The Influence of the Factors of Organizational Culture on Implementation of Knowledge Sharing at West Java Distribution Office of PT. Perusahaan Listrik Negara, Indonesia

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Abstract. The purpose of this research was to analyze the influence of the factors of organizational culture on knowledge sharing. The research was conducted at distribution office of PT Perusahaan Listrik Negara located in Bandung, West Java, Indonesia. The factors of organizational culture formulated by Gupta and Govindarajan consisted of information systems, human resources, reward systems, leadership, and process. Questionnaire consisting of 50 items was distributed to 170 people randomly selected from 217 permanent employees at the distribution office, and the total of 143 permanent employees returned the questionnaire. The statistical technique of path analysis was used to test the hypotheses of this research. The result of hypothesis test proved that organizational culture per se contributed a significant effect on the implementation of knowledge sharing. Partial test showed that organizational structure, information systems, human resources, and reward systems had significant influence on the implementation of knowledge sharing, while leadership and processes did not have significant effect on the implementation of knowledge sharing.

Keywords. organizational culture; knowledge sharing; knowledge donating; knowledge collecting.

I. INTRODUCTION

The West Java Distribution Office of PT Perusahaan Listrik Negara (PLN) is the largest distribution office of the company, with total customers of 22% of the total PLN customers throughout Indonesia. As the largest distribution office, the management realized that human resources were believed as a very important asset and had to be managed professionally in order to maintain the stability and improve the performance of the work unit. One way of managing the human resources conducted by the distribution office was improving the capability and competency of the human resources through dissemination of knowledge available in the company. Dissemination of knowledge was done in two ways, i.e. through face-to-face discussions (offline) and through the company’s internet portal (online).

Since the knowledge management was implemented at PLN, knowledge sharing at the distribution office has been considered as a very important element for the success of the distribution office. One kind of support from the management for the implementation of the knowledge sharing is the use of Knowledge Management (KM) Portal and online newsletter. At the distribution office, knowledge sharing activities were implemented in two ways, i.e. offline and online. The criteria for knowledge sharing activity at the distribution office consisted of the existence of the Brazing (transmitter of knowledge), a minimum of ten knowledge recipients, and the materials to be distributed were not mandatory but more of a knowledge relevant to the needs of employees.

From the years of 2013 until 2015, KM activities through KM Portal increased each semester. The management of the distribution office kept inspiring the employees to share the knowledges they have for the goods of the distribution office in particular, and the company as a whole in general.
The plan to increase the knowledge sharing activities at the distribution office made the researcher feel intrigued to review the factors of organizational culture at the largest distribution office of the company. Theoretically, organizational culture refers to artifacts, values, and assumptions that emerged from the interactions of organizational members (Keyton, 2005). This means that theoretically, organizational culture refers to the behaviors of employees at work, and this certainly include the behaviors toward implementation of knowledge sharing. This is line with Kusumadmo (2013: 59) who states that organization culture plays a principal role for the willingness of employees to work together and share their knowledge.

PLN as a company has four corporate values that needs to be kept in mind by all employees of the company. The four values are abbreviated as SIPP, which stands for: Saling Percaya (Mutual trust), Integritas (Integrity), Peduli (Care), and Pembelajar (Learner). Learning is a basic activity of knowledge management, and it is one of corporate values of PLN, and also as one of the pillars of the PLN Human Capital Management System (HCMS), that is the 4th pillar: ‘Learning Systems’.

According to Gupta and Govindarajan quoted and confirmed through a research by Al-Alawi, et.al (2007), there are six factors of organizational culture that can influence the implementation of knowledge sharing, i.e. organizational structure, information systems, human resources, reward systems, leadership, and process. Are these factors have a significant influence on the implementation of knowledge sharing at distribution office of PLN in West Java – Indonesia? The researcher found no research report about it.

