

**ANALYSIS OF KNOWLEDGE MANAGEMENT IN KNOWLEDGE SHARING AND ITS EFFECT ON INNOVATION CAPABILITY IN THE OPERATION DEPARTMENT OF PUSRI-III PLANT PUPUK SRIWIDJAJA PALEMBANG**

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<http://doi.org/10.35409/IJBMER.2019.2408>

**ABSTRACT**

This study aims to analyze the influence between factors of knowledge management (such as individual factors (knowledge self-efficacy), organizational factors (top management support) and technological factors (Information and Communication Technology- ICT Use) on knowledge sharing processes whether more leads to superior firm innovation capability in the Operation Department of Pusri-III Plant of Pupuk Sriwidjaja Palembang. The research is based on a survey of 123 employees from the Operations Department of Pusri-III Plant Pusri Palembang. No probability sampling is used in sampling methods and data analysis using the Partial Least Square (PLS) are employed in this study. The results of this study shows that knowledge management factors consisting of individual factors (knowledge self-efficacy), organizational factors (top management support) and technological factors (Information and Communication Technology-ICT Use) significantly affect both the knowledge donating and knowledge collecting. The result of this study nevertheless shows that in the organizational factors (top management support) does not significantly affect to the knowledge collecting. And in the technological factors (ICT Use) does not significantly affect to knowledge donating. Furthermore, the result shows that both knowledge donating and knowledge collecting significantly affect the innovation capability of the studied in the Operations Department of Pusri-III Plant Pusri in Palembang.

**Keyword:** Knowledge management, Knowledge sharing, Knowledge donating, Knowledge collecting, Innovation capability.

**1. INTRODUCTION**

Innovation is a word that is familiar to the organization. According to Lin and Raykov (in Akram, Tayyaba et al, 2018), innovative creativity are decisive factors for organizational survival and global economic competitiveness. In a highly competitive global economy, the sustainability of each organization depends heavily on the innovative work and creativity of its members. Innovation is defined as the application of new ideas to products, processes, and activities of other companies (Dodgson & Rothwell, 1994). Research on innovation has articulated the idea that knowledge is the most important element in innovation. Tayyaba, Akram et al (2018) suggests that many studies related to knowledge management and organizations have

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reinforced the concept that knowledge sharing leads to improved organizational performance, including the ability or capability of innovation (eg Liao et al, 2007; Yesil and Dereli, 2013). Furthermore, there are a number of studies that not only see the effect of knowledge sharing on innovation capabilities, but observe in depth the knowledge sharing activities carried out related to factors that influence their effectiveness.

From the literature and previous research, the main factors that are prerequisites have been known so that knowledge management or Knowledge Sharing can run effectively as explained by S. Kumar et al. (2014) and Budihardjo (2017) which in principle involve three factors of knowledge management that cannot be separated from one another, namely individual factors, organizational factors and technological factors. Shettar (2007) explains that in principle the three factors/elements are the main elements in knowledge management that must work together so that the organization's strategic goals can be achieved. Tayyaba, Akram et al. (2018) concluded that Knowledge Sharing in the form of knowledge donation and knowledge collecting is a potential predictor of innovative work behavior. However, research conducted by Kamasak and Bulutlar (2010) shows that only *knowledge collecting* from knowledge sharing has a significant influence on innovation, while donating knowledge has no influence on innovation. Other research by Gitanauli & Munir, 2010, shows that knowledge sharing has a negative and not significant effect on innovation capabilities. The previous literature study on the development of innovation capabilities in companies through a knowledge sharing approach showed that three dimensions, namely individual, organizational and technological, had a significant effect on the willingness to contribute knowledge (*knowledge donating*) and willingness to gather knowledge (*knowledge collecting*). Research conducted by Lin (2007), Rahab (2011), Rahmi (2012), Rozaq (2014) and Mulyana (2015) shows that there are several factors in sharing knowledge that are part of the knowledge management process and have an important role and able to encourage the organizational capability to innovate.

The Operation Department of Pusri-III Plant, as one of the main production units of Pupuk Sriwidjaja Palembang, has implemented a knowledge sharing (KS) program with various models, one of which is to increase the innovation power of its members. The problems faced by the Operation Department of Pusri-III Plant, that is, the low innovation capability associated with knowledge sharing activities and research gaps in the theme of the influence of knowledge sharing on innovation, made the authors interested in conducting research under the title Analysis of Knowledge Management in knowledge sharing and its effect on Innovation Capability in the Operation Department of Pusri-III Plant Pupuk Sriwidjaja Palembang in figure 2.

