Obstacles Found in Accomplishing Knowledge Management

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Abstract:
The aims of this study were to carry out the accomplishment of knowledge management and to find out the obstacles of knowledge management accomplishment in GraPARI Telkomsel Soreang, West Java, Indonesia. The qualitative method used in this study with qualitative exploratory approach which was single-case study. The techniques of collecting data were Knowledge Management Assessment Tool (KMAT), in-depth interview, non-participant observation and documentation study by triangulation, member check and extend observation conducted as the data validity technique. The result of this study indicated the knowledge management accomplishment at GraPARI Telkomsel Soreang was good, nevertheless there were two weak categories found: culture/ structure aspect and knowledge management measurement. In addition, there were eleven obstacles of knowledge management accomplishment at GraPARI Telkomsel Soreang: (1) less stable network connection/ problematic application; (2) lack of training and learning; (3) changing in SOP and product knowledge were too dynamic; (4) incentives in sharing knowledge were not given intensively; (5) tacit knowledge was not managed as a knowledge; (6) the company couldn’t appreciate the employees’ knowledge; (7) there were not clear regulations in accessing knowledge management system; (8) low employees’ enthusiasm in accessing knowledge management system; (9) there was no available containers for creative ideas; (10) differences in employees’ understanding skill; and (11) limited KMS access time.
**Keywords:** Knowledge management, knowledge capture/creation, knowledge sharing/dissemination, knowledge acquisition/application

1. INTRODUCTION

Knowledge can be defined as the result of processed information that refers to perspective, beliefs, interest, and motive (Crossan, 1996) which consist of an inconceivable and noetic asset free from conceivable situation (Fu et al., 2022). It can emerge from tacit knowledge of an organization to be made explicit (Edwards, 2022) in which 95% of an organization’s capital knowledge is tacit knowledge (Tung, 2018). Organizations ought to be capable of managing the knowledge as their asset inasmuch as it has changed common approach to competition (Chamba-Rueda et al., 2021), whereas industrial sectors utilize natural resources as a principle asset (Abbas & Dogan, 2022). On the other hand, service sectors can replace it with the intellectual asset (Pan et al., 2022). For these reasons, lots of researchers concerned on knowledge management (KM) of an organization.

Knowledge management, in simplicity, is defined the ways to change tacit knowledge become explicit knowledge (Nonaka & Takeuchi, 1995; Uriarte, 2008) with capturing, structuring, managing and disseminating knowledge with systematic approach (Dalkir, 2013; Permatasari et al., 2022), that allows personnel to gain, diffuse and revamp new knowledge into contextualized expertise for exploitative and explorative innovations (Duong et al., 2022). Thus, knowledge management process will luxuriate organizational ambidexterity and performance (Dezi et al., 2021; Salleh et al., 2012; Samad Hosseini et al., 2019; Tsai & Cheng, 2012), furthermore lead to the collaboration and cooperation among individuals, projects, and organizations (Matveeva et al., 2021; Miković et al., 2020).

Knowledge management accomplishment is a crucial resource for organizations (Garcia & Sosa-Fey, 2020) and a key element of strategic organizational processes (Martinez-Conesa et al., 2017). In addition, Knowledge management is an important management tool that supports the evolution from manual systems to automated asset tracking systems (Pepple et al., 2022). Reciprocally, PT Telkomunikasi Selular Tbk., an Indonesian telecommunication company, also accomplished knowledge management in all sectors of organization processes included customer touch point called “GraPARI Telkomsel” for considering these reasons.

Knowledge management accomplishment has obstacles itself. A lack of understanding of knowledge management accomplishment is even more common in developing countries (Ahmad et al., 2017). Hereinafter, a lack of leaders’ participation in knowledge management activities, rigid organizational structures, culture, deficiency of standardized incentive systems (Muqadas et al., 2017), furthermore the incapability to establish proper strategies, lack of the sociocultural context, and the top management role (Pepple et al., 2022). For these reasons, it’s indispensable to carry out the obstacles of knowledge management accomplishment by reason of providing leverage on organizational performance (Bayari et al., 2022; Kordab et al., 2020; Sahibzada et al., 2020) and knowledge employee fecundity (Kianto et al., 2019; Mubarak & Samantha, 2021).

2. LITERATURE REVIEW

Knowledge Management

Knowledge management refers to the ways used to change tacit knowledge become explicit knowledge (Uriarte, 2008) such as knowledge identification, knowledge creation, knowledge storage, knowledge dissemination and knowledge application (Durst et al., 2023). Additionally, knowledge management can be defined as the process of organizational learning, the process of individual or group of individual creativity in organization, organizational transformation knowledge and knowledge absorption (Gonzalez & Martins, 2017). In conclusion, most definition of knowledge management depends on the process (Castaneda et al., 2018): creation, storage, transference and application of knowledge (Alavi & Leidner, 2001).

KM has several functions, namely, to avoid the lack of knowledge lost because of employees’ leaving or rotating, to identify crisis area of knowledge use and to develop suitable tools and method for knowledge absorption (Tung, 2018). Moreover, KM can help employee, practical community and organization to develop well (Dalkir, 2013), increase performances and maintain organizational competitiveness (Omotayo, 2015). On the other hand, KM function can be categorized into three orientations specifically result oriented, process oriented and technology oriented (Uriarte, 2008).
Knowledge Management Cycle

KM cycle defined as identification of the knowledge content managing processes for organizations (Tung, 2018). Dalkir (2013) documented several KM cycles from 1996 to 2003: Meyer & Zack, Wigg, McElroy, Nickols, Bukowitz & Williams, and Rollet. The differences of the cycles shown on the table 1. Based on these KM cycles, Dalkir (2013) simplified the cycles by combining the elements. Thus, the new model suggested is capture, assess, share, contextualize, apply, and update (Dalkir, 2013), alternatively Gonzalez & Martins (2017) suggested acquisition, storage, distribution and use. KM cycles, recently, introduced by Tung (2018) called as consolidated KM cycle: knowledge capture and/or creation, knowledge sharing and dissemination, and knowledge acquisition and application (see figure 1). In this research, consolidated KM cycle studied to find out the research objectives.

