

# Analyzing Important Knowledge Management Sub-Processes, Mechanisms, and Technologies in PT XYZ using Contingency View of Knowledge Management

Rani Aprilia Astrianty<sup>a,1</sup>, Dana Indra Sensuse<sup>a,2</sup>, Kamila Alifia Imanuddin<sup>a,3</sup>

<sup>a</sup> Faculty of Computer Science University Indonesia

<sup>1</sup>[rani.apriliaa@gmail.com](mailto:rani.apriliaa@gmail.com), <sup>2</sup>[dana@cs.ui.ac.id](mailto:dana@cs.ui.ac.id), <sup>3</sup>[kamilalifia@gmail.com](mailto:kamilalifia@gmail.com)

\* corresponding author

## ARTICLE INFO

### Article history

Received

Revised

Accepted

### Keywords

Knowledge Management Mechanisms,

Contingency Factors,

Knowledge Management Technologies,

Knowledge Management Processes

## ABSTRACT

In the current competitive business landscape, having knowledge is crucial for gaining a competitive advantage, particularly in service-oriented firms where it significantly enhances organizational capabilities. However, effectively implementing knowledge management presents challenges for companies, as demonstrated by PT XYZ. The main challenges faced by PT XYZ include insufficient information dissemination among departments, complexities in accessing crucial business process information, resulting low level of employee knowledge, contributing to operational inefficiencies. By applying contingency factors theory, this study aims to prioritize essential KM processes at PT XYZ and recommend appropriate KM mechanisms and technologies for implementation. The research, which draws on interviews with three employees, finds that socializing for knowledge exchange is the most important knowledge management subprocess. Face-to-face meetings and on-the-job training serve as the main methods of instruction, while computer-based simulations are used as a supporting tool. Direction, socialization for knowledge discovery, and combination are more knowledge management subprocesses that can be added later to enhance KM procedures at PT XYZ.

This is an open access article under the [CC-BY-SA](https://creativecommons.org/licenses/by-sa/4.0/) license.



## 1. Introduction

Business competition is getting tougher in today's market. Firms are contending to increase their competitive advantage. Firms are taking knowledge seriously as a crucial resource to gain competitive advantage [1]. Hence, managing knowledge effectively within a firm is beneficial, especially in service firms. Knowledge Management (KM) is considered a valuable strategy to enhance organizational capabilities and improve service quality. [2]. Findings by [3] prove that KM has an important role in business innovation, whether in product, marketing, or service innovation. KM in an operational setting is crucial for both the quality of services and the overall business strategy [4].

PT XYZ, a company in the logistics services sector, has implemented KM as part of its organizational strategy. However, certain constraints have prevented their existing KM practices from operating effectively. The main challenges faced by PT XYZ include inadequate dissemination of the latest information among department members or across departments. Information is not consistently communicated, leading to a limited awareness among only a few individuals. This has an impact on the low level of knowledge among employees regarding the products and services. Additionally, difficulties in obtaining information related to business processes pose a serious challenge that interfere work efficiency and occasionally giving rise to other critical issues.

Although the company has started to implement a knowledge repositories, its implementation is still limited. The existing repositories only provides some general documentation that is considered inadequate to support the knowledge processes needed within the organization. They have not aligned it with the actual knowledge processes needed by the organization. The current function of it is more static, serving primarily as a portal for storing documentation, and is therefore ineffective in supporting learning activities and knowledge exchange among employees.

Utilizing technology as a tool of KM has become essential in a firm [3]. Establishing the requisite knowledge practices is crucial for improving the quality of knowledge management inside the firm. Possible strategies to improve the effectiveness of knowledge management at PT XYZ include improving the accessibility of information, offering dynamic material, and using proactive utilization approaches.

Prior studies have investigated the importance of KM in service industries, specifically in tourism & hospitality [2], logistics and supply chain [5], [6], and medical services [4]. Implementing knowledge management (KM) strategies in service organizations in developing nations may promote innovation within these firms. [7]. Somehow, the discussion on the most appropriate KM processes for service industries remains unclear.

Therefore, this study aims to propose the appropriate KM processes or subprocesses and KM mechanism & technology to be implemented in an Indonesian service firm, which is PT XYZ. This study provides a recommendation to apply KM optimally regarding the problems faced by PT XYZ. Subsequently, the following research inquiries (RQ) are formulated: (1) What KM process/subprocesses needs to be prioritized at PT XYZ?; (2) What KM mechanisms and technology need to be implemented at PT XYZ? An analysis using contingency factors theory [8] is conducted to answer these RQs.