## **2. LITERATURE REVIEW**

### **Theoretical development**

#### **A. Innovation Capability**

The definition of innovation, as agreed in the consensus of 30 countries in the forum for Economic Co-operation and Development (OECD) is the implementation of products (goods, services) or a new significantly better process, or a new marketing method, new organizational methods, both in aspects of business practice, organizing workplaces, or in external relations (OSLO Manual, 2005). Alder and Shenhar (as quoted in Rahmani & Mousavi, 2001, h.288) define innovation by giving emphasis to the terminology 'capability'. The definition of

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innovation according to Alder and Shenhar is (1) the ability to develop products that meet market needs, (2) the ability to utilize technology in developing products, (3) the ability to develop new products or improve the performance of existing products for market needs, and (4) the ability to master new technologies to create new opportunities.

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

As stated by Arnzten and Voransachai (2008, p.132) and others, KM is defined as organized and systematic efforts that emphasize knowledge processes which include use, transform, transfer/sharing, save (store) and retrieve knowledge for the purpose of improving organizational performance.

### **C. Knowledge Sharing (KS)**

Knowledge sharing has received attention among many authors (Nonaka & Takeuchi, 1995; Davenport & Prusak, 1998; Wenger et al 2002; VonKrogh 2003; Hopkins, 2008; and others). Knowledge sharing has been seriously discussed in organizations, in organizational behavior, communication, (Witherspoon et al 2013), human resource strategies (Grant, 1996) and many other areas of coverage. Lin (2007) defines KS as a social interactional culture through the exchange of knowledge, experience and skills between individual employees of a company or organization. One of the main factors determining the passage of knowledge is the flow of knowledge in organizations, both from the form of tacit (individual knowledge), as well as from the form of organizational knowledge (explicit) as explained by Nonaka and Takeuchi (1995). From several studies, knowledge sharing is divided into 2 (two) dimensions, that consist of knowledge donating and knowledge collecting. Knowledge donating is disseminating knowledge or intellectual capital to others that involves communication between individuals or in another words is the willingness to contribute knowledge, whereas, knowledge collecting is defined as an effort to convince organizational members to share what is they know or the willingness to gather knowledge (Van Den Hooff & De Ridder, 2004).

## **3. RESEARCH HYPOTHESES**

### **Factors of Knowledge Management**

Szulanski (1996) states that sharing knowledge in organizations can be explained by the theory of sticky knowledge. This theory states that the existence of barriers to the level of individuals in sharing knowledge in organizations can be explained in three factors/dimensions, namely the individual dimensions, organizational dimensions and technological dimensions. Based on the discussion above, researchers understand that knowledge sharing is influenced by many factors. But in this study, the author refers to adapting from the research conducted by Lin (2007) in figure 2, which uses a knowledge management approach that is from three dimensions : individual, organizational and technological. The researcher believes that the three dimensions of knowledge management mentioned above are the most important factors in sharing knowledge in the organizational environment that the authors are involved in.

### **Individual factors as determinants of knowledge sharing processes**

The individual factors in KM is a dimension that explains the factors that influence KS at the individual level in the organization. Knowledge self-efficacy can be defined as self-

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confidence in its capabilities related to the knowledge it has to organize and execute actions needed to achieve specific performance targets (Bandura,1986, as quoted in Lin, 2007). Employees who believe that they can contribute organizational performance by sharing knowledge will develop greater positive willingness to both donating and collecting of knowledge. The following hypothesis thus is proposed:

H1a: Knowledge self-efficacy positively influence on knowledge donating in the Operation Department of Pusri-III Plant of Pupuk Sriwidjaja Palembang.

H1b: Knowledge self-efficacy positively influence on knowledge collecting in the Operation Department of Pusri-III Plant of Pupuk Sriwidjaja Palembang.

### **Organizational factors as determinants of knowledge sharing processes**

The organizational factors in KM is a dimension that explains the factors that influence KS at the level of organizational management. Factors that influence the organizational dimensions of KS can be in the form of top management support. Top management support is considered as one of the most potential influences in the organization of knowledge base as stated by Cornelly and Kelloway (2001) as quoted in Lin (2007). The following hypothesis thus is proposed:

H2a: Top management support positively influence on knowledge donating in the Operation Department of Pusri-III Plant of Pupuk Sriwidjaja Palembang.