### Table 1. KM Cycles

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<td>Acquisition</td>
<td>Creation</td>
<td>Individual/ Group Learning</td>
<td>Acquisition</td>
<td>Get</td>
<td>Planning</td>
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<td>Refinement</td>
<td>Sourcing</td>
<td>Knowledge Claim Validation</td>
<td>Organization</td>
<td>Use</td>
<td>Creating</td>
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<tr>
<td>Store/ Retrieve</td>
<td>Complication</td>
<td>Information Acquisition</td>
<td>Specialization</td>
<td>Learn</td>
<td>Reintegration</td>
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<tr>
<td>Distribution</td>
<td>Transformation</td>
<td>Knowledge Validation</td>
<td>Store/ Access</td>
<td>Contribute</td>
<td>Organizing</td>
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<tr>
<td>Presentation</td>
<td>Dissemination</td>
<td>Knowledge Integration</td>
<td>Retrieve</td>
<td>Access</td>
<td>Transferring</td>
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<tr>
<td>Application</td>
<td></td>
<td></td>
<td>Distribution</td>
<td>Build/ Sustain</td>
<td>Maintaining</td>
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<td>Value Realization</td>
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<td></td>
<td>Conversation</td>
<td>Divest</td>
<td>Assessing</td>
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<td>Disposal</td>
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Source: (Dalkir, 2013)

Knowledge Capture and/or Creation

Knowledge capture and/or creation (in other word: capture, creation, absorption) is a process to capture tacit knowledge as the seed of upgrading organizational knowledge to be process become knowledge content (Dalkir, 2013), or added new values of knowledge which existed in organization (Tung, 2018; Vargas-Hernández & Muratalla-Bautista, 2017). Organizations should be able to capture tacit knowledge of the employees by conducting interview experts, learning by being told, and learning by observation (Dalkir, 2013; Tung, 2018). The knowledge successfully captured must be codified before being disseminated to organizational talents. Tung (2018) recommended cognitive maps, decision table, decision tree, knowledge taxonomies, frames, production rules and case-based reasoning for the codifying techniques used.

Knowledge Sharing and Dissemination

Knowledge sharing and dissemination is knowledge exchange process in organization in which it could not be done by an individual only (Tung, 2018), but also the exchange of knowledge between individuals, groups or organizations (AlShamsi & Ajmal, 2018). The knowledge exchange can be in the same organization or different organization (Zorska, 2014). The process was influenced by leadership, culture, strategy, structure, performance and technology (Al-Khouri, 2013; Omar Sharifuddin Syed-Ikhsan & Rowland, 2004). Knowledge sharing and dissemination pass through stages: initiation, implementation, rump-up and integration (Tung, 2018).

Knowledge Acquisition and Application

The final stage of KM cycle is knowledge acquisition and application, simplify, refers to the process of how the disseminated knowledge can be used by an organization as the organizational assets. Furthermore,
Gonzalez & Martins (2017) indicated knowledge acquisition and application as an ability of organizational individuals in finding, accessing, and using the stored knowledge in the organization. Individuals must believe that the knowledge ideally contrived to solve the problems occurred with the result that can be applied in the real situation (Dalkir, 2013). Knowledge acquisition and application process cannot be separated from knowledge management system (KMS) to support accessibility and convenience (Tung, 2018). Progressively, the use of technology has become a necessity for organizations.

Figure 1. Consolidated KM Cycle

Obstacles in Accomplishing KM
The lack of understanding in KM accomplishment is a common obstacles found (Ahmad et al., 2017). Past study mentioned the obstacles in accomplishing KM are about organizational culture, management problems and information problems (Alavi & Leidner, 2001). Cultural issues are related to the impact of change management, knowledge sharing issues, and the ability to persuade corporate stakeholders. Management issues are related to the value of knowledge management in organizations and speed with indicators demonstrating this value. In addition, information problem monitoring is about the effective way of managing new information to avoid out of date or incorrect information, and installation problems, improve equipment and efficient infrastructure (Razi & Habibullah, 2017). Besides, the obstacles found are issues of creating disseminated knowledge, increasing information overload (Fischer & Otswald, 2001), address implicit knowledge and IT practices, cultural complexities, human resource issues, organizational structures, and increasing business competition (Kalkan, 2011).

Dalkir (2013) categorized the obstacles in KM accomplishment briefly in which grouped into four categories, namely, political issues regarding access, the politics of organizational context and culture, accounting perspective and copyright. These are grouping the obstacles that have been explained above from previous study to be easily identified and categorized. Thus, indicators of the obstacles in KM accomplishment used in this research are depended on this theory. Additionally, interview script also built accordance with it and modified as needed.

