Knowledge Management Maturity Assessment in Finance and IT Department PT XYZ

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Abstract

The disruption of Covid-19 pandemic has brought Indonesia to experienced negative GDP growth for the first time since crisis in 1998. The pandemic stimulates the urgency to do things differently in the business sectors, including the FMCG business where the company needs to stay competitive and profitable in the tough market situation. One of the key success factors to survive in the competition is to keep innovating. A proper Knowledge Management implementation can help the Company to enrich the talent or people competencies and skills to contribute on business' goals and innovation. PT. XYZ is one of the FMCG company in Indonesia that has a well-known iconic brand and wider market share. In managing the KM, there are few points noticed that can be further improved, such as the level of employee's engagement with the KM tools, and lack of essential knowledge storage. The study purpose is to get understanding of KM maturity level and to propose the business solution. Methodology used is both quantitative (APO assessment framework) and qualitative (interview the function leads). The study shows that KM maturity level the Division is at level 4 or Refinement level, indicating that KM has been continuously improved and evaluated. However, to increase the maturity level up to mainstream level, there are three general business solutions proposed to be followed up by management, which are strengthening knowledge-based environment, improving the culture of knowledge sharing and innovation, and developing KM strategies and roadmap.

I. Introduction

Over the several years, Indonesia has experienced constant positive growth of GDP (Gross Domestic Product) by around 5% year-on-year (y-o-y) after 2010 (CEIC, 2022). However, in 2020, with the disruption impact due to Covid-19 pandemic; for the first time after 1998 crisis, the GDP has declined by 2.07% in FY 2020. Economic growth is still an important goal in a country's economy, especially for developing countries like Indonesia (Magdalena and Suhatman, 2020). However, despite all the challenges, and with the stricter mobility regulation, Indonesia's economy has indicated a strong recovery as the country experienced +7% growth in Q2'21 and followed by +3.5% in Q3'21. Promising recovery has been indicated by the excellent growth in Import and Export sector versus same period last year, where the fast-moving consumer goods (FMCG) is the primary source of this sector (Kantar, 2021).

FMCG in Indonesia has dominated by both global and local companies. Multinational companies, such as Unilever Indonesia, have invigorated the market by delivering consumer products to Indonesian people, ranging from personal care, home care up until food products. Local market players such as Indofood, Mayora, Wings, or Heinz

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ABC have proved that local companies can compete well in the FMCG sector. However, there were no doubt that the FMCG needs to be stay competitive in the recent tough market, especially in the effort to win the market share. Not to also mention the financial management is to have a competitive profitability.

To manage competitiveness among the manufacturers (FMCG companies), both in the view of shares and profitability, the company needs to stay on-track with the creativity and innovation. To keep up with the situation, it is proposed to have a strong knowledge management (KM) implementation. (Martensson, 2000) stated that knowledge management is an essential and crucial component for commercial and public sector businesses to survive and retain competitiveness, therefore managers and leaders should view knowledge management as a basic necessity to increase productivity and effectiveness.

II. Review of Literature

2.1 Research Process

The overall research is started by presenting data related to FMCG industry in the present day including the contribution to overall Indonesian economic and the importance to employ skillful talent in the Company to have sustainable growth especially during challenging situation. Next part primarily focusses on the conceptual framework, details on research process, literature, techniques of data collection methodology to support analysis from the business issues. As the research is based on academic approach, the literature used is based on the accumulative concept, theory, learning, and issues accessed through books, internet websites, journals, and class presentation. After the literature details, the next part was mainly focusing on the research method. Primary data is gathered through questionnaires to find the KM maturity level in the division. The result is to conclude the priorities required to ensure KM improvement in the Finance and IT division. And, the last part will be focusing on the business solutions proposal. This covers the conclusions, recommendations, and implementation plan.