H2b: Top management support positively influence on knowledge collecting in the Operation Department of Pusri-III Plant of Pupuk Sriwidjaja Palembang.

### **Technological factors as determinants of knowledge sharing processes**

The technological dimension in KM is a dimension that explains the factors that use technology that affect KS. The factors that influence the technological dimensions of KM are the use of information and communication infrastructure (ICT use). ICT use in the context of this research is to refer to the use of integrated means of communication and information in sharing knowledge. Information and communication technology (ICT) use and knowledge sharing are closely linked, because ICT can enable rapid search, access and retrieval of information, and can support communication and collaboration among organizational employees (Huysman and Wulf, 2006). Hence, the following hypothesis is proposed:

H3a. ICT use support positively influence on knowledge donating in the Operation Department of Pusri-III Plant of Pupuk Sriwidjaja Palembang..

H3b. ICT use support positively influence on knowledge collecting in the Operation Department of Pusri-III Plant of Pupuk Sriwidjaja Palembang.

### **The Relationship between Knowledge Sharing and Innovation**

Nonaka and Takeuchi (1995) in his book *"The Knowledge Creating Company"* states that knowledge management is very important in innovation. Several studies have been conducted to find out and test the influence of KS on innovation capabilities. Hausmann and Rodrick (2003) suggest that knowledge management is important in the process of product and production innovation, especially in manufacturing companies. Therefore, managing knowledge in manufacturing organizations is mandatory. Lin (2007) conducted a study to analyze the effect of

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knowledge sharing on the company's innovation capabilities. A total of 172 employees from 50 large organizations in Taiwan were respondents. Structural equation modeling (SEM) was used to investigate the research model. Researchers argue that the relationship between sharing knowledge, processes and capabilities of a company's innovation can show how companies can promote a culture of knowledge sharing to maintain their innovative performance. Ranto (2015) also shows that there is a significant effect of sharing knowledge on innovation capabilities. Kamasak and Bulutlar (2010), explore the effects of sharing knowledge with innovation. By using multiple regression analysis, they find a positive and significant effect of collecting knowledge on innovation; However, knowledge donating has no influence on innovation. In the research conducted by Gitanauli & Munir (2010), it was found that knowledge sharing has a negative and not significant effect on the capability of innovation.

The following hypotheses thus are formulated:

H4. Employee willingness to donate knowledge positively influences firm innovation capability in the Operation Department of Pusri-III Plant of Pupuk Sriwidjaja Palembang.

H5. Employee willingness to collect knowledge positively influences firm innovation capability in the Operation Department of Pusri-III Plant of Pupuk Sriwidjaja Palembang.

#### **4. RESEARCH METHODOLOGY**

##### **A. Sample and data collection**

The type of research used in this study is explanatory research. Based on the nature of the depth of exploration of the science that wants to be developed, this research belongs to the type of applied research. The main population in this study were all employees in the Operation Department of Pusri-III Plant, Pusri Palembang, which numbered 123 person. So that seen from the number of samples in this study, the sampling method used is the census method. The type of data used in this study is primary data. Primary data for this study used a questionnaire with 33 items of questions to be analyzed.

##### **B. Measures and conceptual definition**

In this study, items used to operationalize the constructs were mainly adapted from previous studies and modified for use in the knowledge-sharing context. All constructs were measured using multiple items. All items were measured using a seven-point Likert-type scale (ranging from 1 = strongly disagree to 7 = strongly agree). A list of items for each scale is presented in the appendix. The measurement approach for each theoretical construct in the model is described briefly below.

The following is a conceptual definition in this study :

1. Innovation Capability is the ability to develop products that meet market needs, the ability to utilize technology in developing products, the ability to develop new products or improve the performance of existing products for market needs, and the ability to master new technologies to create new opportunities (Alder and Shenhar, 2001).
2. Knowledge Sharing is a social interactional culture through the exchange of knowledge, experience and skills between employees of a company or organization. The dimensions of this knowledge sharing variable are knowledge donating and knowledge collecting (Lin (2007); Rahab 2011; Mulyana (2015))

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3. Factors Knowledge Management is an element or factor that influences and helps develop knowledge consistently within the organization by stimulating knowledge creation, protecting knowledge, and facilitating knowledge sharing (Lee and Choi; 2003). Factors on Knowledge Management variables are individual factors (knowledge self-efficacy), organizational factors (top management support) and technological factors (ICT use) (Lin, 2007).

