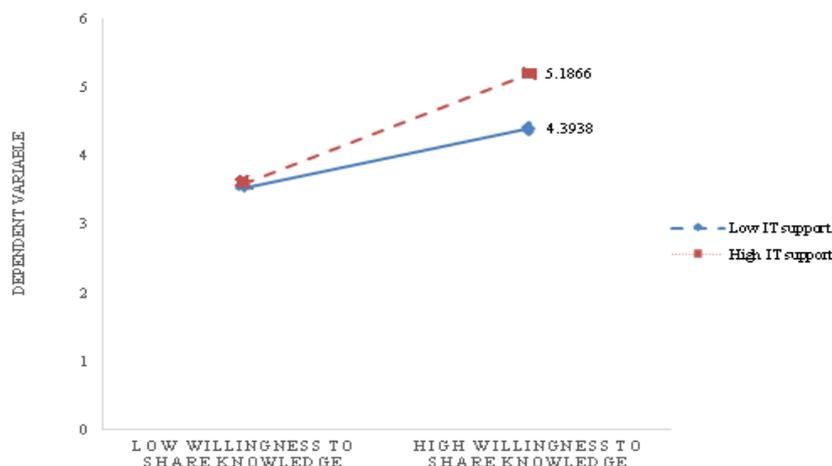


Figure3. Test diagram of regulatory effect.

4.4 Discussion of results

The structural equation fitting index shows that the research model of influencing factors on knowledge sharing behavior of IT driven OIC is reasonable and reaches the ideal state. The results are as follows:

(1) The results of the hypothesis test table show that material interests, social interaction and self-efficacy have significant positive effects on knowledge sharing willingness, while perceived personal knowledge ownership has significant negative impact on knowledge sharing willingness, and knowledge sharing willingness is a prerequisite for knowledge sharing behavior, and knowledge sharing willingness has a significant positive impact on knowledge sharing behavior.

(2) As can be seen from the structural equation path, the standardized coefficients of each variable from high to low is 0.4 of self-efficacy, 0.297 of social interaction, 0.192 of material interests and -0.142 of perceived personal knowledge ownership. That is to say, the factors that have a positive impact on the willingness to share knowledge are self-efficacy, social interaction and material interests in descending order of influence degree. The standardized coefficient of sharing willingness is 0.998, which means that the behavior must be generated through willingness. From the perspective of opportunity cost and income, Makers pay time and energy to participate in knowledge sharing behavior, but the results show, material interests has the lowest impact on Makers, while self-efficacy has the greatest impact on Makers. So they are more care about their spiritual needs, and more concerned with self-affirmation. Social interaction, as a necessary means of social interaction, not only contributes to the accumulation and sharing of knowledge, but also enhances self-efficacy in the process of sharing, which can achieve win-win or multi win, it also has a significant positive impact on the Makers; the perceived personal knowledge right has a significant negative impact on the willingness of knowledge sharing, because the Makers take the realization of creativity as a way to measure personal value, and has a stronger awareness of knowledge protection. For the knowledge sharing that may infringe personal interests, the Makers are reluctant to share knowledge because of their resistance to it, the stronger the sense of personal knowledge ownership, the greater the negative effect.

(3) It can be seen from the two slopes of high and low it supports in the moderating effect diagram that it support plays a moderating role in the willingness and behavior of knowledge sharing. Under the motivation, Makers produce the willingness to share knowledge, but the generation of willingness is not necessarily related to the occurrence of behavior, and information technology support plays a positive moderating role in it, that is, the more information technology supports, the stronger the knowledge sharing will, the more it can stimulate the knowledge sharing behavior occurrence.

5. CONCLUSION AND PROSPECT

Based on the internal and external motivation of the Makers, this paper constructs an influential factor model of IT driven knowledge sharing by the Makers in the OIC, and collects data through questionnaire survey, and uses structural equation and SPSS plug-in PROCESS to analyze the data. It is verified that material interests, social interaction, self-efficacy and knowledge sharing willingness have significant positive effects on knowledge sharing behavior, sense of personal knowledge ownership significantly negative influence knowledge sharing behavior; Furthermore, it is found that the influencing factors from deep to shallow are self-efficacy, social interaction, material benefits and perceived personal knowledge ownership; And IT support plays a positive moderating role in knowledge sharing willingness and knowledge sharing behavior. Above all, when the enterprise Open innovation community attracts the creators to participate in knowledge sharing and community management, according to the influence degree of the influence factors on the creators, the priorities are sorted out and the targeted measures are taken, in this way, enterprises can avoid taking "Detours" or "Go wrong ways" and achieve the expected goal smoothly. At the same time, we should make full use of the

moderating effect of information technology on Maker's willingness and behavior of knowledge sharing, optimize the information technology system, and increase the support of information technology, to improve the enterprise innovation ability and enterprise performance have twice the result with half the effort.

This paper only studies the factors that influence the knowledge sharing behavior of IT driven Open innovation, it does not consider the impact of the environment of OIC platform on Makers, which has certain research limitations. At the same time, the questionnaire is mainly distributed to the well-known OICs in China. In the later stage, the research perspective will be expanded, the environmental factors of community platform will be added, and the sample data will continue to be expanded, and the questionnaire will be put on foreign open innovation community platforms for in-depth- research.

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