2.2 Knowledge

Knowledge is the distinction between data and information since knowledge drives actions and judgments while also pointing in the right path. Knowledge is referred to as "know-how," and it is the greatest degree of hierarchy that drives people's arguments (Becerra-Fernandez, Leidner, 2008). It is defined as a set of values, experiences, expert knowledge, and contextual relevant information that serves as a framework for assessing and integrating new experiences and information. People's minds generate and apply knowledge, and it is frequently entrenched not just in papers or archives, however it may also be found in the practices, procedures, norms, and policies of organization (Raisinghani, Bekele, Idemudia, Nakarmi, & Avinab, 2016).

2.3 Knowledge Flow

Knowledge comes from information that about the same method with information is acquired from data. It is a blend of experiences, values, and conceptual information that serves as framework for assessing and assimilating experiences and information (Davenport & Prusak, 1998). As follow, it is shown that the KM cycle has three (3) key processes: Assess, Contextualize, and Update (Dalkir K. 2018). It starts with capturing and/or creation of knowledge that later being assessed prior to the knowledge sharing. After disseminating the knowledge, next process is on the contextualizing of the

knowledge. After the application of knowledge, the learning process may lead to the new knowledge to be acquired from the lesson learned. This new knowledge will then update the existing knowledge and so the cycle is start over again.
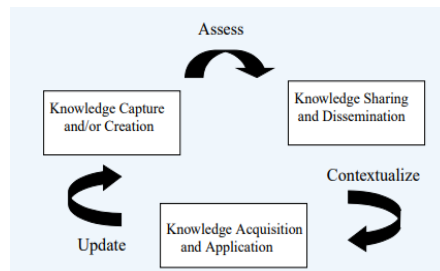

Figure 1. *Knowledge Flow*

2.4 Knowledge Creation – SECI Model

SECI Model has been considered as one of the fundamental of KM understanding as it serves the purpose to understand how the knowledge creation can be a useful tool to create new concepts or ideas. According to the study, the difference between explicit and tacit knowledge is referred as creation of knowledge. The continual discussion between these two knowledge types may drive the creation of innovation. In the journal of "A Dynamic Theory of Organizational (Nonaka, 1994), it shows that tacit knowledge refers to the knowledge that deeply rooted by a personal or individual and it involves both cognitive and technical elements. On the other hand, the explicit knowledge (or coded knowledge) is referring to the knowledge that could be transferred either in formal or systematic language or in figures or numbers.
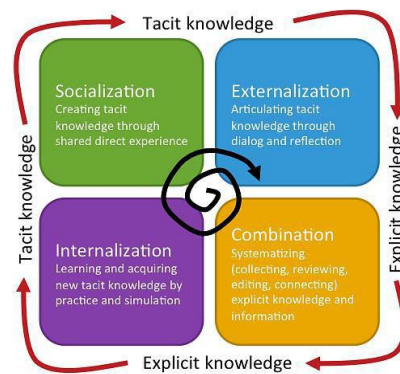

Figure 2. *SECI Model*

The diagram above depicts the connection and conversion from tacit and explicit knowledge into four knowledge management processes, which are: socialization, externalization, combination, and internalization.

a. **Socialization** is tacit to tacit knowledge conversion process that allows individual to convert tacit knowledge with others through interactions such as exchanging experiences, ideas, and feelings. Examples of socialization process are knowledge sharing, brainstorming, discussion, apprenticeship, or mentoring.

b. **Externalization** means the process of converting tacit information into explicit concepts in the form of images, analogies, ideas, or hypotheses. It starts from individual verbalize their knowledge of know-how and know-why through writing form, documented, or filmed. When the information is externalized, it becomes concrete and permanent, and allow the information to be shared with others and distributed across the

organization. Resource or content or material management is strongly required in this process for archiving, upgrading, and maintaining the externalized knowledge content as well as retaining credit and ownership for the knowledge shared.

c. **Combination** refers to the conversion from explicit knowledge to explicit knowledge. When the knowledge parts are being reconfigured into a new form of knowledge, it called as combination. This process involves sorting out, systemizing, categorizing, or converting the knowledge into the new medium, e.g., modern computer database. An example is the digitalization of information, where the big data of information can provide a real-time update on market condition or provide quick overview on overall training course available. Another example is knowledge repository database provided by the organization.

d. **Internalization** meaning as the transformation from explicit knowledge into tacit knowledge. It also refers to socialization, externalization, and combination of experiences or people' tacit knowledge to the form of common conceptual frameworks or technical skills. When a new knowledge is successfully absorbed, it is only utilized by those who adapt and adjust to their established tacit knowledge. Examples for this process are project database, computer-based training, and an internal search engine.