## **5. RESULTS**

### **Data Analysis**

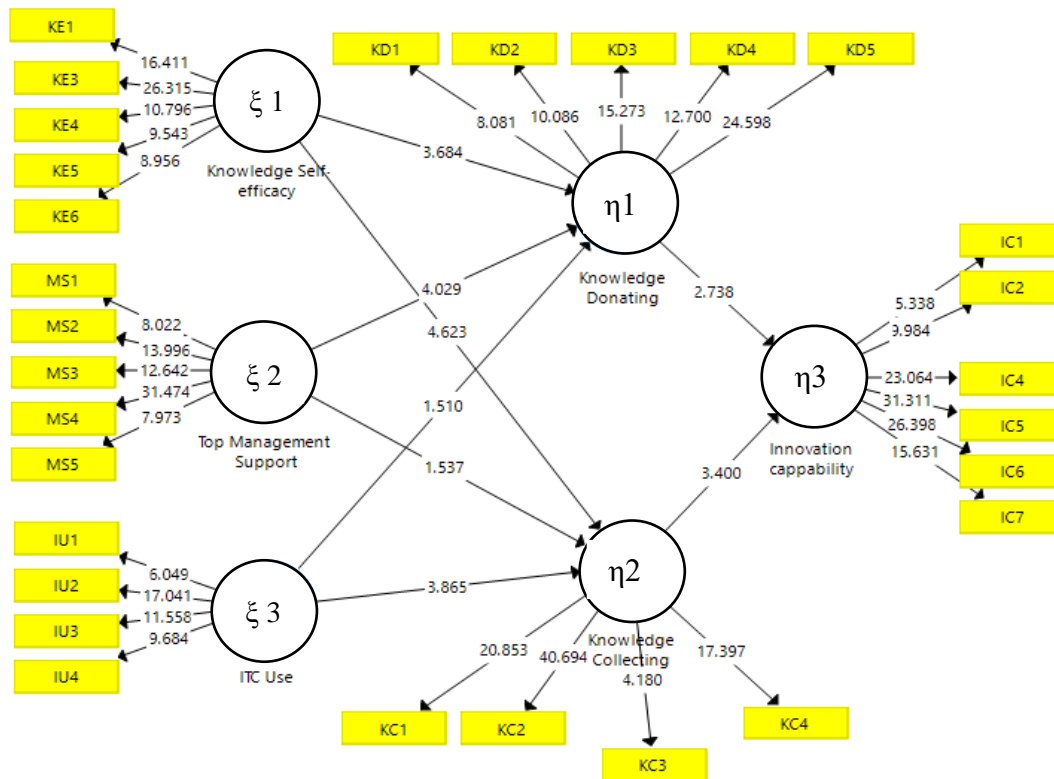
From the theoretical framework, the data analysis techniques used in this study are quantitative analysis using the PLS-SEM model (partial least square modeling) with the SmartPLS 3.0 program. PLS is a Structural Equation Model (SEM) based on component or covariance. PLS is an alternative approach which shifts from SEM approach based on covariance into variance based (Ghozali, 2006).

### **Measurement Model**

Based on table 1, it can be seen that for the whole variable the AVE value is above 0.5, except the knowledge self-efficacy variable (0.487). To increase the AVE value, the value of the loading indicator factor of the smallest knowledge self-efficacy variable is deleted, namely KE 2 (0.532). Furthermore, when viewed from the value of the loading indicator factor in each variable, there are several loading factor scores from indicators that are less than 0.5, i.e. IC3 (0.275) and KC5 (0.473), so that the two indicators are deleted which are then seen that all loading factor values of the indicators in each variable fulfilling the criteria are considered practically significant  $> 0.50$ , so is the AVE value of each variable  $> 0.50$ . Thus, it can be concluded, the instruments and variables of this study meet the criteria of convergent validity, or in other words the indicators of a variable are highly correlated.

The testing of discriminant validity, related to the principle that indicators of different variables should not be highly correlated. Based on data analysis in Table 2, it can be seen that the root square value of AVE is higher than the correlation between constructs. Thus, it can be concluded that the indicators used in this study have met the criteria of discriminant validity. Reliability of an indicator shows the stability and consistency of the gauge (indicator) measuring a variable. Reliability can be measured by looking at the Cronbach's alpha and Composite Reliability values. The rule of thumb alpha value and Composite Reliability must be higher than 0.7. From the data analysis in Table 3. shows the value of Cronbach's alpha and Composite Reliability from each variable above 0.7 so that it can be stated that the indicators used in this study are reliable.

