

# **KNOWLEDGE SHARING BEHAVIOR AND QUALITY AMONG WORKERS OF ACADEMIC INSTITUTIONS IN INDONESIA**

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## **ABSTRACT**

While studies have highlighted the importance of knowledge sharing in organizations to help improve performance, there is still a difficulty among workers to share knowledge due to the fear of losing valuable knowledge. In this article, we present a study investigating factors that influence knowledge sharing among workers of academic institutions, specifically aiming to develop a deeper understanding of knowledge management practices and quality of knowledge shared. While most studies relating to aspects of knowledge management are concerned with the service industries, academic institutions have not received much attention, especially in Indonesia. We validated our measures and tested our research model using 337 respondents. We conclude that soft and hard rewards, communication skills, and enjoyment to help others are key factors that influence knowledge sharing behavior. Finally, recommendations and implications are discussed to help institutions guide their efforts to build knowledge sharing strategies.

**Keywords:** Knowledge Management; Knowledge Sharing Behavior; Quality Of Knowledge Shared; Workers Motivations; Smartpls.

## **1. INTRODUCTION**

Knowledge sharing throughout the organization enhances existing organizational business processes and introduces more efficient and effective business processes. Capturing a company's most valuable knowledge (asset) and distributing it effectively across the

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enterprise, knowledge management must be an enabler to achieve strategic business objectives (Bhojaraju, 2005). Delphi Research Group showed that knowledge is stored in the structure of the organization, 42% in the mind (brain) of employees, 26% in the form of paper documents, 20% as electronic documents, and 12% knowledge-based electronics (Uriarte, 2008). Knowledge sharing is a process where an individual exchanges his or her knowledge and ideas through discussions to create new knowledge or ideas. Knowledge sharing includes employee willingness to communicate actively with colleagues (sending knowledge) and actively consult with colleagues to learn from them (collecting knowledge) (Alam et al., 2009).

However, this is not always easy. There is still an embedded paradigm that tangible assets are always given more attention, while intangible assets (knowledge) rarely get more servings. The factors that encourage or discourage knowledge sharing behavior are poorly understood (Bock et al., 2005). Peoples are not always willing to share their knowledge. It is crucial to understand when people are willing to share their knowledge and how an organization can facilitate this type of behavior from both the research and practical standpoints.

The benefits of technology would be limited if knowledge sharing practices were not supportive of knowledge sharing across units (De Long & Fahey, 2000). Although many organizations apply technology to support knowledge sharing behavior, the problem still exists and is far from being successful (Gumbley, 1998). Along this line, scholars (e.g. Cabrera & Cabrera, 2005; Fingesten, 1968; Nonaka, 1994; Tsoukas & Vladimirov, 2001) mention that current studies need to consider knowledge sharing and transfer among employees at the team and organizational level.

Therefore, based on (Wang & Hou, 2015) the authors believe there are other reasons that deserve further research attention. Most studies relating to all aspects of knowledge management are concerned with service industries. Academic institutions have not received much attention, especially in Indonesia. This study differs contextually from prior studies by examining existing factors of knowledge sharing in the context where workers come from different cultures of academic institutions in Indonesia. Understanding people knowledge sharing behavior is important given that team-level and organizational-level knowledge is influenced by the extent to which knowledge sharing occurs between employees (Cabrera & Cabrera, 2005; Fingesten, 1968; Nonaka, 1994; Tsoukas & Vladimirov, 2001). Given this background, we provide a model that is expected to guide human resource department especially in knowledge-intensive academic institutions.

## **2. LITERATURE REVIEW**

### **2.1. Knowledge Management (KM)**

Today, the people's ability in organizations to share their knowledge within them is identified as one of the critical contributing factors for organizational competitiveness (Malik & Malik, 2008). There is a need to study factors that influence people knowledge sharing behavior in institutions. KM is critical to the operation of institutions and has attracted an attention by the business world since the introduction of concept (Davenport, 1997; Nonaka, 1994).