II. RESEARCH PROBLEM AND QUESTIONS

Knowledge management was implemented at PLN since 2013, through a system called knowledge management portal. Since then, the activities of knowledge management kept increasing. At distribution office of PLN, sharing the knowledge available in the knowledge management portal was conducted through two forms: offline (face to face discussion), and online (by making use of knowledge management portal. This means that the culture (the work habits) of employees, particularly the work habits of employees at West Java distribution office, the largest distribution office, of PLN has changed. There has been no study on the influence of the culture on the implementation of knowledge sharing at the company.

Based on the background and the research problem stated earlier, the questions to be answered in this research are as follows:

1. Does organizational culture as a whole have a significant influence on the implementation of knowledge sharing at distribution office of PT Perusahaan Listrik Negara (Persero) located in Bandung, West Java – Indonesia?

2. Does each factor of organizational culture has a significant influence on the implementation of knowledge sharing at distribution office of PT Perusahaan Listrik Negara (Persero) located in Bandung, West Java – Indonesia?

A. Theoretical Framework Knowledge Sharing

Studies on knowledge management developed rapidly at least since European management conference declared it in 1986 that knowledge was vital in building the competitive edge of an organization. Knowledge in an organization, therefore, has to be managed systematically to achieve business benefits (Ahmed, Lim & Loh (2004).
Knowledge is a fluid mix of framed experience, values, contextual information and expert insight that provides a framework for evaluating and incorporating new experiences and information (Davenport & Prusak 1998:5). Knowledge can be in form of tacid (tacid knowledge) which lies in the heads or minds of people because they cannot explain it, but they use it; and the other one is in the form of explicit (explicit knowledge) which has been explained systematically in the forms of words, diagrams, or other forms for people to understand (Nonaka & Takeuchi, 1995 & Nonaka & Konno, 1998). Transforming the tacid knowledge into explicit knowledge is not that easy, it requires certain techniques which are culturally bound. Studying the transformation of tacid knowledge into explicit knowledge in Japan, Nonaka & Takeuchi (1995) developed a model as visualized in Figure 1. In the model, the transformation of ‘ba’ (ba = context) involves several factors: place (including condition which may affect one’s way of thinking), social, history, and hierarchy.

The development of studies on knowledge management has revealed several models available in the literature, and knowledge sharing is one of the important aspects of knowledge management. One most widely used model of knowledge management is formulated by Dalkir (2005). The model consists of four aspects as visualized in Figure 2.

Figure 1. Four Types of Ba

Figure 2. Model of Knowledge Management
Source : Dalkir (2005:43)
As shown in Figure 2, knowledge sharing and dissemination is the process of contextualizing the knowledge into understanding and application of the knowledge. This means that the knowledge that is shared and disseminated is explicit knowledge. There are two dimensions of knowledge sharing, i.e. knowledge donating and knowledge collecting (Hooff & Ridder 2004).

a. Knowledge Donating. The process of communicating the knowledge to others, and that it will be part of other people’s personal intellectual capital;

b. Knowledge collecting. The process of consulting the colleagues in order to get them to share reviews of their intellectual capital.

B. Organizational Culture

Studies on the application of culture in organizations started in 1960’s, but the rapid development of the study was in 1980’s. Since then, research results formulated different definitions of organizational culture. Culture refers to the collective programming of the mind which distinguishes the members of one organization from another (Hofstede, 1997). After studying many definitions of organizational culture, Keyton (2005) states that organizational culture is the set(s) of artifacts, values, and assumptions that emerged from the interactions of organizational members. Cultural issues are concerned with the formation of collective behaviors and values conducive and supportive for successful implementation of KM and a leadership role (Lumbantobing, 2007: 134). This means that culture is designed to function as an enabler for successful implementation of an activity for the sake of organization. But on the other hand, strong culture may also function as a barrier for certain activities (Robbins & Judge, 2011).