### **Structural Models (Hypothesis Test)**



**Figure 1. Results of structural model**

Structural models in PLS are evaluated by using the dependent variable and the value of the coefficient on path ( $\beta$ ) for the independent variable which then evaluates its significance based on the T-statistics value for each path. Furthermore, the structural model of this research can be seen in the Figure 1.

From the Figure 1 above it is known that, in the construct of knowledge self-efficacy there are five indicators that are able to explain the variable. Of the five indicators, it appears that the KE3 indicator (employees believe that other coworkers are better able to provide valuable knowledge in this workplace) has a higher value of 26.315, indicating KE3 has a high contribution in explaining its latent variables. Furthermore, in the top management support construct there are five indicators that are able to explain the variable, where the MS4 indicator (manager is interested / excited when seeing members/colleagues are happy to share knowledge) has the highest value that is equal to 31,474. This shows that MS4 has a high contribution in explaining the variable of top management support. In the ITC use construct there are four indicators that are able to explain these variables, where the IU2 indicator (coworkers use knowledge networks (eg whatsapp groups, intranet/ e-mail, virtual communities) to communicate with each other or with other co-workers) have the highest value of 17.041, indicating that IU2 has a high contribution in explaining ITC use variables.

In the construct of knowledge donating, there are five indicators that are able to explain

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these variables, from the five indicators, the KD5 indicator (knowledge sharing among coworkers is considered normal in this work unit) has the highest value, 24.598, indicating KD5 has a high contribution in explaining variable provides knowledge. Furthermore, in knowledge collecting variables there are four indicators that are able to explain these variables. Where the KC2 indicator (employees want to know about what is known and done among them) has a high value, which is equal to 40,694. This shows that KC2 has a high contribution in explaining collecting knowledge variable. The last construct, innovation capability, there are six indicators that are able to explain the construct. Of the six indicators, the IC4 indicator (factory reliability has increased in recent years) has the highest value of 31.311, indicating IC4 has a high contribution in explaining the innovation capability variable.

To find out the results of the hypothesis test, it can be seen from the value of the T-statistic and the significance values in the table 4 in appendiks. The test results for each hypothesis are as follows.

The H1a hypothesis states that knowledge self-efficacy positively influences employee willingness to donate knowledge. The calculation results using the Smart PLS 3 analysis tool show that T statistics are  $3.684 > 1.96$  and P-Value is  $0.000 < 0.01$ . Thus, the H1a hypothesis is supported.

The H1b hypothesis states that knowledge self-efficacy positively influences employee willingness to collect knowledge. The calculation results using the Smart PLS 3 analysis tool show that T statistics are  $4,623 > 1,96$  and P-Value is  $0,000 < 0,01$ . Then it can be concluded, the H1b hypothesis is supported.

The H2a hypothesis states that top management support positively influences employee willingness to donate knowledge. The calculation results using the Smart PLS 3 analysis tool show that T statistics  $4,029 > 1,96$  and P-Value  $0,000 < 0,01$ . So it can be concluded, the hypothesis H2a is supported.

The H2b hypothesis states that top management support positively influences employee willingness to collect knowledge. The calculation results using the Smart PLS 3 analysis tool show that the static T is  $1.537 < 1.96$  and the P-Value is  $0.125 > 0.05$ . So it can be concluded, the hypothesis H2b is **not supported**.

The H3a hypothesis states that ICT use support positively influences employee willingness to donate knowledge. The calculation results using the Smart PLS 3 analysis tool show that T statistics  $1.510 < 1.96$  and P-Value  $0.132 > 0.05$ . So it can be concluded, the hypothesis H3a is **not supported**.

The H3b hypothesis states that ICT use support positively influences employee willingness to collect knowledge. The calculation results using the Smart PLS 3 analysis tool show that T statistics  $3.865 > 1.96$  and P-Value  $0.000 < 0.01$ . Thus it can be concluded, the hypothesis H3b is supported.

The H4 hypothesis states that employee willingness to donate knowledge positively influences firm innovation capability. The calculation results using the Smart PLS 3 analysis tool show that T statistics are  $2.738 > 1.96$  and P-Value  $0.006 < 0.01$ . Thus, the H4 hypothesis is supported.