2.5 Knowledge Management Framework

There are three (3) main components of the KM framework, which are People, Process, Technology (Tjakraatmadja J. H., 2021). These tools integrated each other to achieve faster business objectives and provide right responses toward market and strategy. The details as follows and refer to figure below to understand the correlation:
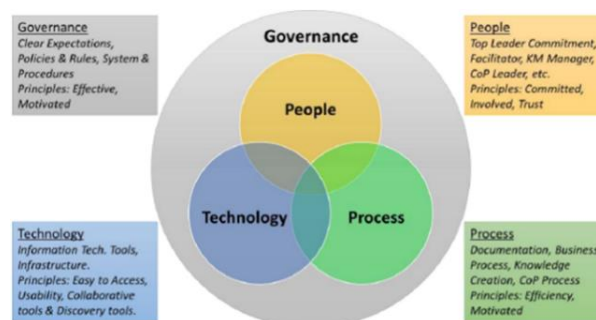

Figure 3. KM Framework

a. **People**. According to Tjakraatmadja, J. H (2021), 70% of successful KM is determined by the readiness of the motivation or people culture in the organization. People are the actors for the KM implementation. Values and norm, discipline, and leadership owned by individuals are important to aware of. Individuals or employees in whichever level or grade in the organization have the obligation to perform their roles and responsibility to achieve the goals. KM has the roles to manage the people and its work motivation through KM tools implementation, such as tacit or explicit knowledge sharing. KM needs to encourage a sustainable working environment with high trust within to keep the individuals motivated to perform and contribute.

b. **Process**. It covers a) resource and activity allocation to support KM such as creating, storing, sharing, distributing, and applying the knowledge in the organization, b) KM strategical Method or Tools implementation. It includes the way to revalidate existing information and make changes, if necessary, c) Integration of knowledge user, and d) the evaluation of current KM implementation and to understand the gaps for further process improvement.

c. **Technology** and system play an integral part for the KM framework in the organization. It provides supporting system for both people and process in a way to simplify the complex thing. Through proper document or content management system, the knowledge is properly stored in the database and easily extracted when it is needed. Few examples of technology implementation that is considered very helpful for the organization: group software (i.e., MS. Office 360, Google Drive environment) that promote collaboration, e-learning platform, knowledge portals or sites, and designated software or application.

d. **Governance**. Sustainability of the KM implementation through collaboration and proper governance. This applies for the whole component in the organization as well (people, process, and technology).

2.6 APO KM Framework

APO (Asian Productivity Organization) is an organization that focused to improve the productivity in the Asia Pacific region. It is an intergovernmental organization that established in 1961, and has been taking part in conducting research, strategies formulation to assist the countries member to enhance the productivity both private and institutional level (APO, 2020). KM framework is start from Vision and Mission of the organization. It is important that the organization has clear objectives as this will lead to actions taken by the management will stay aligned with the vision and mission. After defining the vision and mission, the first level in the APO KM framework is the accelerators. There are four (4) accelerators identified: Leadership, People, Processes, Technology: key components to run the organization. Next level is on how the organization can have a sustain knowledge process through knowledge process: Identify, Create, Store, Share, and Apply. This process will continue since the organization may encounter shifting market circumstances, demanding the acquisition of new knowledge. The next level is the Learning Innovation cycle. This part encourages the organization to apply learning innovation to stay competitive. The last level is about the outcomes, as this can have positive impact toward societal capacity, individual, team, and organizational capability. And, subsequently impacted to the strong productivity, quality, profitability, and growth of the organization.
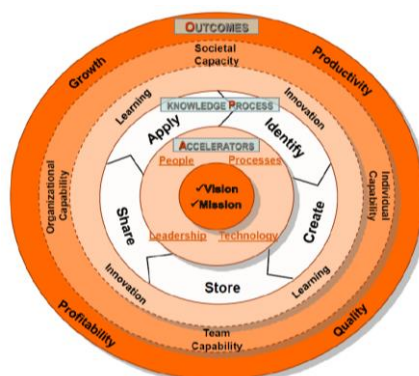