## 2. Theoretical Foundations

### a. Knowledge Management Processes

Knowledge is regarded as a fundamental and critical asset for organizations. The value of an organization can be assessed by how effectively it manages its knowledge resources [9]. Knowledge re-sources empower organizations to excel in the business landscape by extracting insights, expertise, creative ideas, and innovation from employees. This allows them to adapt, innovate, gain a competitive edge, and enhance operational performance to compete in the market [10]. Therefore, KM is essential to maximize knowledge contribution. KM, as a discipline, is dedicated to effectively managing and optimizing an organization's knowledge resources [10]. KM encompasses various strategies and practices for creating, sharing, and leveraging knowledge within an organization [11]. The system is constructed using knowledge management (KM) solutions, which include processes and systems. It is backed by a KM foundation, which comprises infrastructures, methods, and technologies. [8].

The Knowledge Management Processes (KMP) include the activities of knowledge discovery, acquisition, dissemination, and use. [8] help companies streamline operations [12]. KMP pertains to how organizations generate, share, and leverage knowledge resources across different functional areas [13]. KMP is proven significant in affecting employee satisfaction, and when employees are satisfied the organizational performance is increased [14]. KMP also acts as a driving force behind the innovation efforts of companies [15], [16]. Furthermore, KMP significantly improve the Sustainable Development Practices (SDP) dimensions, particularly environment, economic, and social [12].

### b. Knowledge Management Technologies & Mechanism

Knowledge management methods are structural or organizational actions implemented to support knowledge management [8]. Conversely, KM technologies consist of information technologies used to facilitate knowledge management. [8]. Both terms relate to each other. KM mechanisms may utilize technologies, meanwhile the improvement in technologies could advance or (in certain cases) deteriorate KM mechanisms [8]. The use of KM mechanisms and technology may be determined according to the knowledge management practices of the organizations. Table I illustrates the KMP and identifies other methods and technologies that might potentially assist them.

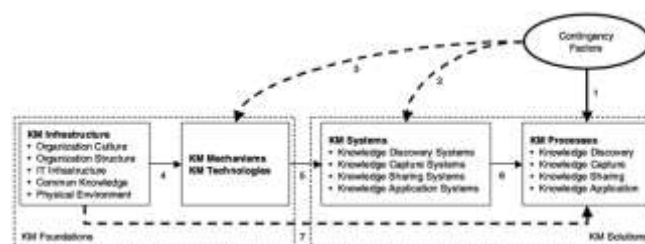
**Table 1.** KM Processes, Subprocess, and Associated Mechanisms and Technologies [8]

KM Processes	KM Subprocesses	Illustrative KM Mechanisms	Illustrative KM Technologies
<b>Knowledge Discovery</b>	Combination	Meetings, telephone conversations, documents, and collaborative creation of documents	Databases, Web-based access to data, data mining, repositories of information, Web portals, best practices, and lessons learned
	Socialization	Employee rotation across departments, conferences, brainstorming retreats, cooperative projects, initiation	Video-conferencing, electronic discussion groups, and e-mail
<b>Knowledge Capture</b>	Externalization	Models, prototypes, best practices, lessons learned	Expert systems, chat groups, best practices, and lessons learned databases
	Internalization	Learning by doing, on-the-job training, learning by observation, and face-to-face meetings	Computer-based communication, AI-based knowledge acquisition, and computer-based simulations
<b>Knowledge Sharing</b>	Socialization	See above	See above
	Exchange	Memos, manuals, letters, and presentations	Team collaboration tools, Web-based access to data, databases, and repositories of information, best practices databases, lessons learned systems, and expertise locator systems
<b>Knowledge Application</b>	Direction	Traditional hierarchical relationships in organizations, help desks, and support centers	Capture and transfer of experts' knowledge, troubleshooting systems, and case-based reasoning systems; decision support systems
	Routines	Organizational policies, work practices, and standards	Expert systems, enterprise resource planning systems, and management information systems

**c. Contingency Perspective of Knowledge Management**

The contingency viewpoint of Knowledge Management (KM) provides a systematic method for creating KM solutions. Based on the provided information [8], this viewpoint argues that there is no one optimal method that can be universally applied. Contingency theory posits that success is attained by choosing the best suitable choice from a range of options. Figure 1 depicts the correlation between contingency variables and knowledge management systems.

As shown in reference [8], a number of elements that indirectly influence KM systems via KM mechanisms and technology (arrows 2 and 3) have an effect on KM processes. The basis for enabling KM processes and technologies (shown by arrow 4) and their impact on KM systems (shown by arrow 5) is the KM infrastructure. As shown by arrow 6, knowledge management (KM) processes rely on KM systems for support, and arrow 7 shows how indirectly the KM infrastructure affects them.



**Fig. 1.**Contingency factors and knowledge management [8]

Task characteristics, knowledge attributes, organizational characteristics, and environmental elements are the categories into which contingency factors fall. Here, you can find a detailed explanation of each category.