The H5 hypothesis states that employee willingness to collect knowledge positively influences firm innovation capability. The calculation results using the Smart PLS 3 analysis tool show that T statistics are  $3,400 > 1.96$  and P-Value  $0.001 < 0.01$ . Thus, the H5 hypothesis is supported.



## **6. DISCUSSION**

### **Effect of Individual Factors on Knowledge Sharing Process**

The results show that the individual dimension (knowledge self-efficacy) has a significant positive influence on sharing knowledge, both of knowledge collecting and knowledge donating. Significant positive results indicate that the higher the confidence of an employee in the Operation Department of Pusri-III Plant of Pupuk Sriwidjaja Palembang, the higher knowledge they have, the sharing activity of their knowledge will also higher. The results of this study are in line with previous studied by Lin (2007), more complete Endres et al. (2007) stated that subjects with high self-efficacy were more willing to share their knowledge, as well as the results of Chen Chen's research, and Kinshuk (2009) in the context of self-efficacy in the use of web sites sharing knowledge. When viewed from data, it appears that most of employee gives a statement, that they have high self-confidence in the knowledge they have. This high self confidence encourages them to share their knowledge. More specifically, employees believe that the abilities and expertise they have are valuable to the work area/ organization and help facilitate the work of coworkers, encouraging them to disseminate their knowledge and expertise. These results prove that knowledge sharing that occurs in an organization is influenced by the behavior of individuals (individual dimensions) within the organization (Tohidinia and Mosakhani, 2010).

### **Effect of Organizational Factors on Knowledge Sharing Process**

The results of the hypothesis test show, top management support has a significant positive effect on knowledge donating, this result is in line with research (Lin 2007; Rahab et al 2011 and Raed et al 2013). In the context of this research, the higher the management support for the Operation Department of Pusri-III Plant of Pupuk Sriwidjaja Palembang, the more knowledge-donating process or activities among employees will be. Top management support, refers to the commitment and support of top-level managers in knowledge donating behaviors that influence other organizational members to share knowledge and have implications for improving innovation performance (Al-Hakim and Hassan, 2011). This is because knowledge donating between employees does not always occur naturally, the leadership of the organization must facilitate knowledge donating. Thus, the results of this study indicate, top management support is one of the variables that influence knowledge donating in organizations, as stated by Cornelly and Kelloway, (2001) as quoted in Lin, (2007). However for the H2b hypothesis, the results indicate that the effect of top management support on knowledge collecting is not supported. This means convincing and encouraging employees in the Operation Department of Pusri-III Plant of Pupuk Sriwidjaja Palembang to collect what they know or in other terms, their willingness to collecting knowledge (Van Den Hooff & De Ridder, 2004) are not influenced by top management support. This shows, the activity of collecting knowledge to employees occurs naturally. Employees collect knowledge because they feel they need and need to facilitate themselves to complete their work. Especially if it is associated with the nature of work in the scope of plant operations where most of the capabilities needed are technical capabilities troubleshooting plant operations based on experience.

### **Effect of Technological Factors on Knowledge Sharing Process**

The results of this study are in line with Lin (2007). The results show a significant

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positively relationship between ICT use and knowledge collecting, but no significant relationship with knowledge donating. This phenomenon can be explained by the fact that when the employee's work is related to the operational of the plant where most of the capabilities needed are technical capabilities such as troubleshooting plant operations based on experiences, direct interaction with equipment and processes is prioritized in the knowledge sharing process rather than using technology/ICT facilities. Then another factor is the tendency of employees to use knowledge as a source of their strength for individual gain rather than as organizational resources (Syed-Ikhsan and Rowland, 2004). This finding may also be due to the fact that investing in ICT alone is not enough to facilitate providing knowledge, because ICT's can provide access to knowledge, but access is not the same as using or applying knowledge, because knowledge sharing involves direct social interaction of factory operations and humans, not only the use of ICT. The results of this study are also in line with previous studies conducted by Hasanali (2002), Darroch (2005) and Lee and Choi (2003).

### **Effect of knowledge sharing activities on innovation capabilities**

This study show that knowledge sharing has a significant positive effect on innovation capability. These show that knowledge sharing activities that conducted by members of the organization can be increasing of the organization innovation capability. This result is in line with previous studies (Lin 2007; Rahab et al 2011 and Yesil et al 2013 and Rozaq 2014). This shows, the higher the activity of sharing knowledge among employees will increase the ability of innovation in the Operation Department of Pusri-III Plant of Pupuk Sriwidjaja Palembang.