3. METHODS
This research conducted qualitative research with single-case study in which Creswell (2014) stated single-case study focused on one issue or topic, the observed issue was unique and has comprehensive understanding to capable of being undertaken more (Yazan, 2015). In addition, qualitative research is intended for research that is observing cases (phenomena), in which these phenomena come from the real condition (practice) as well as theoretical gaps and research gaps as a basis for formulating research problems and making research statements (Indrawan & Yaniawati, 2016). Thus, this research focused on
one issue called “the obstacles of KM accomplishment” to be undertaken more comprehensive by conduction qualitative data collecting techniques and analysis. This research used explorative approach inasmuch as the information known was limited in the object of research, in order that, this research was to find out comprehensively about the issue risen up in this research (Sekaran & Bougie, 2016). Explorative research conducted when a researcher would like to find out the barriers (Khan et al., 2021), perspectives (Noome et al., 2017), constraints (Putri et al., 2020) of a concept accomplishment. Likely, this research finds out the obstacles of KM accomplishment, hence this kind of research was considered to be suitably used.

**Data Collecting Techniques**

Data collecting techniques are the ways how research data collected in several ways (Sekaran & Bougie, 2016) to answer the research questions. It’s crucial to conduct the right techniques depended on the research aims. To answer the first research question how KM accomplishment was, Knowledge Management Assessment Tool (KMAT) used which developed by *Association Management, Consulting and Evaluation Service (AMCES)*. This tool used because it had been developing many years and continuously improved (see: https://amces.com/Tools). Nevertheless, the tool was modified for adjusting with the research object and conditions.

The second research question if the obstacles found in accomplishing KM are. To answer this, there were some techniques used, namely, interview, observation, and study documentation. These techniques used to obtain primary and secondary data (Sekaran & Bougie, 2016) that could be manuscript (text), pictures, and/ or videos (Indrawan & Yaniawati, 2016). The data were grouped and codified depended on the categories. Hence, the collected data could be easily analyzed and interpreted.

Both first and second research question, the use of data collecting techniques involved informants as sources of primary data. The informants were given KMAT, interviewed and observed to find out the research objectives. KMAT was given to PIC, Operational Supervisor and Employee. For the interview, the informants were service quality supervisor, service quality staff, PIC, operational supervisor, and employee. Finally, the observation conducted to find out the employees’ obstacles in accomplishing KM. In order that, the informants could be acquired same or different treatment.

<table>
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<tr>
<th>Research Questions</th>
<th>Data Collecting Techniques</th>
<th>Informants</th>
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<tbody>
<tr>
<td>How does KM accomplish?</td>
<td>KMAT</td>
<td>PIC, Operational SVP, Employee</td>
</tr>
<tr>
<td>What are obstacles in accomplishing KM?</td>
<td>Interview, Observation, Study Documentation</td>
<td>SQ Supervisor, SQ Staff, PIC,</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Operational SVP, Employee</td>
</tr>
</tbody>
</table>

**Research Instruments**

The primary instrument of qualitative research is the researcher himself (Creswell, 2014), because qualitative researcher collect data himself through examining documents, observing behavior, or interviewing participants and can still develop while at the research location (Indrawan & Yaniawati, 2016). Therefore, in this study the researcher became a key instrument in the data collection process, but the use of several instruments to collect relevant data easily with a trusted level of accuracy.

First, the interview guidelines were a list of questions used to interview informants. This study used semi-restructured interviews, the list of questions was informed to informants prior to the interview. During the interview process, the interview guide used as interview material and developed deeper according to the informant answers as needed. Second, using field notes to summarize all the results of observations of the object. The use of field notes was deemed necessary because of being a non-participant observation, the researcher only observed, listened to what happened in the field. So that the existence of field notes was needed to record all the important data obtained from observations.

**Data Analysis Technique**

Data analysis is the process of managing collected data for being interpreted, Indrawan & Yaniawati (2016) mentioned the analysis data could be started before observation. To develop primary data, analysis data before observation was needed. Data analysis followed these steps: validating data, organizing data and

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information, presenting findings, validating findings and interpreting/theorizing findings (Creswell, 2014; Indrawan & Yaniawati, 2016). For simplifying the process, data analysis technique conducted data reduction, data presenting and conclusion (Miles et al., 2016) which the process done continuously while the data collected.

Data Validity Technique

In validating the collected data, this research applied triangulation of data which used several approaches in research. Triangulation of data could take several sources of data, theories, and data collecting methods (Indrawan & Yaniawati, 2016). It must be applied to make sure the collected data and information could be interpreted consistently. In addition, member checking was needed to verify credibility of data (Indrawan & Yaniawati, 2016). Finally, extending observations to make sure there is no data left behind and all aspects that obtained in studying existing phenomena can be collected. Hence, this process provided to recheck the collected data were able to answer the research questions.

4. RESULT AND DISCUSSION

Knowledge Management Accomplishment

In measuring knowledge management using the Knowledge Management Assessment Tool (KMAT), there are five aspects that are measured, namely knowledge management process, leadership in knowledge management, culture and structure, knowledge management technology and knowledge management measurement.

From the results of measuring the implementation of knowledge management using KMAT on the two informants who were given the measurement instrument, there were differences in the results. The results from the supervisor of GraPARI Telkomsel Soreang indicated that the implementation of knowledge management was good with a score of 4.21. Meanwhile, based on the assessment results from the PIC of GraPARI, the implementation of knowledge management in GraPARI Telkomsel Soreang was categorized as FAIR with a score of 3.91.

In addition, the indicators in each category also showed differences between the KMAT assessment results from the supervisor and the PIC of GraPARI. First, in the knowledge management category, the KMAT results from the supervisor showed that four indicators were rated as very good, four indicators as good, and one indicator as fair. On the other hand, the KMAT assessment results from the PIC showed that three indicators were rated as very good, four indicators as good, and two indicators as fair.

Second, in the leadership category, there were two indicators rated as very good and two indicators as good based on the supervisor's assessment, while the assessment results from the PIC indicated that all four indicators in this category were rated as good.