KM is the process through which institutions generate value from their intellectual and knowledge based assets. In this manner, it becomes apparent that KM is concerned with the process of identifying, acquiring, distributing and maintaining knowledge that is essential to the organization. KM practice is recognized as an important instrument for achieving specific goals so that the organization can sustain economic growth and competitive advantage. The presence of KM concept began to attract attention as a device capable of supporting the institutions in maximizing the knowledge and information at all levels of management to help improve the performance of the institutions (Saide & Rozanda, 2015; Saide et al., 2016a; Saide et al., 2016b).

The KM's scope also includes the flow of knowledge and interaction, process, cycle, analysis, systems, and workflow (Evans et al., 2014). Knowledge creation phase includes the emergence of knowledge from the origin to the development, later stages of development, such as documentation of knowledge, recorder of knowledge, sharing of knowledge, and distribution of knowledge. Viewed from this perspective, knowledge management is about information, on one hand, and people, on the other.

## **2.2. Knowledge Sharing**

An important enabler of KM is knowledge sharing (Alavi & Leidner, 2001) and many organizations state that sharing knowledge is vital to the utilization of core competencies and to the realization of sustainable competitive advantage (Chennamaneni, 2007). Increased sharing of knowledge generates the benefits of increased organizational knowledge without having to increase the energy or cost.

Knowledge sharing is at the part of the KM concept and it is all about sharing knowledge and not owning or hoarding it (Milne, 2001). Knowledge sharing offers an institutions the potential for increased productivity as well as retention of intellectual capital, even after employees leave the organization, leading to value added (Lin, 2007a). According to Alam et al. (2009), knowledge sharing is a process where an peoples exchanges his or her knowledge and ideas through discussions to create new knowledge or ideas. For employees, knowledge sharing is about talking to colleagues to help them get something done better, more quickly, or more efficiently. Cheng (2002) state that knowledge sharing can help employees to get a new understanding their jobs and bring personal recognition within the department. Knowledge sharing includes people willingness to communicate actively with colleagues (donate knowledge), and actively consults with colleagues to learn from them (collect knowledge).

Previous researchers had tried to examine the reasons why employees are not willing to share their knowledge and noted that the firms not only managed to promote a knowledge sharing culture by include knowledge in their business strategy directly but also by changing the employee attitudes and behaviors in promote and knowledge sharing consistently (Jones, Cline, & Ryan, 2006; Lee & Choi, 2003; Moffett, McAdam, & Parkinson, 2003). This process is crucial for an institutions to become successful.

It is important to recognize that employees may decide to share or not share knowledge for various reasons. It has been found that extrinsic rewards have a negative effect on attitudes toward knowledge sharing (Bock & Kim, 2002; Bock et al., 2005). Several studies found no relationship between extrinsic motivation and knowledge sharing intentions or attitudes

toward knowledge sharing (Kwok & Gao, 2005; Lin, 2007b). Further, individuals may share knowledge because they enjoy helping others (Kankanhalli et al., 2005) and may not share knowledge because knowledge can be a sign of power to them (Gumbley, 1998).