Studies on organizational culture resulted in various formulations. Keyton (2005), as quoted above, discusses organizational culture from from three aspects: artifacts, values, and assumptions. Hofstede (1997), known as the guru of organizational culture, formulates two generic aspects of organizational culture, i.e. value and practice, and each of the two aspects can be measured through several factors. Denison (1990) discusses organizational culture by classifying it into four types, i.e. 1) mission (setting the objectives and how to achieve them), 2) involvement (empowerment and development of capability), 3) adaptability (capability to adapt to change and to take risks), and 4) consistency (development of mindset about what needs and no need to be done. Cameron and Quinn (1999) also classifies organizational culture into four types, i.e. 1) clan (culture emphasizing on togetherness and traditional loyalty), 2) adhocracy (culture emphasizing on commitment to experimentation and innovation, 3) market (culture emphasizing on capability to win the competition, and 4) hierarchy (culture which emphasizes on stability and consistency toward internal rules and regulation).

One interesting study about organizational culture closely related to knowledge sharing was conducted by Al-Alawi et al (2007). After scrutinizing several reports on studies of organizational culture, Al-Alawi et al (2007) decided to use the the model of organizational culture formulated by Gupta & Govindarajan, and they call the model as Gupta & Govindarajan Framework of Organizational Culture. The model consists of six factors as visualized in Figure 3.
Below are summarized in brief about the meaning of each factor of organizational culture.

a. **Organizational structure**

There are three indicators of the organizational structure, i.e. participative decision-making, information flow, and cross-functional teams. Organizational structure which supports knowledge sharing is the structure that can support participatory decision making process (Lumbantobing, 2011: 42).

b. **Information System**

Information system refers to a system consisting of a human, data, and processes that interact each other to support routine operations, problem solving, and decision-making in an organization (Lumbantobing, 2011: 39).

There are three indicators of information systems, i.e. existence of knowledge to be shared, advancement (usefulness) of knowledge sharing tools, and comfort in using the technology for knowledge sharing.

c. **People (Human Resources)**

The factor of human resources consists of three dimensions: the motivation, communication and trust. Motivation deals with the question: why someone has a particular behavior or what motivates someone to do a particular action or behavior (Lumbantobing, 2011:39). Communication can support knowledge sharing activity and can be illustrated by several indicators, such as high level of face-to-face interaction, use of common language, and the teamwork discussion and collaboration. Trust can support the activities of knowledge sharing through several indicators, such as sharing feelings and perceptions, sharing personal information, the existence of protective rules and procedures, strong knowledge of coworker's personalities, previous experience with trust and belief in others’ good intentions.

d. **Reward system**

The reward system that supports knowledge sharing is a system that encourages collaborative behavior, teamwork, and motivation of people to share their best knowledge, thus the award of an individual nature should be avoided. (Lumbantobing, 2011: 41).
There are three indicators of reward systems compatible with the activity of knowledge sharing, they are: availability of rewards for knowledge sharing, effectiveness of rewards, and the existence of team-based rewards.

e. **Leadership**

When a company implements a knowledge management system, especially knowledge sharing activity, the company is actually implementing a change agenda. Effective implementation of change requires a leader to function as a role model, a trained change agent, and continuous monitoring. Based on the assessment criteria used by the leadership effectiveness research, the indicators used in this study are: leadership exchange (measuring how well the relationship between the supervisor and his/her subordinates), and leadership quality (to measure the knowledge quality of a leader or supervisor, and to measure how much support a leader or supervisor gives to his/her subordinates).

f. **Process**

Knowledge management process must be designed in such a way to effectively distribute the knowledge needed to execute business processes (Lumbantobing 2011: 41). So, it can be said that the processes that support knowledge sharing activities can be drawn from the availability or relevance of the integration between business processes and knowledge management processes.

C. **Relations between Organizational Culture with Knowledge Sharing**

Theoretically, organizational culture affects the implementation of knowledge sharing. Davenport & Prusak (1998) and Kusumadmo (2013) states that culture affects the activity of knowledge management, especially knowledge sharing.

Organizational culture can encourage workers to be willing to cooperate and share the knowledge they have. Without a culture that can encourage employees to share knowledge, exchange of knowledge and mutual trust among co-workers, will not occur. Hence, without a supporting organizational culture, then there will no learning process in the company, and this will lead to no changes and no innovation.