Third, in the culture and structure category, according to the results of the supervisor's assessment, one indicator was rated as very good and three indicators as good. However, according to the assessment from the PIC, there were two indicators rated as good and two indicators as fair.

Fourth, in the technology category, there were two indicators rated as very good, one indicator as good, and two indicators as fair based on the supervisor's assessment. Meanwhile, the assessment results from the PIC showed that there were two indicators rated as very good, two indicators as good, and one indicator as fair.

Lastly, in the management measurement category, according to the supervisor's assessment, there was one indicator rated as very good, two indicators as good, and one indicator as fair. On the other hand, according to the PIC, there were three indicators rated as good and one indicator as fair.

Overall, the results showed that the average total score of KMAT from the supervisor and the PIC was 4.06 with a good interpretation. However, there were still some indicators that fell into the fair category and needed to be considered. These indicators were as follows:
Table 3. Weak Indicator Differences in KMAT Results between Supervisor and PIC

<table>
<thead>
<tr>
<th>Categories</th>
<th>Supervisor</th>
<th>PIC</th>
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<tbody>
<tr>
<td>KM Process</td>
<td>Tacit knowledge (knowledge possessed by individuals was not documented) in the company was valued and routinely transferred to other employees within the company.</td>
<td>The company had provided documentation formats for all trainings that had been conducted and documentation of all the things had been learned. Employees were enthusiastic in accessing the provided knowledge.</td>
</tr>
<tr>
<td>Culture and Structure</td>
<td>-</td>
<td>There was openness and trust within the company.</td>
</tr>
<tr>
<td>KM Technology</td>
<td>The existing technology supported collaboration among employees. The information system used in the company was real-time, integrated, and &quot;smart&quot;.</td>
<td>The existing technology brought the company closer to its customers.</td>
</tr>
<tr>
<td>KM Measurement</td>
<td>The company allocated resources to measurable efforts that improved its knowledge base.</td>
<td>The company established rules for measuring the balance between financial and non-financial indicators.</td>
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Knowledge Management Process

The knowledge management process is an activity that includes absorption/creation of knowledge, sharing/transfer of knowledge, and mastery/use of knowledge (Dalkir, 2013; Tung, 2018). From the KMAT results, observations, interviews, and documentation showed that the knowledge management implementation process at GraPARI Telkomsel Soreang was categorized as good.

According to nine indicators serve as parameters for the knowledge management process, five were in the very good category, namely a mechanism had been developed for gathering creative ideas; all employees were involved in creating ideas; all members of the company got the opportunity to seek new ideas; all employees had easily accessed to knowledge; and there were work instructions and regulations regarding mastery and implementation of knowledge. In addition, knowledge gaps were systematically identified and how to overcome them through a well-defined process is classified as good.

However, there were still three indicators included in the sufficient category from the results of the knowledge management assessment at GraPARI Telkomsel Soreang. First, the company had provided a documentation format for all the training undertaken and documented all the things learned. From the results of observations and documentation studies, no documentation format for the results of employee training and learning was found. Employees received training and learning, but there was no documentation of the results of training and learning.

One factor in the absence of a format for documenting the results of training and learning is the lack of the training itself. Based on the results of an interview with one of GraPARI Telkomsel Soreang's senior employees, he explained that the training provided was training from the Regional Office and was not very effective because it was only once a year.

"It (training) should have been given more often, or training for the service process to be multiplied, additionally marketing training as well because of once a year it's a bit less effective, it will be lost already. For example, there are several, say 3 times a year, that's even better." (Operational SPV)

In addition, the GraPARI Telkomsel Soreang internal party itself has never conducted employee training or learning. So that the format for documenting the results of learning and training is not clear.

Furthermore, tacit knowledge (knowledge possessed by individuals who have not been recorded) in the company is valued and can be transferred to other employees in the company on a regular basis. This indicator also belongs to the sufficient category based on the results of the assessment of the implementation of knowledge management at GraPARI Telkomsel Soreang. Supported by the results of observations which found that the ideas submitted by employees had not been recorded, this was reinforced by the results of
Interviews which stated that the incentives provided by the company for the ideas provided by employees were lacking.

Finally, an indicator is included in the sufficient category in the process of implementing knowledge management at GraPARI Soreang is the enthusiasm of employees in accessing the knowledge provided. From the results of observations recorded in the results of field notes, it showed that until 13:00 employee 1 and employee 2 had not accessed company knowledge, this indicated employees lack enthusiasm in accessing knowledge. Even the results of field notes, explained only employee 3 had accessed to knowledge management system before working started.

**Leadership in Knowledge Management**

From the two informants who were involved in measuring knowledge management (SPV and PIC of GraPARI Telkomsel Soreang), only the leadership aspect of knowledge management had consistently shown good and excellent results in each indicator. This indicated that leadership was the strongest aspect in the implementation of knowledge management in GraPARI Telkomsel Soreang.

The observation results showed that the company effectively managed organizational knowledge by providing a Knowledge Management System in the form of knowledge applications such as IKnow, ICareForum, and the Telkomsel website. This indicated that the company recognized the potential revenue that could be obtained through selling knowledge assets by enhancing the competencies of each employee.

Furthermore, employees were hired, evaluated, and compensated based on their contributions to the development of organizational knowledge. The observation results showed that the company had a clear and systematic format for the development of company knowledge, including employee evaluations by supervisors, customer evaluations, and even proper exams to measure employee knowledge. This aligned with what was conveyed by the PIC of GraPARI:

"In terms of employee knowledge, we conduct Proper Tests every month. So, the knowledge of employees is measurable. Each GraPARI also has its own standards for its employees, and if an employee's performance falls below the established standards, counseling is usually provided. So, the extent of employees' abilities and knowledge is assessed through these monthly tests."