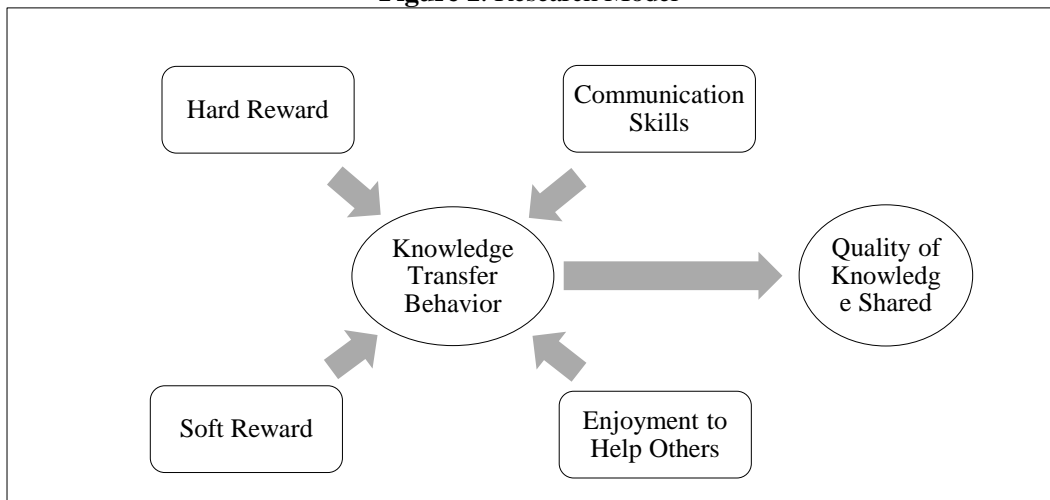
Knowledge sharing challenges are caused by the fact that while knowledge has become a routine process, the employees are not fully aware of the separate steps taken in the process of explicitly expressing knowledge (Saide & Mahendrawathi, 2015). The fundamental reason why Japanese companies are successful is because their skills and experiences are created of organizational knowledge (Nonaka, 1994). Knowledge creation is achieved through acquiring of synergistic relationship between tacit and explicit knowledge. The process of knowledge integration often encounters barriers, such as tacit and knowledge that are embedded in routines and standalone (Blackler, 1995). Tacit knowledge that exists in system and the organization make the implementation knowledge integration to be slow and difficult (Nonaka, 1994).

KM is an attempt to increase the useful knowledge in the organization, among nurture a culture of communication between personnel, provide opportunities for learning, and promoting each other to share the knowledge (McInerney & Koenig, 2011). The purpose of the application of the concept of KM is to enhance and improve the operation of companies in search of better profits, higher quality, and ultimately higher competitiveness, especially when compared to similar organizations. Performance of the organization as a result of the knowledge management process will vary with the performance of the organization regardless of the intellectual capital.

### 2.3. Research Framework

Figure 1 presents the research model, examining factors that influence knowledge sharing behavior and quality of knowledge shared. The factors examined are hard rewards, communication skills, enjoyment to help others, and soft rewards.

**Figure 1:** Research Model



*Hard rewards and knowledge sharing.* Hard rewards are defined as people expectations of obtaining explicit outcomes (financial rewards, promotion, and other explicit benefits) in return for performing knowledge sharing behavior. Hard rewards represent external contingencies administered by others based on an workers behavior and regulate (Nicolai et al., 2009). An example, employees reception of positive feedback when others use their contributions (reciprocity) can be an indication of the positive influence of the workers on the institutions performance, thus increasing their perceived efficacy (competence) of their efforts (Cabrera & Cabrera, 2002). Previous studies have addressed the importance of control-oriented motivations in facilitating peoples knowledge sharing behavior (Hall & Graham, 2004; He & Wei, 2009; Kankanhalli, Tan, & Wei, 2005; Staples & Webster, 2008).

*Hypothesis 1: Hard reward has a positive influence on knowledge sharing behavior.*

*Communication skills and knowledge sharing.* Communication skills are one of the factors that influences knowledge sharing (Awad & Ghaziri, 2004; cited in Ismail & Yusof, 2010). Researchers believe that the ability of employees to share knowledge initially depend on their communication skills either in verbal or written forms (Davenport & Prusak, 1998; Hendriks, 1999; Riege, 2005). The results of multiple regression analysis indicate that communication skills are the most significant predictor of knowledge sharing quality followed by trust and awareness (Ismail & Yusof, 2010).

*Hypothesis 2: Communication skills have a positive influence on knowledge sharing behavior.*

*Enjoyment to help others and knowledge sharing.* Enjoyment in helping others is derived from the concept of altruism. Knowledge workers may be motivated by relative altruism owing to their desire to help others (Davenport, 1997; Constant et al., 1994). Altruism includes discretionary behaviors that help specific others with organizationally relevant tasks or problems (Organ, 1998; cited in Lin, 2007). Previous research shows that workers are intrinsically motivated to contribute knowledge because engaging in intellectual pursuits and solving problems is challenging or pleasurable, and because they enjoy helping others (Wasko & Faraj, 2005). Knowledge contributors who derive enjoyment from helping others may be more favorably oriented towards knowledge sharing and more inclined to share knowledge.