Figure 4. *APO KM Framework*

There are seven audit categories that essentially split into 6 questions to understand the framework (APO, 2020). In the survey, respondents are expected to give rating 1-5 for each question:

a. **Leadership**. Evaluating the company's leadership capacity to adapt in knowledge-based economy environment. Leadership category is evaluated based on the organization's KM policies and strategies. It also assessed leaders' efforts to develop, guide, and sustain knowledge management methods inside the business.

b. **Process**. Evaluating how knowledge is utilized to manage, implement, and enhance the major work processes of the company. It also measures how frequent the business reviews and modifies either generic or specific process to improve performance.

c. **People**. Evaluating the company's capacity in building and sustaining knowledge-driven and learning culture. It also assesses the company's efforts to promote information sharing and team engagement, as well as the development of knowledge workers.

d. **Technology**. Examining the company's capacity to create and drive knowledge-based solution, via content management systems or collaborative tools. This category also assesses the effectiveness and usability of KM tools.

e. **Knowledge Process**. Evaluating the company's capacity to discover, generate, store, distribute, and use knowledge in a systematic manner. Examples are best practices sharing and lessons learned which intended to avoid doing the same mistakes, and review of job duplications.

f. **Learning and Innovation**. Assessing company's capacity to stimulate, support, and develop learning and innovation environment using structured knowledge processes. Leadership in the company should be able to promote learning and innovation concepts, as well as provide incentives for information sharing.

g. **KM Outcomes**. Measuring the company's capability to increase the value of its consumers through improvement of goods and services delivered. The positive KM outcomes of an organization generally defined by its ability to enhance productivity, quality, profitability, and the capacity to attain long-term growth by utilizing its resources efficiently and full leverage of learning and innovation.

The evaluation results will then be used to help the company understand its KM maturity level in relation to the framework. The framework is divided into five levels, which listed below (APO, 2020). Maximum score is 210 (7 categories, 6 questions, with 5 as the maximum rating):

1. **Reaction Level (42-84 points)**. The organization is unaware of what knowledge management is and how important it is for productivity and efficiency KM could deliver. Managing information to preserve the knowledge could exist already, however the executions are still random and unstructured, with difficulties in retaining and starting some knowledge.

2. **Initiation Level (85-126 points)**. At this stage, the company recognizes the need to manage knowledge and may have even launched a prototype KM project. One feature of this level is that the leader's support is already present. The knowledge management group is setting a strategic direction, identifying key knowledge, and developing knowledge maps.

3. **Expansion Level (126-147 points)**. At this stage, KM is completely integrated and deployed. Most KM practitioners in the organization are more concerned to manage KM strategy, processes, and techniques that have previously been recognized and established.

4. **Refinement / Control Level (148-189 points)**. At this level, KM implementation is constantly assessed for ongoing development. It entails spreading KM activities throughout the organization and collaborating to build an organizational competence. KM initiatives are consistent with the organization's goals and priorities.

5. **Maturity Level (189-210 points)**. KM is now completely integrated into the company. Leaders in the company are utilizing KM skills to assist in the execution of business processes, as well as the evaluation and establishment of business strategy and business models. At this level, the KM system may force organizational innovation and continual development. There is a set of actions in place to keep the gaps between current KM capabilities and intended business results as small as possible.