**Culture and Structure**

Culture and structure were considered as one of the lower aspects in the assessment of knowledge management implementation at GraPARI Telkomsel Soreang, as the total KMAT (Knowledge Management Assessment Tool) results from supervisors and PIC (Person in Charge) of GraPARI indicated that culture and structure were categorized as "satisfactory". There were two indicators fall into this category. Firstly, the lack of openness and trust within the company. This was evident from the observation results showed the company had not provided a wide platform for employees to share their ideas, innovations, and creativity, as the company believed they had a specialized team competent in managing and creating knowledge within the company.

"As far as I know, yes, but not intensively, as Telkomsel already has its own team to formulate new ideas and innovations. There is one division that handles these matters, but they have not involved employees here." (PIC)

Secondly, the lack of flexibility and enthusiasm provided by the company to innovate the process of learning. This was evident from the minimal training and learning activities provided by the company, including the internal GraPARI Telkomsel Soreang, which had never provided training and learning opportunities for employees.

Nevertheless, indicators such as the company's encouragement and facilitation of knowledge sharing, and employees' responsibility for self-directed learning were categorized as good. This was evidenced by observation results that show employees were facilitated with various applications for knowledge sharing and transfer, as well as being responsible for their own learning activities.

**Knowledge Management Technology**

The aspect of knowledge management technology was considered good at GraPARI Telkomsel Soreang. Based on observation results, technologies supported the knowledge management process.
including hardware and software, were found to be in place. The company had also utilized third-party platforms for knowledge sharing and transfer. Additionally, the company had provided a Knowledge Management System to support knowledge-based business processes, such as the IKnow application, ICareForum, and the official Telkomsel portal (see figure 2).

However, there were still some indicators needed attention as they were categorized as "sufficient" based on the knowledge management assessment. Firstly, the existing technology should have been able to bring the company closer to its customers. Based on the observations conducted, there were no indications the technology used by GraPARI Telkomsel Soreang had brought them closer to their customers.

Secondly, the technology was not able to support collaboration among employees. It could be seen from the filtering/creation of knowledge, where employees were not involved in creating or developing new knowledge. The technology used was not able to foster collaboration between the knowledge management team and knowledge users. As a result, creativity and innovation did not arise from employees, but only remained internal to GraPARI and were not disseminated to other GraPARI branches as organizational knowledge.

Lastly, the information systems used in the company were already real-time, integrated, and smart. Some applications, such as IKnow, provided real-time updates and employees received notifications through text messages. However, these applications were not fully integrated with each other, for example, some knowledge content between the Telkomsel official portal and the IKnow application did not match (one of them was not updated).

Knowledge Management Measurement

The aspect of knowledge management measurement was categorized as fair. Based on observations and interviews, it was found that GraPARI Telkomsel Soreang had never conducted measurements of knowledge management. There was also an overall audit conducted by Telkomsel every three months, but it was not specifically aimed at measuring the implementation of knowledge management in GraPARI Telkomsel Soreang.

As for knowledge measurement, it was done by conducting proper tests every month to assess the extent to which employees understood the knowledge that had been disseminated. However, these measurements did not fully encompass both financial and non-financial aspects. There was a lack of resource allocation towards measurable efforts to improve the knowledge base of GraPARI Telkomsel Soreang.

Obstacles in Accomplishing KM

The obstacles in accomplishing knowledge management were identified as aspects that hindered the development of a knowledge-based organizational culture, both in the process of knowledge filtering/creation, knowledge sharing/transfer, or knowledge mastery/utilization. Therefore, the inhibiting factors in knowledge management implementation needed to be identified as part of the strategic improvement efforts in implementing knowledge management in the organization.

Similarly, in the implementation of knowledge management at GraPARI Telkomsel Soreang, the inhibiting factors were identified so that they could be addressed through various improvements. In identifying the constraints in implementing knowledge management at GraPARI Telkomsel Soreang, the researcher used data collection techniques such as conducting in-depth interviews with GraPARI Supervisors, PIC (Person in Charge) of GraPARI, GraPARI Employees, and Human Resource Management Staff of PT. Telkomsel West Java Area.

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In addition to interviews, the researcher also conducted observations to ensure that the information provided by the informants aligned with the actual conditions in the field. This was further supported by conducting documentation studies at GraPARI Telkomsel Soreang to gather more information about the constraints in implementing knowledge management. This was done not only to ensure the validity of the obtained data (triangulation) but also to avoid subjectivity and ambiguity in the results of this research. The identified constraints in implementing knowledge management at GraPARI Telkomsel Soreang, based on the research findings, were as follows:

**Unstable network connection/application issues**

Network issues were a hindrance for employees at GraPARI Telkomsel Soreang in accessing knowledge. Based on the interviews with four informants (GraPARI Supervisor, PIC, Employees, and Service Quality Supervisor), it was mentioned that there were frequent occurrences of weak network connections when many users accessed the Knowledge Management System, resulting in disruptions in the knowledge access process. Although the applications used were still accessible according to the Supervisor, the slow network connection in opening the application to access knowledge disrupted the service process, which impacted the quality of service provided by the employees.

Observations also showed that some customer service employees directly asked FOS (Front Office Support) and Supervisor for clarification on SOP. When asked for clarification by the Supervisor, the employees explained that accessing knowledge (opening the IKnow application) was slow. As a result, frequently leaving customers during the service process affected the quality of service itself. Moreover, the time taken to complete one service process became longer.