*Hypothesis 3: Enjoyment to help others has a positive influence on knowledge sharing behavior.*

*Soft rewards and knowledge sharing.* Soft rewards are defined as individual expectations of achieving implicit outcomes (relationships and personal reputation) in return for performing knowledge sharing behavior (Hall & Graham, 2004; Hummel et al., 2005; Kankanhalli et al., 2005). Soft rewards may make peoples feel implicitly controlled or pressured to perform the behavior due to the implicit consequences related to the behavior, and are thus forms of interjected regulations or moderately controlled motivations (Gagne, 2009; Gagne & Deci, 2005). Soft rewards as a result of knowledge sharing behavior may satisfy employee needs to be socially acceptable in an organizational context (Gagne, 2009). Such employee outcome expectations may include improved work relationships with others and self-image or reputation.

*Hypothesis 4: Soft reward has a positive influence on knowledge sharing behavior.*

*Knowledge sharing behavior and quality of knowledge shared.* According to DeLone & McLean (2003), a system can be evaluated in terms of information quality. They argue that the quality of knowledge (information) can be judged based on six factors: relevance, ease of understanding, accuracy, completeness, reliability, and timeliness. First, relevant information is important to the decision maker. Information showing that lumber prices might drop might not be relevant to a computer chip manufacturer. Second, information should be simple, not overly complex. Sophisticated and detailed information might not be needed. In fact, too much information can cause information overload, whereby a decision maker has too much information and is unable to determine what is really important. Third, information should be accurate. In other cases, inaccurate information is generated because inaccurate data is fed into the transformation process. Fourth, complete information contains all the important facts. For example, an investment report that does not include all of the important costs is not complete. Fifth, information should be reliable or trusted by users. In many cases, the reliability of information depends on the reliability of the data-collection method. In other instances, reliability depends on the source of the information. Sixth, timely information is delivered when it is needed. Knowing last week's weather conditions will not help when trying to decide what coat to wear today.

In order to improve the quality of knowledge shared among workers, we need to observe the reasons why people want to share their knowledge with their colleagues. One potential reason is willingness. There might be reluctance to share knowledge because the fear of feeling disadvantaged and some might be willing to share knowledge if they can get rewards. In this study, the authors observe the culture of the people willing to share knowledge by adding a variable of knowledge sharing behavior to support the quality of knowledge shared.

Knowledge sharing has two facets are collecting or receiving, and disseminating or donating, knowledge (Mohammed et al., 2011). Knowledge donating is defined as "communication based upon an individual's own wish to transfer intellectual capital" while knowledge collecting as "attempting to persuade people to share what they know" (Mohammed et al., 2011: 137). These two distinct processes are active processes in the sense that one is either engaged in active communication with others for the purpose of transferring knowledge, or consulting others in order to gain some access to their intellectual capital (van den Hooff & de Ridder, 2004). Knowledge donating aims to see how people knowledge becomes group and institutions knowledge over time, which in turn improves the stock of knowledge available to the institutions (Darroch, & Mcnaughton, 2002). However, previous research is still limited in terms of discussing about collecting and receiving knowledge that influence the quality of knowledge shared.

*Hypothesis 5: Knowledge sharing behavior has a positive influence on quality of knowledge shared among workers of academic institutions.*

### **3. METHOD**

#### **3.1. Sample and Procedure**

Survey method using questionnaires was used to collect data. The questionnaires were distributed to six academics institutions in Indonesia, all located in the province of Riau