III. Research Method

This study uses mixed methodology: combination between quantitative and qualitative methods. This gives more complete perspective for the research than only one methodology (Creswell, 2014). Each method provides different type of the information, quantitative will do provide the close-ended data with its statistic result, however the qualitative will derive to open-ended data with its explanation. Thus, by combining the two methodologies, the results from each can deliver a stronger understanding for the research problem. Specific for this research, the main attribute of the data is based on quantitative research of the survey result, as this indicates where the company may have gaps toward KM maturity level. While the qualitative data will support the "why" of the quantitative result, as the qualitative is conducted through interview for the specific persons who are very related to the process implementation. This is also conducted as it gives confirmation of quantitative result toward the actual circumstances and provide key success factor analysis according to the business' requirement and resource.

3.1 Quantitative Data

In this research, to gather the quantitative data, survey or questionnaire is used to measure the KM maturity level. (Groves, et al., 2004). In this survey, the targeted population is all employees under Finance and IT in PT. XYZ. The target for the respondent is to have 100% population, however with the time limitation, Slovin formula was used to calculate minimum sample size. The formula enables the author to determine the sample size with the required degree of precision. (Stephanie, 2013). The formula is: n = N / (1+Ne2) with *n: Number of Samples, N: Total population, and e: Error tolerance.* In this research, with the total of population by 102 employees with 5% error tolerance (or 95% confidence level), total minimum sample size is 81: n = 102 / (1 + 102 X 5%2) = **81**

To support the meaningful interpretation of the quantitative data, it is important to evaluate the data through validity and reliability test (conducted using SPSS software). Both are fundamental to determine whether the data are valid and reliable enough for further data interpretation.

3.2 Qualitative Data

The interview is conducted to gain the better view and understanding after quantitative data collection and analysis. The respondents are the Head of each finance division, CFO, and HRBP for Finance. Creswell (2014) provide guidance on how a research conduct interview, as it usually through face-to-face, telephone call, or through Internet applications. The question is based on the quantitative result, and to compare with the existing circumstances where they can find as a gap. This approach to also get better understanding regarding the result of quantitative and subsequently conclude what can be done to improve the KM maturity gaps.

IV. Results and Discussion

KM maturity level for Finance & IT Division is at the level 4 (Refinement). This shows that principally the division has performed Knowledge Management practices by continuously evaluating the process. It also indicates that the KM process is not a new thing within the division. However, in developing further discussion of KM action plans, first thing to do is to highlight which areas that have gap to the average result. Below radar chart is best to understand the visual between the result compared to the maximum score. The approach in providing the chart is firstly to get the average point per element by dividing total score by 6 per category (the result is ranging from 3.44 to 3.99) and continued by creating a radar chart comparison with the maximum score (5). The most gap is knowledge process with 3.44 point, followed by KM Outcomes with 3.52-point, people with 3.70-point, Learning and Innovation with 3.76-point, Technology with 3.82-point, Leadership with 3.85-point and the highest score is Process with 3.99-point.
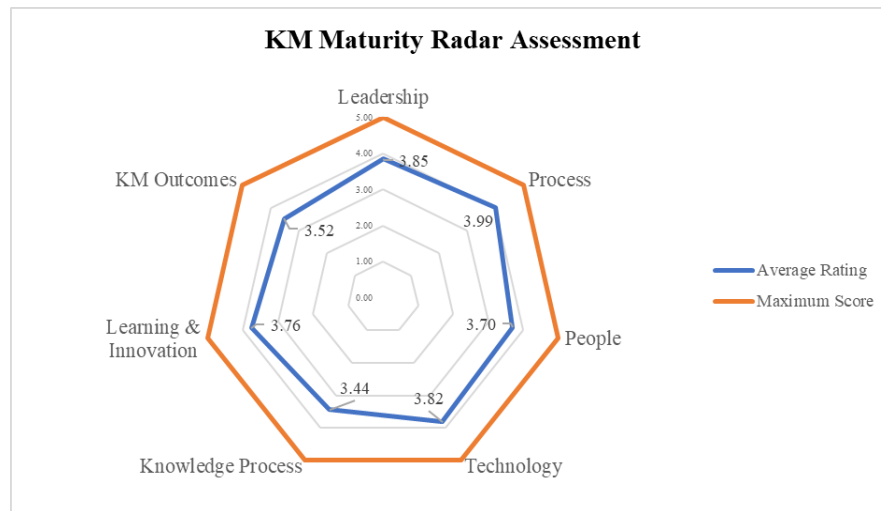
Figure 5. Maturity Radar

