

Impact of Extrinsic and Intrinsic Motivation on Knowledge Sharing in Virtual Communities of Practices

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Abstract

One of critical challenge in knowledge management success is to motivate people share their knowledge to others. Prior's research reveals that motivation as primary driver for people to perform knowledge sharing. Previous study also indicated people influenced by internal (intrinsic) and external (extrinsic) motivation when perform the knowledge sharing. The aim of this article is to investigate and explores how the elements of extrinsic and intrinsic motivation contribute to people intention in perform knowledge sharing in virtual communities. Moreover this study would confirm and understand how this knowledge sharing behavior occurs in Indonesia Context. Many literatures argue that different culture context would produce different of people belief and behavior. This study conducts a survey in a formal virtual community of practices members in one Indonesia Company. Two hundred and four respondents participated in this study. Data was analysis using SEM with Smart PLS Software. This study found that both of those motivations (intrinsic and extrinsic) are positively influences behavior of people knowledge sharing in formal Virtual Communities of Practices. In advance this studies indicate that extrinsic motivation is major motivation element that influencing people in perform knowledge sharing.

Keywords: Knowledge Sharing, Virtual Communities of Practices, Knowledge Management, Smart PLS

1. Introduction

In knowledge base economy era, knowledge has become important asset for the companies. Knowledge is the only asset could bring competitive advantages that company need to be a winner in the market. Companies realize that they should manage their knowledge and reuse them effectively. Knowledge sharing is recognizing as a fundamental key for company success on create and reuse the knowledge. It was one of a reason why companies have become more concern in manage their knowledge. In fact, Organization who which concern in manage their knowledge and have ability in sharing their knowledge is likely will to be more productive, innovative and competitive over the time [1]. How it could be happen? knowledge sharing in organization would bring benefit by develop the knowledge of knowledge worker [1], soon when Knowledge worker contribute their capability to the organization that organization would more efficient more innovative, make fewer mistake and more competitive [2]

Implementation of knowledge sharing sometime became challenging for organization. Barriers in knowledge sharing could occur from organization itself or from the employee. Culture, environment, infrastructure and management commitment are the common barriers in knowledge sharing success. It is why the organization need to have a good understanding in knowledge sharing aspect, so they could develop effective and efficient strategy and or mechanism in transfer knowledge from expertise/expert/contributor to seeker/employee who needs to the knowledge and how to use/ reuse the knowledge [3]. Organization also need to concern in best strategy to encourage people in their organization in perform knowledge sharing [4].

Today, using information technology some organization has successful in develop effective knowledge sharing infrastructure. They develop and implement Information Technologies application to facilitate their member in meet, communicate and collaborate virtually in their communities [5]. This environment is recognizing as the online communities. Online communities that develop and used by their member to discuss a specifics topics is known as Virtual Communities of Practices (VCoPs) [6]. VCoPs itself became famous tool today

and success to bring more benefit for knowledge worker in sharing their knowledge in organization [6]. However, in fact knowledge sharing success is not all about technology [7].

In fact, sharing knowledge in internal organization is often difficult. Sharing Knowledge sometimes needs more effort to conduct. It is not easy to move knowledge from source to others. The main reason is because the expert (the people who hold the knowledge) may decide do not intent to share their knowledge for some reason. Some of expert is fear of losing his/her power if they perform knowledge sharing [8]. Others are unmotivated to do so. For that reason, knowledge sometimes stuck in particular place, or person, even when organization interest to leverage it continuously. This study is interested to investigate what factors drive employee intention in conduct knowledge sharing. Why some employee does and why others do not.

Previous researches in knowledge management area have affirmed the important of expectation and returns for knowledge sharing and participate in virtual communities [5, 6, 9-14]. Related to previous study in this area, scholars reveals that motivation is one of important element that could influence people in perform an action. Studies conducted in knowledge sharing area have indicates motivation element has significant relationship with people intention on conduct knowledge sharing Motivation on knowledge sharing as identified by prior studies exist along two dimension [15]. The first dimension concerns the external motivation drive (expected external reward and reciprocal benefit). The second dimension concern's the internal motivation drive (Knowledge self-efficacy and enjoy in helping) [15]. However, most of knowledge sharing research was conducts in western culture that might have different belief and behavior with Asian culture or Indonesian culture. There are limited studies that have been conduct in Indonesia related with knowledge sharing issues. More intensive study would bring us advance understanding how knowledge sharing culture might present in different in Asia.

Related with this phenomenon, we also interest in question and understanding what really drive an individual intent to share their knowledge trough open virtual communities. What are influences them as individual to do so? In specific we interest to explore how both of motivation types (intrinsic and extrinsic motivation) could lead people intention and behavior in perform knowledge sharing in VCoPs.