(District of Indragiri Hilir, District of Indragiri Hulu, District of Bengkalis, and Pekanbaru City). There were a total of 337 respondents participating in the survey (60 respondents from the University of UIN SUSKA Riau, 55 from the University of Riau, 57 from the University of Lancang Kuning, 54 from the Polytechnic of Bengkalis, 56 from the MAN 2 Model Pekanbaru, and 55 from the Madani School Tembilahan). Respondents consisted by lecturers, teachers, chairman, staff and workers. In the survey, we used a structured questionnaire design consisting of four parts. The first part was a brief introduction about the importance of the research. The second part asked demographic information, which included seven items (i.e. current position, age, length of work in the institution, education level, gender, name, and e-mail address<sup>1</sup>). The third part contained questionnaire measures based on the constructs under study, with an overall of thirty-three main questionnaire items. The last part of the questionnaire was a comment section by the respondents.

### 3.2. Measures

We used SPSS and Partial Least Square (PLS) for data and model analysis. SPSS was used to measure demographic scales and generate descriptive statistics. PLS was used because its premises are less limiting and the sample size was relatively small (Cheung & Vogel, 2013). These items were scored using a 5-point Likert scale, with 1 corresponding to “strongly disagree” and 5 to “strongly agree”. For measures of motivation and individual characteristics, 23 items were adapted and divided into five factors: soft rewards with 4 items, enjoyment to help others with 4 items, hard rewards with 4 items, knowledge sharing behavior with 8 items and communication skills with 3 items adapted based on previous studies (Al-Qadhi et al., 2015; Ismail & Yusof, 2010; Lin, 2007; Wang & Hou, 2015).

*Hard rewards.* This variable emphasizes whether workers need promotion, bonus or increased salary when they share their knowledge with their colleagues. Questions of this variable include “I expect to get promotion in return for sharing knowledge with my colleagues,” “I expect to be rewarded with a higher salary in return for sharing knowledge with my colleagues,” “I expect to receive monetary rewards (bonus) in return for sharing knowledge with my colleagues,” and “I expect to receive opportunities to learn from others in return for sharing knowledge with my colleagues.”

*Communication skills.* This variable highlights the response rate of workers in the work environment and their confidence to communicate or share information or knowledge with each other. Some questions of this variable include “I am an extrovert type of person (like to know what is happening, socialize and open-minded),” “My communication skills help me the work,” , and “the way how to communicate between each other, make sharing information or knowledge easier”.

*Enjoyment to help others.* This variable measures the extent to which respondents enjoy when sharing knowledge with colleagues in the organization, feel happy, or feel responsible for sharing knowledge to their colleagues. Some questions of this variable include “I enjoy sharing my knowledge with colleagues,” “I enjoy helping colleagues by sharing my knowledge,” and “It feels good to help someone by sharing my knowledge.”

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<sup>1</sup> Names and email addresses were asked in order for the researchers to be able to provide information about the results to the respondents and their institutions.

*Soft rewards.* This variable measures the extent to which workers want to be more valued personally and get a lot of friends when they share their knowledge with their colleagues. Some questions of this variable include “My knowledge sharing would expand the scope of my associations with other members in my company,” “My knowledge sharing would strengthen the tie between the existing members in my company and myself,” and “My knowledge sharing would draw smooth cooperation from my colleagues in the future.”

*Knowledge sharing behavior.* We assess knowledge sharing behavior using an 8-items scale adapted from Mohammed et al. (2011) and Nicolai et al. (2009). The authors try to identify the habits and patterns of workers about sharing knowledge, whether the workers simply want to receive the knowledge of their colleagues or also feel happy and responsible to participate in the culture of sharing knowledge with fellow co-workers in the organization. Some questions of this variable include “I received knowledge from colleagues in my department,” “I used knowledge from colleagues in my department,” “my colleagues in department received knowledge from me,” and “when I learnt something new, I tell my colleagues about it.”

*Quality of knowledge shared.* We use a 6-items scale adapted from DeLone & McLean (1992), DeLone & McLean (2003) and Sarkheyli et al. (2013). The items are related to relevance (“knowledge that I share with my colleagues in my organization is relevant to my job”), ease of understanding (“knowledge that I share with my colleagues in my organization is easy to understand”), accuracy (“knowledge that I share with my colleagues in my organization is accurate”), completeness (“knowledge that I share with my colleagues in my organization is complete”), reliability (“knowledge that I share with my colleagues in my organization is reliable”), and timeliness (“knowledge that I share with my colleagues in my organization is timely”).