This research is designed to examine the influence of the factors of organizational culture formulated by Gupta & Govindarajan in Al-Alawi et al (2007) on knowledge sharing formulated by Hoff & Ridder (2004). So, the model used in this research is as follows.

![Research Model](image)

**Figure 4. Research Model**
D. Hypothesis

Based on the research model as visualized in Figure 4, the hypotheses to be tested in this research are as follows.

Hipothesis 1: Organizational Structure (X₁) has significant influence on implementation of knowledge sharing.

Hipothesis 2: Information Systems (X₂) has insignificant influence on implementation of knowledge sharing.

Hipothesis 3: Human Resources (X₃) has insignificant influence on implementation of knowledge sharing.

Hypothesis 4: Reward System (X₄) has insignificant influence on implementation of knowledge sharing.

Hypothesis 5: Leadership (X₅) has insignificant influence on implementation of knowledge sharing.

Hypothesis 6: Process (X₆) has insignificant influence on implementation of knowledge sharing.

III. RESEARCH METHOD

The population of this research consisted of all employees at West Java distribution office of PLN Indonesia, with the total of 217 employees. By using Slovin’s formula, the total sample obtained was at least 141 people. For safety purposes, a Likert-type questionnaire with 1-to-4 scale was distributed to 170 employees randomly selected, and the total of 143 employees returned the questionnaire. The validity and reliability of data were tested by using a Statistical Program for Social Sciences (SPSS) software with reference to product moment technique.

Validity test shows that the value of r_{count} for each item is greater than the value of r_{table} (the value of r_{table} is 0.163 for n = 143 and \( \alpha = 0.05 \)). This means that all items are concluded as valid. The reliability test indicates that the value of Cronbach’s Alpha is greater than 0.7. An instrument is considered reliable if the value of Cronbach’s Alpha is greater than 0.7 (Sekaran (2006). The results of validity test and reliability test indicate that the data can be used for further statistical analysis. The hypotheses stated earlier are tested by using a path analysis statistical technique.

IV. RESULT

The simultaneous test indicates that the value of F_{count} (= 44.903) is greater than the value of F_{table} (= 2.43). This signifies that organizational culture overall has a significant influence of the implementation of knowledge sharing. The result of F test is shown in Table 1.

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>22.726</td>
<td>4</td>
<td>5.682</td>
<td>44.903</td>
<td>.000</td>
</tr>
<tr>
<td>Residual</td>
<td>17.461</td>
<td>138</td>
<td>.127</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>40.187</td>
<td>142</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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a. Dependent Variable: Knowledge Sharing (Y)
b. Predictors: (Constant), X4, X1, X2, X3

Based on F test as presented in Table 2, the value of R square (coefficient of determination) is 0.566, and adjusted R square is 0.553. See Table 2.

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.752</td>
<td>.566</td>
<td>.553</td>
<td>.35571</td>
</tr>
</tbody>
</table>

a. Predictors: (Constant), X4, X1, X2, X3
b. Dependent Variable: Knowledge Sharing (Y)

The result of the F test signifies that the t-test (partial test) can be conducted. In this study, the value of t_{table} is 1.960 (α = 5% or 0.05; df = 139). The partial test for all variables shows that two independent variables (X5: leadership, and X6: process) have the values of t_{count} less than the value of t_{table}, which means that the two variables do not have significant influence on knowledge sharing.

Based on the principle of path analysis, trimming theory has to be conducted by eliminating the two unsignificant variables one by one. The result of trimming theory shows that four of the six independent variables have significant influences on knowledge sharing. The result is presented in the Table 3 below.