Apart from network issues, application constraints such as inability to open or encountering errors were also frequently experienced at GraPARI Telkomsel Soreang. This factor also affected the knowledge access process as all company knowledge was in paperless format, so when the knowledge provider application (IKnow) encountered issues and could not be accessed, it hindered the process of knowledge acquisition and utilization. Thus, application issues also became constraints in the implementation of knowledge management.

Stable network connection and accessibility of applications were necessary for the knowledge access process. When both of these factors frequently encountered issues in the work process at GraPARI Telkomsel Soreang, they became constraining factors that not only hindered the service process but also affected the quality of service and impacted the performance of employees themselves.

**Lack of Training and Learning**

In the implementation process of knowledge management, training and learning were essential activities that needed to be carried out by the company. With proper training and learning, the goal of creating a knowledge-based organization could have been achieved. In addition, effective knowledge management not only involved creating knowledge and facilitating its acquisition and utilization, but also required effective sharing and transfer of knowledge. One of the ways to facilitate knowledge sharing and transfer was through training and learning.

Based on interviews with senior employees at GraPARI Telkomsel Soreang, training and learning sessions were conducted only once a year. According to the employees, the training and learning provided were considered inadequate, as conducting training only once a year was not very effective. Moreover, the training provided to new employees was not comprehensive, as it only covered basic knowledge and lacked application-oriented training. As stated by the GraPARI Supervisor, "If, for example, in basic training at Infomedia (the training organizer), only basic information training was conducted, not application training, so when they went into the field, they had to be trained again."

The lack of training and learning provided to employees became a constraining factor in the implementation of knowledge management. Without sufficient training, the knowledge of employees tended to stagnate and not develop in the work environment. In addition, there were limited opportunities to share and transfer knowledge with employees from other GraPARI branches. For new employees, it took longer to become proficient in various applications and perform their tasks independently without the assistance of senior employees or supervisors.

Therefore, the lack of training and learning provided to employees became a hindering factor in the
implementation of knowledge management. It hampered the process of acquiring and utilizing knowledge for new employees, and resulted in stagnant and limited knowledge development in the work environment. Despite the availability of technology for sharing and transferring knowledge (without direct face-to-face interaction), training and learning were considered important and more effective in facilitating knowledge sharing and transfer among employees.

**Dynamic changes in SOP and product knowledge**

The Standard Operating Procedures (SOP) and Product Knowledge at PT. Telkomsel underwent frequent changes in the past. According to information from the GraPARI Telkomsel Soreang supervisor, some SOP and Product Knowledge changed 2-3 times a month. These changes could be caused by various factors, such as external factors related to government policies and regulations, or internal policies issued by the company's top management. These changes were updated in real-time in various company knowledge sources such as IKnow, Telkomsel.com, or the ICareForum Telkomsel community forum. However, the lack of prior notification before changes were published resulted in employees being late in knowing the latest information in the past.

This posed a challenge in the implementation of knowledge management at GraPARI Telkomsel Soreang in the past. The absence of prior notification before changes were published led to employees being unaware of the latest information in the past. This was because during customer service interactions, employees rarely checked for updates in various knowledge sources for the latest information in the past. “One SOP can be updated multiple times (two or three times) within a month, especially when it comes to the registration of prepaid services. The problem is when there is a new SOP update, it is immediately updated in IKnow at 9:00 or 10:00 in the morning, and employees do not read the changes right away because they are busy serving customers. And there are no notifications given to employees.”

The highly dynamic changes in SOP and Product Knowledge within the company posed challenges in the implementation of knowledge management (knowledge-based organization) and resulted in stagnation in obtaining up-to-date information. Therefore, this factor also constrained the implementation of knowledge management at GraPARI Telkomsel Soreang.

**Lack of intensive incentives for knowledge sharing**

The process of knowledge sharing among employees was crucial in the implementation of knowledge management. This process directly related to how knowledge circulated within the organization. Through frequent knowledge sharing, employees were able to share with each other (took and gave) not only documented organizational knowledge, but also personal knowledge that became new knowledge for other employees.

Given the importance of knowledge sharing within an organization, many companies provided incentives for the process of knowledge sharing. These incentives not only motivated employees to share knowledge with their peers, but also served as recognition from the company for the loyalty exhibited by employees. As such, incentives for knowledge sharing were commonly found in various forms (not just monetary) in many companies.

However, at PT. Telkomsel, there was limited provision of incentives to employees for knowledge sharing. According to the PIC of GraPARI Telkomsel Soreang, the management of the knowledge sharing process was directly handled by each GraPARI supervisor. Therefore, the provision of incentives was also left to the internal management of each GraPARI.

According to the Supervisor of GraPARI Soreang, the company did provide incentives for knowledge sharing, but they were not intensive and continuous. The process involved quizzes and competitions given to employees to share innovative ideas and feedback with the company.

Based on the information above, it could be concluded that PT. Telkomsel did not have clear regulations regarding incentives for knowledge sharing. The provision of incentives was not a routine practice in the company, as it was rarely given to employees for knowledge sharing. Similarly, within the internal environment of GraPARI Telkomsel Soreang, there was already some provision of incentives for knowledge sharing, but it was not intensive.
Tacit knowledge was not managed as organizational knowledge

One of the critical processes for the successful implementation of knowledge management was the company's ability to convert tacit knowledge possessed by employees into organizational knowledge that could be shared and transferred to other employees. In GraPARI Telkomsel Soreang, the tacit knowledge of employees was not effectively converted into organizational knowledge. When asked if the creative ideas of employees were recorded as knowledge, the response from the GraPARI supervisor was negative. Moreover, the ideas that were implemented were limited to achieving targets and did not focus on the development of employee knowledge.