2. Research Method

Chiu et al (2006) define professional virtual communities as “online social network in which people in common interest, goal or practices, interact to share information, knowledge, and engage in social interaction. Professional communities in general are develop to encourage individual as a member to participate and share knowledge [11]. However, most this activity is need extra effort to perform. Especially when it occurs under unsupported organization environment and culture for contributing knowledge in communities [3].

Past studies have illustrated the key element of successful knowledge sharing in virtual communities. Motivation has recognize as key determinant of general behavior and scholars believe that it's became primary trigger in information technology and most others innovation transfers [8]. Two types of motivation extrinsic and intrinsic have been apply in many studies in order to understand phenomenon in why people intent to do some activities and to do not. Both of two type motivation has been influenced individual intention regarding an activity as well as their actual behavior [16]. People are motivated by two types of motivation element, intrinsic and extrinsic motivation. Reward and reciprocal is example of extrinsic motivation, and enjoy helping is one of intrinsic motivation example. Table below describe the brief definition of two motivations.

Table 1. Motivation Element

Element of Extrinsic Motivation	Definition and References
Reward	Organizational reward defines as importance of financial and non-financial incentives provides for people who sharing knowledge [12]
Reciprocity	<i>Reciprocity</i> - People who do Knowledge Sharing believed others will also do KS. [17].
Reputation	<i>Reputation</i> - some research found that people believed they can find and develop their reputation by performing Knowledge Sharing [17, 18].
Element of Intrinsic Motivation	Definition and References
Enjoy in helping	Enjoyment from helping is measure of relational dimension in individual knowledge sharing [15]

Applying Theory Reason of Action and Motivational perspectives, we develop a theoretical framework for this study. By literature review, we explore potential elements that describe what exactly drive people behavior in knowledge sharing. In this study, we develop two hypotheses that predict how internal and external motivation influences people in participate in knowledge sharing ass follow:

Intrinsic Benefit

As point out by Patricia (2007) Intrinsic motivation specify the desire and the essential pleasure resulting from a particular activity [19]. In intrinsic motivation perspective of people participate in an activity motivate for its personal intention, preference or its own pleasure. In Knowledge Sharing context enjoy helping, altruism and satisfaction element are identified as part of intrinsic element that influences people [17, 20]. In this study we apply Kankanhalli et, 2005 motivation concept and define people intrinsic motivation as related with his/her enjoy in sharing his/her knowledge in virtual communities of practices. Thus, we argue:

H1: Intrinsic Motivation influences people in Knowledge Sharing in VCoPs

Extrinsic Benefit

Extrinsic benefit is define as result belief from people perception associated to value incorporate with execution an action [21]. In the perspective of Knowledge Sharing, the value strictly linked to knowledge sharing advantage. This is because the benefit is the main purpose of people in performs Knowledge Sharing. For illustration, people participate in knowledge sharing because the expected organization reward [22, 23]. Previous studies in Knowledge Sharing have recognised that extrinsic benefit has impacts peoples' behaviour in knowledge sharing [20, 22]. Bock and Kim (2008) in their work also reveals that extrinsic benefit effects people Knowledge Sharing behaviour. Our hypothesis for this study is:

H2: Extrinsic Motivation influences people in Knowledge Sharing in VCoPs

Data Collection

Data for this study was collected from employees who working in a Banking Institution unit that located in Indonesia. The aim of data collection is to capture employees behavior experiences when perform knowledge sharing in formal VCoPs. From two hundred and fifty respondent participated in this study, two hundred and four participant was complete the questionnaire. The majority of respondent were 31-40 years old, male, has staff ass position and working for more than eleven years at the Bank. The summary of respondent demographic is present at table 2.

Table 2. Respondent Profile

		Count	%
Age	30 or younger	38	18%
	31-40	65	32%
	41-50	41	20%
	51-50	45	22%
	51 or older	15	7%
Gender	Male	126	62%
	Female	98	48%
Position	Staff	169	83%
	Supervisor	25	12%
	Manager	9	4%
	Director	1	1%
Experience in current position	Less than 1 years	6	3%
	1-5 years	54	26%
	6-10 years	54	26%
	11-15 years	70	34%
	16 years and above	20	10%

Survey Instrument

Using the research model and its construct the survey instrument was developed. A survey questionnaire applies five point Likert scale as measurement approach. The questionnaire was developed as follows; Part A: Invitation letter, Part B: Demographic question and Identification validation, Part C: Perception Question relating to Intrinsic and Extrinsic Motivation element. All items of question in questionnaire have been referred from prior works and modified according to research context. The items of questionnaire are described in table 3.