As part of the action points, the key success factors for KM improvement will be prioritized according to those with below average score per category according to the quantitative result. Below figure shows the mapping of root-causes analysis in Fishbone diagrams from the category assessed in the APO tools to the four (4) KM frameworks: People, Process, Technology and Governance. Each of the question is represented in the simple statement and mapped to the framework.

Figure 6. Maturity Radar (Total Score divided by 6)

Table below shows the list of key success factors to be further prioritized by highlighting for those that having lower score compared to average of these questions. Each success factors per category is mapped to the four KM framework:
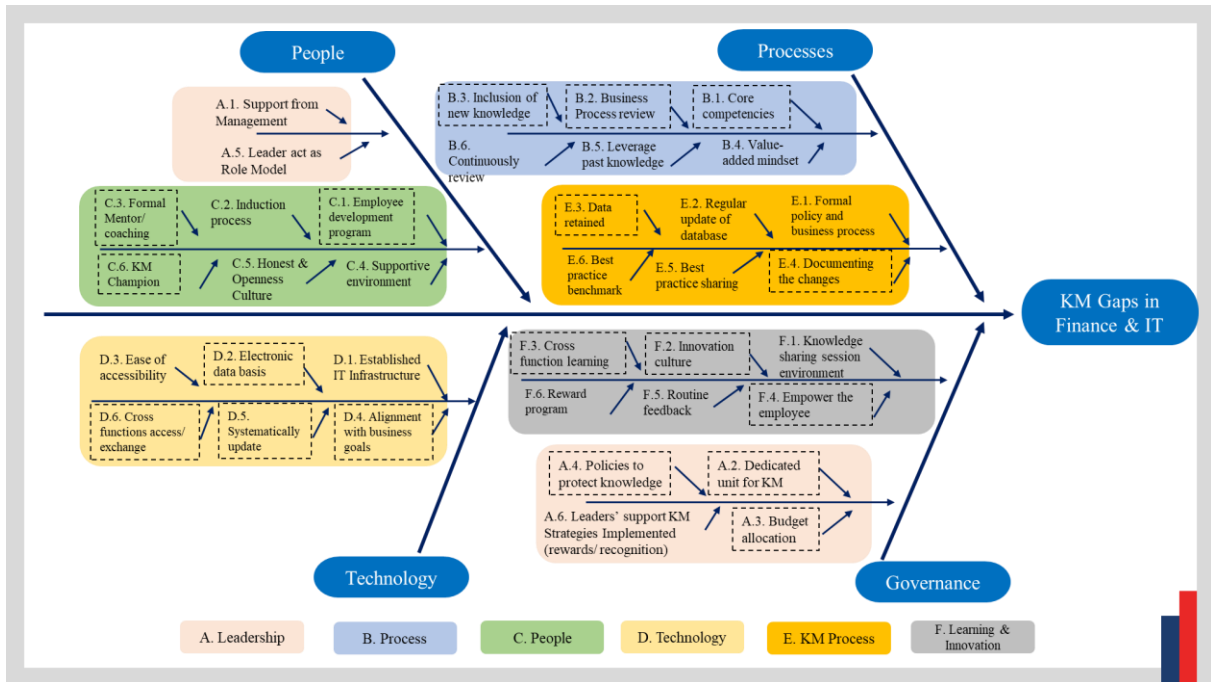
Table 1. KM Key Success Factors