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
<td>Beta</td>
<td></td>
</tr>
<tr>
<td>(Constant)</td>
<td>.054</td>
<td>.215</td>
<td></td>
<td>.251</td>
</tr>
<tr>
<td>X1</td>
<td>.352</td>
<td>.081</td>
<td>.342</td>
<td>4.348</td>
</tr>
<tr>
<td>X2</td>
<td>-.254</td>
<td>.078</td>
<td>-.257</td>
<td>-3.254</td>
</tr>
<tr>
<td>X3</td>
<td>.551</td>
<td>.081</td>
<td>.552</td>
<td>6.838</td>
</tr>
<tr>
<td>X4</td>
<td>.160</td>
<td>.065</td>
<td>.164</td>
<td>2.451</td>
</tr>
</tbody>
</table>

a. Dependent Variable: Y

From Table 3 above, variables X1, X3, and X4 (respectively: Organizational Structure, Human Resources, Reward System) have positive influences on the implementation of knowledge sharing. While X2 (information system) is negatively affecting the implementation of knowledge sharing.

V. DISCUSSION AND CONCLUSION

Organizational culture as a whole has a significant influence on the implementation of knowledge sharing. This is in line with many other research results, and this result supports the statement cited by Davenport & Prusak (1998) and Kusumadmo (2013). But partial test shows that not all factors of organizational culture support the implementation of knowledge sharing.

Two factors of organizational culture that do not significantly affect the implementation of organizational culture are leadership and process. Leadership in the context of organizational culture refers to relationship between superior and subordinates, control on the quality of knowledge, and personal support given by a superior. All these do not have significant influences on the implementation of knowledge sharing. This implies that there is no need for
the superiors to exert their efforts for tight supervision and for building close relationship to boost the implementation of knowledge sharing.

Process is one other factor of organizational culture that has no significant influence on the implementation of knowledge sharing. In the context of organizational culture, process refers to the ways or techniques of telling others (disseminating or sharing) about what one has known. Implication for supervisors is that there is no need to formulate the process of how to disseminate knowledge.

Organizational structure positively affects the implementation of knowledge sharing. In the context of organizational culture, organizational culture refers the participation of subordinate in decision making, in arranging the flow of information, and in freedom to communicate with employees at other units. This means that the higher the participation of subordinates in all these activities, the better the implementation of knowledge sharing will be. This is in line with the statement written by Lumbantobing (2011) and Al-Alawi et al. (2007).

Information System has negative influence on the implementation of knowledge sharing. In the context of organizational culture as described by Al-Alawi et al (2007), information systems measures the availability of knowledge to be shared, the advancement of sharing tools, and the comfort of using the tool. In the questionnaire, the respondents were asked how difficult they felt to operate the sharing tool, how discomfort they feel about the tool and the unavailability of knowledge to be shared. So, the higher the degree of difficulty in operating the knowledge sharing tool, the higher uncomfortableness to use the sharing tool and the higher the unavailability of knowledge to be shared, then the lower the degree of knowledge sharing will be. To improve the degree of knowledge sharing, the sharing tool needs to be high user friendly, easy to operate, and the employees need to have abundant of relevant knowledge to be shared.

The factor of human resources, which consists of motivation, communication and trust, has positive influence of knowledge sharing. Of the four factors of organizational culture, the factor of human resources has the highest influence of knowledge sharing. The higher the motivation and trust as well as the more intense the communication among employees, the higher the implementation of knowledge sharing will be.

Reward system positively affects the implementation of knowledge sharing. This means that the better the reward provided for employees, the better the implementation of knowledge sharing will be. The provision of reward has to be stated in a system which encourages collaborative behaviors and team work, rather than individual base. This is because knowledge sharing refers to dissemination of knowledge, which means that more than one person involved. One prerequisite for knowledge sharing in the company is that there have to be a minimum of ten knowledge recipients.

In this research, the coefficient determination of influence of organizational culture on knowledge sharing is 0.566 (56.6%). While the other influence of 43.4% is affected by other factors not included in this research.

To conclude, many research results (including the result of this research) have proved that organizational culture significantly affect the implementation of knowledge sharing. But, in this research, statistical test on the influence of the factors of organizational culture proved that two factors (leadership and process) did not have significant influence on knowledge sharing. The sharing tool that the employees felt difficult to operate would decrease the implementation of knowledge sharing.
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