Analysis

This study applied Structural Equation Modelling technique (SEM) with the Smart PLS software selected for data analysis.

3. Results and Discussion

In With respect to the quality of the measurement model for the full sample, the construct display satisfactory level of reliability as indicated from composite reliability and convergent validity that can be judged from looking at both significance of factor loading and the share average variance extracted value and discriminant validity as indicator for level of validity.

3.1. Measurement Model Assessment

This study conducted is two types of analysis in Smart PLS. The first analysis was performed to assess and identify the unacceptable construct and will be dropped in the next step [24]. This assessment was conducted to guarantee the indicator of all constructs meet the minimum acceptable value for measurement model. The indicator that finds as weak (loading factor below 0.5) [25] will be discarded from the constructs. Most all of fifteen indicators in about three constructs in our research model were classified as having achieved minimum value for acceptable levels (only one item from extrinsic construct was dropped from analysis because it did not meet acceptable value). Table 3 describes all questions existing in the instrument and loading factor value of each indicator of constructs and table 4 describes the cross loading factor from each construct of instrument.

In this section, it is explained the results of research and at the same time is given the comprehensive discussion. Results can be presented in figures, graphs, tables and others that make the reader understand easily [2], [5]. The discussion can be made in several sub-chapters.

Table 3. Questioner items and Loading Factor

Questionnaire item	Loading Factor
Extrinsic Benefit	
1. I would obtain a higher salary when participate in Knowledge Sharing at VCoPs	0.5109
2. I obtain higher bonus when join in Knowledge Sharing at VCoPs	0.7019
3. I obtain job promotion when active participate in Knowledge Sharing at VCoPs	0.8234
4. When I share my Knowledge in VCoPs, I expected somebody to respond when I need	0.8207
5. When I contributed my Knowledge in VCoPs, I expected get back knowledge when I need	0.7448
6. When I share my Knowledge in VCoPs, I believe my query for knowledge will be answer in the future	0.7855
7. I believe people who share their knowledge in VCoPs is more prestige than others	0.8343
8. Sharing Knowledge in VCoPs will increase my reputation	0.8404
9. Knowledge Sharing in VCoPs would improve my prestige	0.8298
Intrinsic Motivation	
10. I enjoy sharing my knowledge	0.8548
11. Its feel good share my skill	0.8911
12. Sharing knowledge is pleasure	0.6429
Knowledge Sharing Intention	
13. I will perform KS in VCoPs	0.9178
14. I will participate in KS in VCoPs	0.9191
15. I will involve in KS in VCoPs	0.8824

Internal consistency of the construct was validate by assessing composite reliability, Cronbach alpha and AVE [24]. Cronbach alpha was found not less than 0.6 and the lowest Cronbach alpha value is on extrinsic motivation 0.71. Next, the Composite Reliability value is found more than 0.7 and the entire construct has value more than 0.7 and the lowest is on intrinsic motivation 0.84. Finally, AVE value is found not less than 0.5 and the lowest value is on extrinsic motivation 0.63 (See Table 5 and 6)

Table 4. Cross Loading Factor

	Extrinsic	Intrinsic	KS
E2	0.7019	0.2824	0.4744
E3	0.8234	0.3609	0.4471
E4	0.8207	0.3398	0.3826
E5	0.7448	0.3286	0.3132
E6	0.7855	0.1783	0.3929
E7	0.8343	0.1834	0.3339
E8	0.8404	0.2173	0.3552
E9	0.8298	0.2295	0.3526
I1	0.2216	0.8548	0.2573
I2	0.3001	0.8911	0.3113
I3	0.2833	0.6429	0.2572
KS1	0.3967	0.3149	0.9178
KS2	0.4239	0.234	0.919
KS3	0.4934	0.3742	0.8824

Table 5. Reliability and Validity Test

	AVE	CR	R Square	Cronbach's Alpha
Extrinsic	0.6383	0.9337	0	0.9188
Intrinsic	0.646	0.8431	0	0.7127
KS	0.8218	0.9326	0.2759	0.8924

Table 6. AVE Value

	AVE	Extrinsic	Intrinsic	KS
Extrinsic	0.6383	0.798937		
Intrinsic	0.646	0.3369	0.803741	
KS	0.8218	0.4887	0.346	0.906532

3.2. Structural Model Assessment

The next step analysis is on structural model. Structural model was assessed in two methods. First the predictive power of the model was evaluated, and follows by analysis of

constructing relationship that state by hypotheses. Figure 1 summarized the analysis result. The important principle for evaluate of the PLS structural equation model is R2. The R2 approximations the relationship of an LV's elucidated variable to its aggregate variance. To achieve a low level of descriptive power, the values should be adequately high for the model. This model explained 27% (see figure 1). Table seven describes the summary of hypotheses testing, including the path coefficient and T-value from each path of construct obtain from smart PLS analysis result