## 4. ANALYSIS OF FINDINGS

### 4.1. Reliability and Construct Validity

Each variables was tested validity and reliability (convergent and discriminant). As seen in Table 1, all constructs have composite reliability about the recommended cutoff of 0.7 (Chiu & Wang, 2008), indicating the *reliability* of each variables. *Convergent validity* was evaluated using three criteria (Chin, 1998; Fornell et al., 1981; Hair et al., 2011; Hair et al., 2012; Hulland, 1999): All items factor loadings should be significant and exceed 0.6, composite reliability should exceed 0.7, and average variance extracted (AVE) from each construct should exceed 0.5. In addition, the degree to which different constructs are distinct from one another, *discriminant validity* was tested by comparing the correlation between a construct and other constructs to the square root of the average variance extracted for that construct. Discriminant validity is measured by cross loading (Gefen, 2000). The analysis show that the squared correlation for each construct is less than the square root of the AVE for that construct, in Table 2, indicating that all variables have discriminant validity.

Based on Table 2, knowledge-sharing behavior has the most significant correlation with quality of knowledge shared ( $c=0.61, p<0.05$ ). It is also shown that soft rewards have a higher AVE score compared to all variables.



**Table 1:** Factors Loadings, Cronbach's Alpha (CA), Average Variance Extracted (AVE), and Composite Reliability (CR) for Each Variable

Variables	Items	Loadings	CA	AVE	CR
Hard Rewards	HR 1	0.52	0.60	0.47	0.77
	HR 2	0.56			
	HR 3	0.79			
	HR 4	0.83			
Communication Skills	CS 1	0.84	0.75	0.66	0.85
	CS 2	0.80			
	CS 3	0.80			
Enjoyment To Help Others	EN 1	0.85	0.85	0.70	0.90
	EN 2	0.91			
	EN 3	0.90			
	EN 4	0.68			
Soft Rewards	SR 1	0.85	0.92	0.80	0.94
	SR 2	0.92			
	SR 3	0.90			
	SR 4	0.90			
Knowledge Sharing Behavior	KS 1	0.77	0.84	0.51	0.88
	KS 2	0.80			
	KS 3	0.73			
	KS 4	0.65			
	KS 5	0.67			
	KS 6	0.70			
	KS 7	0.64			
	KS 8	0.56			
Quality of Knowledge Shared	QK 1	0.68	0.88	0.62	0.91
	QK 2	0.80			
	QK 3	0.83			
	QK 4	0.87			
	QK 5	0.82			
	QK 6	0.71			

**Table 2:** Correlation Matrix and Square Root of the Average Variance Extracted (SRAVE - *bolded*)

Variables	EN	HR	KS	QK	CS	SR
EN	<b>0.84</b>					
HR	0.26	<b>0.84</b>				
KS	0.46	0.36	<b>0.71</b>			
QK	0.30	0.29	0.61	<b>0.79</b>		
CS	0.34	0.34	0.52	0.51	<b>0.81</b>	
SR	0.44	0.44	0.48	0.37	0.44	<b>0.89</b>