### **Implications**

This research contributes to literature in the field of human resources, more specifically on sharing knowledge on the innovation capability. This study looks at the in-depth influence of knowledge sharing activities associated with various factors and their effects on innovation capability. This research proves that sharing knowledge both knowledge-donating and knowledge-collecting is influenced by individual factors. Organizational factors only affect in knowledge donating, while knowledge collecting has no influence. Furthermore, the technological factors was found that no influence on knowledge-donating. But, the technological factors has an influence on knowledge-collecting. Finally, this study found that the willingness of employees to provide knowledge (donating) and the willingness of employees to gather knowledge (knowledge collecting) affect the innovation capability.

From practical implications, It is recommended that the process of knowledge sharing between employees in the Operation Department of Pusri-III Plant of Pupuk Sriwidjaja Palembang be implemented and monitored in its implementation. This is intended to improve organizational innovation capabilities. In this era of economic disruption, only organizations that have innovative capabilities can survive. Then from this study indicate that knowledge sharing activities can support the occurrence of innovation in the organization. Corporate stakeholders should adopt a knowledge sharing culture, so that they can create new knowledge and be useful in supporting the creation of innovation.

### **Limitations and Suggestions for Future Research**

The researcher realized that there were still gaps and limitations in this study. Therefore,

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researchers suggest further research can add individual traits such as individual characteristics/culture as variables that influence sharing knowledge. Furthermore, in the context of research, in order to make the entire work unit in a company a sample of research, PT. Palembang Palembang so that it can better to capture phenomena related to the topic of this research more broadly. Because the phenomenon in a unit in a company is inseparable from the overall organizational culture of the company.

## 7. CONCLUSION

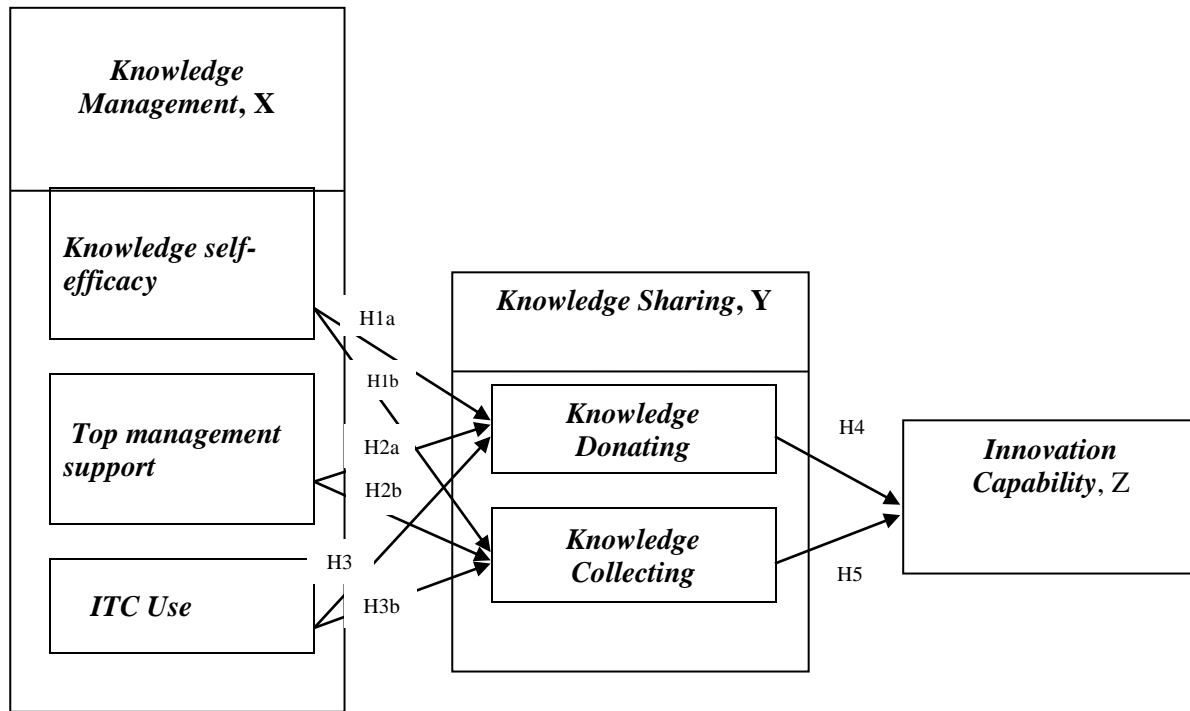
The results of this study shows that knowledge management factors consisting of individual factors (knowledge self-efficacy), organizational factors (top management support) and technological factors (Information and Communication Technology-ICT Use) significantly affect both the knowledge donating and knowledge collecting. The result of this study nevertheless shows that in the organizational factors (top management support) does not significantly affect to the knowledge collecting. And in the technological factors (ICT Use) does not significantly affect to knowledge donating. Furthermore, the result shows that both knowledge donating and knowledge collecting significantly affect the innovation capability of the studied in the Operations Department of Pusri-III Plant Pusri in Palembang.