Table 7. Hypotheses Testing

H	T Value	P Value DF=200	Result
H1	5.501	0.0001	Supported
H2	3.017	0.0029	Supported

DF=200

Hypothesis 1; Evaluates the relationship between intrinsic motivation and knowledge sharing intention in VCoPs. T value for this hypothesis is $t=5.501$ where $DF=204-4=200$ ($DF = N-K$, $N =$ number of respondents, $K=$ number of variables). Output from the p value calculation of the two-tailed test shows P value is less than 0.0001. It can be summarized by conventional criteria and this difference is considered as extremely significant statistically.

Hypothesis 2; Evaluates the relationship between extrinsic motivation and knowledge sharing intention in VCoPs. T value for this hypothesis is $t=3.017$ where $DF=204-4=200$ ($DF = N-K$, $N =$ number of respondents, $K=$ number of variables). Output from the p value calculation of the two-tailed test shows P value is less than 0.0029. It can be summarized by conventional criteria and this difference is considered as extremely significant statistically. All of paths were found significant and support the previous hypotheses. Detail discussion related with the hypotheses testing will present in discussion section.

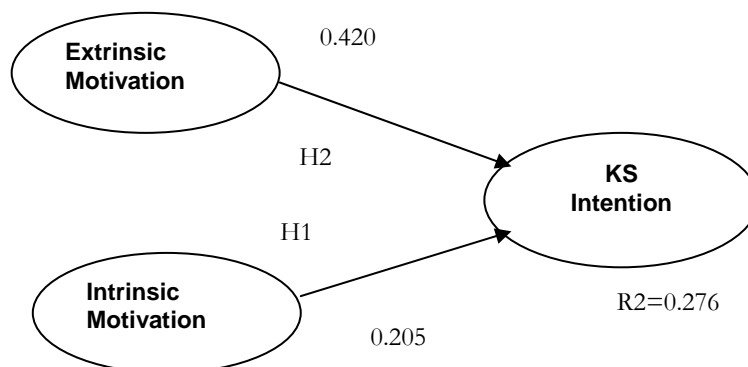


Figure 1. Structural Model Assessment

3.3. Discussion

Through the structural equation model this study focus on understand the role of extrinsic and intrinsic motivation in influence people behavior in perform knowledge sharing at VCoPs. This study proposing and testing a model that explicitly articulates the key variables in motivation theory, this study focuses to get advance understanding in people perspective of intrinsic and extrinsic motivation element as key drive on Knowledge Sharing behavior in virtual communities in Indonesia culture context. Overall, the result of this study supports the finding from prior studies. This study found that both of two motivation types are significantly affect people intention in knowledge sharing. The result of our investigation indicate that: Hypotheses 1, intrinsic motivation influences people intention in sharing their knowledge via VCoPs. Our study finding is relevant with the hypotheses. The positive relationship and the significant path

coefficient indicates that people in the banking institution are consider their enjoy helping element when they participate in VCoPs for contributing their knowledge. This finding is appropriate with previous finding. They found intrinsic motivation was impact in people intention to use share knowledge in virtual communities; Hypotheses 2 is relevant with Kankahali,et al [20] work, we found that people who believe in extrinsic benefit will contribute their knowledge by participate in VCoPs. This support Carbera and Carbera [26] study which indicate that people will participate in VCoPs and contributing their knowledge when if they realize will get some reward from their institution.

4. Conclusion

This Article motivated by a need to understand the underlying drivers the role of element motivation in knowledge sharing behavior. This study examines extrinsic (expected organizational reward, reciprocity, and reputation) and intrinsic (enjoy helping) as primary key that potentially influences people knowledge sharing behavior. The result show that both of that factor significantly impact people intention in knowledge sharing. In advanced, this study also found that people is more consent on organizational reward, reciprocity, reputation and enjoy helping in sharing their knowledge. In the context of Indonesia, the finding was confirmed that intrinsic and extrinsic element has no different affect to Indonesia people behavior from others research finding. However, there is several limitation of this study. First, the sample was selected from two hundred and four employees in just one organization in Indonesia banking institution. In order to confirm our finding another investigation could conduct by test the research model in another study. The model should be test further using different sample from other type of institution and also from different countries, since cultural difference among organizations and countries may lead to different belief and behavior of the people. Second, larger sample would bring more statistical power would have allowed more sophisticated statistical analysis.

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