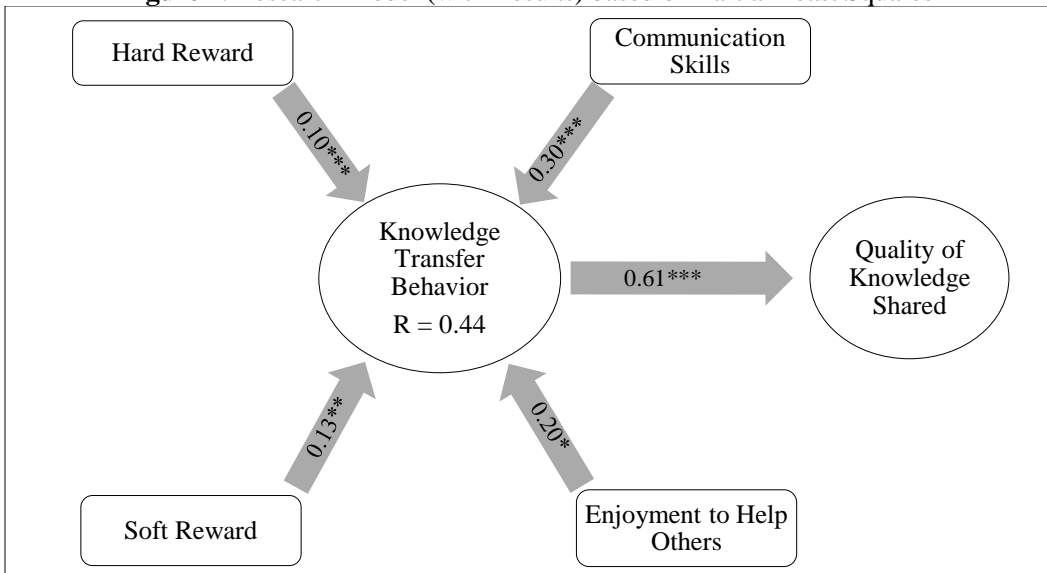
*Notes:* EN (Enjoyment to Help Others), HR (Hard Rewards) KS (Knowledge Sharing Behavior), QK (Quality of Knowledge Shared), CS (Communication Skills), and SR (Soft Rewards).

## 4.2. Hypothesis Results

The results of model analysis are displayed in Figure 2. The structural model links the constructs to one another. Analysis of model is the analysis of patterns of relationships among variables hypotheses of the study.

To identify the relationship among factors and quality of knowledge shared, we looked at the correlation between variables (see Table 3). It is found that hard rewards have a positive influence on knowledge sharing behavior ( $c=0.10$ ,  $p<0.05$ ), communication skills has a positive influence on knowledge sharing behavior ( $c=0.30$ ,  $p<0.05$ ), enjoyment to help others has a positive influence on knowledge sharing behavior ( $c=0.20$ ,  $p<0.05$ ), and soft rewards have a positive influence on knowledge sharing behavior ( $c=0.13$ ,  $p<0.05$ ). Knowledge sharing behavior has a positive influence on quality of knowledge shared ( $c=0.61$ ,  $p<0.05$ ). Therefore, it can be concluded that all hypotheses were supported.

**Figure 2:** Research Model (with Results) based on Partial Least Squares



**Note:** \* $p<0.05$ ; \*\* $p<0.01$ ; \*\*\* $p<0.001$

**Table 3:** Hypothesis Tests based on Partial Least Squares

Path	Coefficients	T-Values	P-Values	Status
H1: Hard Reward → Knowledge Sharing Behavior	0.10	2.24	0.03	Accepted
H2: Communication Skills → Knowledge Sharing Behavior	0.31	5.76	0.00	Accepted
H3: Enjoyment To Help Others → Knowledge Sharing Behavior	0.20	4.29	0.00	Accepted
H4: Soft Reward → Knowledge Sharing Behavior	0.13	2.68	0.01	Accepted
H5: Knowledge Sharing Behavior → Quality of Knowledge Shared	0.61	17.36	0.00	Accepted

## 5. DISCUSSION

This study yields valuable insights, showing the positive direct effects of hard rewards, communication skills, enjoyment to help others and soft rewards on knowledge sharing behavior. In addition, it is found that knowledge sharing behavior has a positive influence on the quality of knowledge shared. We measured knowledge sharing behavior based on the sending and receiving of knowledge among workers (Mohammed et al., 2011; Nicolai et al., 2009) while the quality of knowledge shared was examined using a scale adapted from (DeLone & McLean, 1992; DeLone & McLean, 2003), measuring easiness to understand, accuracy, completeness, reliability, and timeliness.