No	KM Framework Mapping	Maturity Assessment Category	Key Success Factors	Question No	Average Rating
1	People	**People**	Employee Development Program	**C1**	3.51
2	People	**People**	Formal mentor/ coaching	**C3**	3.53
3	People	**People**	KM Champion	**C6**	3.41
4	Process	**Process**	Core Competencies	**B1**	3.84
5	Process	**Process**	Business Process Design	**B2**	3.81
6	Process	**Process**	Inclusion of New Knowledge	**B3**	3.91
7	Process	**KM Process**	Proper Data Retained for handover	**E3**	3.05
8	Process	**KM Process**	Documenting the changes	**E4**	3.37
9	Technology	**Technology**	Electronic Data Basis	**D2**	3.79
10	Technology	**Technology**	IT tool aligned with business goals	**D4**	3.77
11	Technology	**Technology**	Systematically update	**D5**	3.73
12	Technology	**Technology**	Cross function access	**D6**	3.59
13	Governance	**Leadership**	Dedicated unit for KM	**A2**	3.72
14	Governance	**Leadership**	Budget allocation	**A3**	3.68
15	Governance	**Leadership**	Policies to protect knowledge	**A4**	3.80
16	Governance	**Learning & Innovation**	Innovation Culture	**F2**	3.72
17	Governance	**Learning & Innovation**	Cross functional learning	**F3**	3.54
18	Governance	**Learning & Innovation**	Employee's empowerment	**F4**	3.72
19	Governance	**KM Outcomes**	KM Roadmap	**G2**	3.38
20	Governance	**KM Outcomes**	Effectiveness & efficiency in doing KM	**G4**	3.38
				Average Rating	3.61

V. Conclusion

The current maturity level of KM in the Finance and IT division is sitting at level 4 (four) or the Refinement level, which means that KM should be continuously improved and being evaluated. The result of both survey (quantitative) and the interview (qualitative) delivers consistent responses, especially for the item that have below average score. The improvement areas will be focusing on the defined success factors. There are three business solutions proposed as the answer the research question as well as the recommendation on how KM can be further strengthened. Each proposal is defined based on the grouping of relevant prioritization of key success factors:

a. **Strengthening Knowledge-Based Environment**. The proposed solutions start with how the organization can have a proper knowledge repository for essential knowledge, good governance through appointment of knowledge champion or unit, and to improve the awareness for mentoring activity.

b. **Improving Knowledge Sharing and Learning Culture**. Such culture needs to be implemented as this will support the innovation mindset as well. Areas to be considered are: KPI creation to encourage team to involve, a cross collaboration with other business function by leveraging the IT capability, and the frequent knowledge forum conducted. The success for this part will be depending on the employee engagement level.

c. **Developing KM Strategies and roadmap**. To achieve a good and sustain KM implementation, it is required to prepare a strong strategy as well as KM roadmap. The KM strategy will give a good direction on how to answer the KM objectives through the right strategy, while the roadmap leads the organization in defining what are the actions to be prioritized over the time.

Proposed Implementation Plan

The implementation shall take time between June to December 2022. The implementation starts from getting the feedback from the management, including the activities review and re-prioritization that tied to the key success factors and references.

Table 2. Implementation Plan

Activities / Sub activities	Jun	Jul	Aug	Sept	Oct	Nov	Dec
General Activities							
- Cascading the result of research to leadership - to get support from management	▮						
- Result review and re-prioritization (if any) for the implementation		▮					
- Evaluation and feedback							▮
Part 1. Strengthening Knowledge-Based Environment							
1. KM champion at function level		▮	▮	▮			
2. Knowledge repository improvement			▮	▮	▮		
3. Review L&D Program to align with employee needs			▮	▮			
4. Mentor and Tutoring Program		▮	▮	▮			

Activities Sub activities	Jun	Jul	Aug	Sept	Oct	Nov	Dec
Part 2. Improving the Culture of Knowledge Sharing and Learning							
1. Promoting KM Strategy		▓	▓	▓			
2. IT KM Toll for better collaboration			▓	▓	▓		
3. Strengthening Innovation Culture			▓	▓			
Part 3. Developing KM Strategies and Roadmap							
1. KM Strategy and Roadmap	▓	▓	▓	▓			

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