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**Appendiks**



**Figure 2. Research Model**

**Table 1. Loading Factor and Average Variance Extracted (AVE)**

Variabel	Loading Factor		Average Variance Extracted (AVE)
Knowledge self-efficacy	KE1	0,720	0,545
	KE3	0,786	
	KE4	0,785	
	KE5	0,693	
	KE6	0,702	
Top management support	MS1	0,641	0,551
	MS2	0,750	
	MS3	0,776	
	MS4	0,843	
	MS5	0,683	
ITC Use	IU1	0,587	0,550
	IU2	0,766	
	IU3	0,778	
	IU4	0,814	
Knowledge donating	KD1	0,639	0,558

	KD2	0,738	
	KD3	0,773	
	KD4	0,749	
	KD5	0,823	
<i>Knowledge collecting</i>	KC1	0,844	0,643
	KC2	0,903	
	KC3	0,561	
	KC4	0,854	
<i>Innovation capability</i>	IC1	0,646	0,608
	IC2	0,659	
	IC4	0,831	
	IC5	0,891	
	IC6	0,855	
	IC7	0,764	

**Table 2. Fornell-Larcker Criterion**

Variabel	<i>ITC Use</i>	<i>Innovation cappability</i>	<i>Knowledge Collecting</i>	<i>Knowledge Donating</i>	<i>Knowledge Self-efficacy</i>	<i>Top Management Support</i>
<i>ITC Use</i>	<b>0.742</b>					
<i>Innovation cappability</i>	0.404	<b>0.780</b>				
<i>Knowledge Collecting</i>	0.605	0.483	<b>0.802</b>			
<i>Knowledge Donating</i>	0.500	0.464	0.653	<b>0.747</b>		
<i>Knowledge Self-efficacy</i>	0.484	0.571	0.651	0.612	<b>0.738</b>	
<i>Top Management Support</i>	0.522	0.536	0.588	0.656	0.608	<b>0.742</b>

**Table 3. Cronbach's alpha and Composite Reliability**

Variabel	<i>Cronbach's Alpha</i>	<i>Composite Reliability</i>
<i>Knowledge Self-efficacy</i>	0.797	0.857
<i>Top Management Support</i>	0.796	0.859
<i>ITC Use</i>	0.736	0.828
<i>Knowledge Donating</i>	0.799	0.862
<i>Knowledge Collecting</i>	0.804	0.875
<i>Innovation cappability</i>	0.868	0.902

**Table 4. Hypothesis Test Results**

Correlation of Other Variables	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T-Statistics ( O/STD EV )	P Values	Result
<i>Knowledge Self-efficacy -&gt; Knowledge Donating</i>	0.300	0.310	0.081	3.684	0.000	supported.
<i>(Knowledge Self-efficacy -&gt; Knowledge Collecting</i>	0.381	0.381	0.082	4.623	0.000	supported.
<i>Top Management Support-&gt; Knowledge Donating</i>	0.396	0.395	0.098	4.029	0.000	supported.
<i>Top Management Support-&gt; Knowledge Collecting</i>	0.188	0.193	0.122	1.537	0.125	Not supported.
<i>ITC Use -&gt; Knowledge Donating</i>	0.148	0.152	0.098	1.510	0.132	Not supported.
<i>ITC Use -&gt; Knowledge Collecting</i>	0.322	0.328	0.083	3.865	0.000	supported.
<i>Knowledge Donating -&gt; Innovation capability</i>	0.258	0.265	0.094	2.738	0.006	supported.
<i>Knowledge Collecting -&gt; Innovation capability</i>	0.314	0.326	0.092	3.400	0.001	supported.