Previous studies also suggested that enjoyment to help others among workers is one of the success factors of knowledge sharing behaviors. The results of this study showed that enjoyment to help has a significant influence on knowledge sharing behavior. This includes discretionary behaviors that help specific others with organizationally relevant tasks or problems (Organ, 1998; as cited in Lin, 2007). Employees are intrinsically motivated to contribute knowledge because engaging in intellectual pursuits and solving problems is challenging or pleasurable, and because they enjoy helping others (Wasko & Faraj, 2005).

Based on the PLS results, it is found that communication skills should support knowledge sharing behaviors. The analysis shows that communication skills ( $H2$ ,  $c=0.30$ ,  $p<0.05$ ) have a positive and significant influence on knowledge sharing behavior. Communication skills also have a higher path coefficient compared to all variables that were theorized to influence knowledge-sharing behavior. Researchers believe that the ability of employees to share knowledge initially depend on their communication skills either in verbal or written forms (Davenport & Prusak, 1998; Hendriks, 1999; Riege, 2005). This analysis confirms the previous study by Awad & Ghaziri (2004), as cited in Ismail & Yusof (2010), stating that communication skills influence knowledge sharing.

Research is still limited in terms of the influence of the sending and receiving of knowledge (i.e. knowledge sharing behavior) on the quality of knowledge shared. In this research, it is found that knowledge sharing behavior has a positive and significant influence on the quality of knowledge shared. Knowledge sending is defined as “communication based upon an individual’s own wish to transfer intellectual capital” while knowledge receiving is defined as an attempt “to persuade others to share what they know” (Evans & McKinley, 2011: 31). According to DeLone & McLean (2003), a system can be evaluated in terms of information quality. Given that knowledge sharing could occur anytime, it is then more essential to focus on the quality of knowledge shared.

### 5.1. Contributions

First, this study provides evidence that communication skills are an important antecedent to employees’ knowledge sharing behavior (Ismail and Yusof, 2010). Second, since enjoyment to help others significantly influences knowledge sharing behavior, organizations need to increase the level of enjoyment that employees experience as they help one another through knowledge sharing. Third, based on these findings, it is practically suggested that rewards (hard and soft rewards) be implemented to support knowledge sharing behaviors. For example, employee outcome expectations, including improved work relationships with others

(relatedness), can be considered forms of soft rewards that are positively associated with sharing intentions and behaviors (Bock & Kim, 2002; Kankanhalli et al., 2005) and satisfy employees' need to be socially acceptable in an organizational context.

## **5.2. Future Research**

The current study takes place in academic institutions. Therefore, future research will have to compare between workers of company in terms of their motivation to share knowledge. Second, it is recommended that the research be enhanced by extending the scope of the study to other organizations in other regions of the world. These findings seem to imply that there may be no universal factors that influence knowledge sharing. Certain factors may apply for employees working in a homogenous culture but do not necessarily apply in other cultural contexts. However, this assertion needs to be investigated and validated further.

## **6. CONCLUSION**

This research attempted to fill the gap in the current literature by examining factors that influence knowledge sharing among employees of academic institutions. The results of this study show that hard rewards, communication skills, enjoyment to help others and soft rewards have an influence on knowledge sharing behavior, which also has an influence on the quality of knowledge shared. In addition, communication skills are found to be the factor that contributes the most to knowledge sharing behavior.

We show indicators that influence knowledge sharing across academic institutions with different backgrounds of employees (position, age and education level). Previous studies related to knowledge management are concerned with service industries. Academic institutions have not received that much attention, especially in Indonesia. This study adds to an understanding of knowledge sharing behavior of individuals in professional groups (Ryu et al., 2003). Further, understanding individual knowledge sharing behavior is important given that team-level and organizational-level knowledge is influenced by the extent to which knowledge sharing occurs between employees (Cabrera & Cabrera, 2005; Fingesten, 1968; Nonaka, 1994; Tsoukas & Vladimirou, 2001). For this reason, we have provided a model that would provide helpful guidelines for human resource department especially in knowledge-intensive organizations.

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