"No, because usually it's in the form of verbal feedback only. The feedback is usually about achieving targets, for example, when I visited GraPARI Soreang and mapped out some opportunities to achieve targets. Then I asked for feedback from employees, and one of the employees suggested visiting factories or offering deals to their own contacts (business partners) before starting work. After considering the idea, we immediately implemented it and achieved sales of kartuHALO, reaching the target. So, if it's in written form, there is none, but if it's in the form of verbal feedback, it has been given, although we didn't document it." (SPV)

More specifically, the PIC of GraPARI Soreang explained that the company itself (PT. Telkomsel) had already had standardized concepts to be shared with all employees. However, knowledge held by employees outside of the concepts created by the relevant department was entirely managed and processed by GraPARI itself. In line with the Supervisor's opinion, the PIC also explained that ideas captured by supervisors were still limited to achieving sales targets.

As a result, the personal knowledge possessed by employees was unable to develop as organizational knowledge due to the company's established standardized concepts and lack of room for employees to develop their own knowledge. In the GraPARI environment, there was also a limitation in capturing personal knowledge and transforming it into more applicable knowledge. The knowledge filtering process was only focused on capturing ideas related to achieving sales targets.

The company was not able to appreciate the knowledge of employees

In line with its inability to manage the tacit knowledge possessed by employees as an intangible asset. Based on information from several informants, it was mentioned that the company (PT. Telkomsel) did not provide recognition for the knowledge possessed by employees. Recognition for the knowledge of new employees was limited to internal recognition within GraPARI Telkomsel Soreang, in the form of additional leave days beyond the annual leave entitlement for employees. As mentioned by the PIC GraPARI, based on their survey, employees were more enthusiastic about free leaves as a form of recognition.

"In the past, we appreciated their knowledge, but the achievements or rewards were not in the form of monetary gifts or something with a tangible value. Instead, it was in the form of additional free leaves."

The GraPARI supervisor also stated the recognition of employee knowledge was limited to internal programs within GraPARI, as the company (PT. Telkomsel) did not allocate provisions for rewarding employee knowledge. Therefore, the recognition provided was in the form of additional free leaves, taking into consideration the timing of the leave based on supervisor's approval and field conditions.

"There is a reward, but it's not in the form of money because Telkomsel does not provide cash bonuses. Our internal policy is to provide rewards in the form of additional leave."

The provision of free leave as a recognition of employees’ knowledge (creativity and innovation) was given when the employees also achieved their monthly targets that were assigned to them. Since the tacit knowledge filtered from employees was related to target achievement, the success indicators for implementing employees' creativity and innovation were compared with the targets. As stated by one of the employees at GraPARI Soreang that there was a reward for achieving targets. For example, if she reached the target, she was given additional leave, but if she didn't reach it, she wasn't given any.

In general, the knowledge possessed by employees was not fully appreciated by the company. GraPARI's focus was only on the employees' ability to achieve monthly targets. However, knowledge that was more practical and enabled employees to perform at their best was not effectively filtered by the company as organizational knowledge.
There was no clear regulation for accessing the Knowledge Management System (KMS)

PT. Telkomsel had a good and comprehensive KMS system, which included knowledge sources such as IKnow and telkomsel.com portal, community forums like ICareForum for knowledge sharing and transfer, and even online chatting services among employees of GraPARI and other departments.

However, there was no official schedule for when the KMS system should be accessed, only reminders from supervisors. There were no reprimands or controls for employees who did not access the KMS system. As a result, many employees neglected to access it. Based on observations conducted, there were still many employees who did not access knowledge through the IKnow application. Even for the ICareForum application, only Field Operations Supervisor (FOS) and supervisors accessed the forum, and that too was only to view information, not to share (discuss) within the forum. Therefore, the lack of clear regulations on accessing the KMS system became a challenge in implementing knowledge management itself.

This issue was also conveyed by SQ Staff from the interview results, stating there was no standard regulation for accessing KMS, as the existence of KMS should be sufficient as a medium for accessing company knowledge. KMS should have been a mandatory requirement for all employees to update their information, standard operating procedures (SOPs), and product knowledge by reading the KMS. However, observations and interviews with PIC and employees indicated that employees lacked enthusiasm in accessing the KMS. Therefore, without clear regulations and weak enthusiasm from employees in accessing the KMS, it impacted the employees' capabilities negatively in the past.

The enthusiasm of employees in accessing the knowledge management system was low

According to observed results, some employees did not access the knowledge system on a daily basis, and even the instruction from supervisors to access IKnow half an hour before service time was only followed by a few employees. This indicated that the enthusiasm of employees in accessing the company's knowledge management system was still low. As mentioned by the PIC GraPARI, the obstacle lay within the employees themselves. "Actually, the obstacle might have been within themselves, in the sense that the company had provided access to updated information, but it depended on the customer service (employee) whether they wanted to access it or not, and also depended on their supervisors, whether they allocated time for their subordinates or colleagues to access it during specific hours or through other means. So far, when we asked employees, we found that their knowledge was not up-to-date, which could have been due to lack of enthusiasm or not having the time to open IKnow. Therefore, the obstacle was more personal, as the company had provided technology with updated information."

This was also confirmed by one of the employees at GraPARI Telkomsel Soreang. Although the supervisor often reminded them to access the knowledge system before the service time (7:30), some employees still did not follow the instruction. "If the supervisor was strict, for example, if you had to come at 7:30, you had to read KM (IKnow/company's knowledge source) first, some employees followed it, but some didn't."

Hence, the low enthusiasm of employees in accessing the knowledge management system became a challenge in the implementation of knowledge management itself. No matter how advanced and comprehensive the company's knowledge management system was, if the employees' enthusiasm was low, the implementation would not be optimal. Therefore, understanding the factors contributing to the low enthusiasm of employees in accessing the knowledge

Lack of a platform to accommodate creative ideas

Creative and innovative ideas from employees were not effectively managed by the organization to become knowledge assets in efforts to improve employee performance. One of the challenges was the lack of a platform to accommodate creative ideas from employees. As a result, the process of filtering and creating knowledge only occurred in one direction, specifically from a specialized division that handled the company's knowledge content management. Meanwhile, tacit knowledge from employees was not surfaced and documented as company knowledge that could be shared or transferred to other employees.

For opinion sharing, GraPARI Telkomsel Soreang conducted monthly briefings/debriefings that were held on Saturdays after service hours. Employees could share their opinions, ideas, creativity, innovation, or experiences related to their work activities to improve performance. However, there was no specific
platform for employees to share their ideas in GraPARI Telkomsel Soreang, and the same applied to the company (PT. Telkomsel), as there was no designated place to share opinions.

According to one of the employees from GraPARI Telkomsel Soreang, employees were rarely involved in regional meetings or briefings. So, in terms of sharing ideas, opinions, creativity, innovation, and unwritten knowledge, they were usually communicated through supervisors at GraPARI, as the Regional Annual Meeting only involved supervisors from GraPARI. "Actually, we rarely had briefings at the regional level, usually it was only for the supervisors. The supervisors were the ones who briefed Telkomsel, not us. Usually, we only shared our ideas with the supervisors."

As a result, the company had not provided a platform for employees to share their ideas, creativity, innovation, or tacit knowledge. The sharing was limited to discussions between employees and GraPARI supervisors only. As a result, tacit knowledge was unable to become a company knowledge asset because there was no platform for personal sharing or filtering of individual employees' knowledge.

**Different understanding abilities of employees**

Employees had varying abilities to understand the content of the Knowledge Management System (KMS) that was disseminated. Some employees easily understood, while others required coaching and further explanation. These differences in understanding abilities posed a challenge in shaping a knowledge-based culture in GraPARI Telkomsel Soreang, as supervisors had to conduct coaching multiple times for employees with lower understanding abilities.

Based on interviews with the PIC of GraPARI and Regional Service Quality Supervisor for West Java, it was mentioned that the variance in employees' understanding abilities in absorbing the disseminated knowledge was a hindering factor in the implementation of knowledge management itself. Especially considering the rapid changes in SOP and product knowledge within the company, supervisors had to provide more coaching to employees with lower understanding abilities.

**Limited access time to kms**

The PIC of GraPARI and the service quality supervisor have mentioned that limited access time to the Knowledge Management System (KMS) was a challenge in implementing knowledge management. During busy service hours with long queues, employees did not have enough time to access knowledge through the KMS. Meanwhile, from observation results, it was found that employees rarely accessed the KMS before and after service hours. The PIC of GraPARI even explained employees often procrastinated accessing the KMS and eventually forgot to do so.

5. CONCLUSION

Overall, the implementation of knowledge management at GraPARI Telkomsel Soreang was good. The total assessment score from the Knowledge Management Assessment Tool indicated a satisfactory result. However, there were still several indicators that needed to be reviewed and improved in the implementation of knowledge management at GraPARI Telkomsel Soreang. These indicators were grouped according to their categories: (1) Knowledge Management Process: documentation format for all past trainings and documentation of all learned knowledge, recognition of tacit knowledge to facilitate transfer to other employees, and employee enthusiasm in accessing knowledge; (2) Culture and Structure: openness and trust within the company, flexibility and encouragement for innovation in the learning process, (3) Knowledge Management Technology: technology that did not bring the company closer to customers, lack of support for collaboration among employees, and information system that was not integrated and smart, (4) Measurement of Knowledge Management: measurement rules that balanced financial and non-financial indicators, and allocation of resources towards measurable efforts to improve the knowledge base.

Based on the analysis of the collected data, there were several factors that hindered the implementation of knowledge management at GraPARI Telkomsel Soreang in the past, which were: (1) unstable network connection/application issues, (2) insufficient training and learning opportunities, (3) dynamic changes in SOPs and product knowledge, (4) lack of incentives for knowledge sharing, (5) tacit knowledge not managed as formal knowledge, (6) the company's inability to value knowledge from employees, (7) lack of clear regulations for accessing the Knowledge Management System, (8) low enthusiasm among employees in accessing the Knowledge Management System, (9) absence of a platform for creative ideas, (10) differing
levels of understanding among employees, and (11) limited access to knowledge due to time constraints.

6. RECOMMENDATION

For company decision-makers, it is important for the company to be able to manage tacit knowledge of employees and turn it into value for the company. Therefore, the implementation of knowledge management should not only focus on the quantity of knowledge created, but also on the effectiveness of knowledge sharing/transfer, and the quantity of knowledge obtained from the tacit knowledge possessed by potential employees. This can be achieved by providing incentives for knowledge sharing, at least on par with incentives provided for sales activities. This way, employees are not just receivers of the company's knowledge products, but also sources of knowledge themselves, as a way to ensure optimal circulation and development of knowledge as the main goal of knowledge management implementation.

For future researchers, in order to produce better research, it is recommended to incorporate the dimension of knowledge management in efforts to improve innovation and creativity. There are many theories that link knowledge management with innovation and creativity, therefore further research is needed in this area, particularly in the business sector in Indonesia, especially in the telecommunications industry. Additionally, researchers are recommended to focus their research on the knowledge development sector or knowledge management division of a company, so that the development and formulation of knowledge management implementation roadmaps can contribute more broadly to all branches of the company.

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