1) Task Characteristics

Two crucial factors that affect the successful application of KM are task ambiguity and task interdependence. [17]. Task uncertainty pertains to the probability of task changes occurring. [8] Guidance and interpersonal interaction are recommended solutions for tasks that involve a significant level of uncertainty. In contrast, for tasks with less ambiguity, it is advised to use routines, internalization, externalization, exchange, and combination as techniques [8]. Task interdependence, in the organizational context, refers to the degree of dependency between various units within the organization [8]. When faced with conditions marked by a high degree of dependency across activities, it is advised to use techniques like exchange, combination, socializing, direction, and routines. Conversely, in situations when task reliance is minimal, it is advisable to use internalization, externalization, guidance, and routines as suggested ways [8].

2) Knowledge Characteristics

Contingency considerations also take into account the attributes of knowledge that impact knowledge management systems. Some of these characteristics include the differences between declarative and procedural knowledge and between tacit and explicit knowledge [8]. Figure 2 shows how certain knowledge qualities affect KM processes.

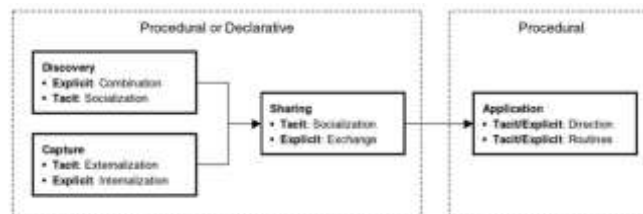


Fig. 2. Impact of knowledge characteristics on KM processes [8]

Procedures and declarative knowledge processes are those that include finding, recording, and communicating information. Still, knowledge is used only procedurally [8].

3) Organizational and Environmental Characteristics

The knowledge management (KM) process is influenced by organizational characteristics such as the size of the organization (OS) and its business strategy (BS). Furthermore, the organizational level of the knowledge management (KM) process is also influenced by environmental uncertainty (EU) [8]. Table II demonstrates the impact of environmental and organizational factors on knowledge management techniques. LC is an acronym for low-cost, whereas D stands for difference. The procedures are classified and identified as follows: P1 symbolizes the idea of combining elements, P2 symbolizes the idea of socializing for the purpose of discovering knowledge (KD), P3 is for knowledge sharing (KS) socializing; P4 for information exchange; P5 for externalizing knowledge; P6 for internalizing knowledge; P7 for direction; and P8 for routines.

Table 2. Km Processes: The Impact Of Environmental And Business Characteristics [8]

Characteristic	Type	P1	P2	P3	P4	P5	P6	P7	P8
OS	Small	√	√	√		√	√	√	
	Large	√			√	√	√		√
BS	LC			√	√	√	√	√	√
	D	√	√	√	√	√	√		
EU	Low			√	√	√	√		
	High	√	√					√	√

In summary, as stated by reference [8], the complete instructions for identifying knowledge management procedures based on contingency variables are shown in Table III.

**Table 3.** Appropriate Conditions for Knowledge Management Processes [8]

KM Processes	Contingency Factor						
	TU	TI	ET	P/D	OS	BS	EU
Combination (P1)	L	H	E	P/D	S/L	D	H
Socialization for KD (P2)	H	H	T	P/D	S	D	H
Socialization for KS (P3)	H	H	T	P/D	S	LC/D	L
Exchange (P4)	L	H	E	P/D	L	LC/D	L
Externalization (P5)	L	L	T	P/D	S/L	LC/D	L
Internalization (P6)	L	L	E	P/D	S/L	LC/D	L
Direction (P7)	H	H/L	T/E	P	S	LC	H
Routines (P8)	L	H/L	T/E	P	L	LC	H

### 3. Research Method

This article uses semi-structured interviews as part of its qualitative methodology. to gather information from personnel in different units that are directly involved with or affected by the topics discussed in the paper's introduction. Interviews were carried out with three individuals from senior management, IT Product, and SalesOps groups in order to get a diverse variety of viewpoints. There were two sessions in the interview process. The primary objective of the first session was to gather comprehensive information on the company's attributes pertaining to KM contingency elements [8]. The use of a contingency perspective on KM allows for the discovery of appropriate KM solutions by considering the present circumstances of the firm. This involves analyzing task, knowledge, environmental, and organizational aspects in order to identify the most efficient knowledge management strategies to adopt.

Afterwards, the evaluation of contingency variables was used to discover and rank the suitable knowledge management systems. Subsequently, a second interview session was carried out to thoroughly examine the current KMP implementation. The significance of each Key Management Practice (KMP) as seen by the respondents was assessed using a Likert Scale, which included values ranging from 1 (Very Unimportant) to 5 (Very Important). In the end, the KM processes were aligned with the KM mechanisms and technology offered by [8] to offer recommendations for the company's implementation and progress in KM. Figure 3 illustrates the procedure for identifying appropriate knowledge management systems.

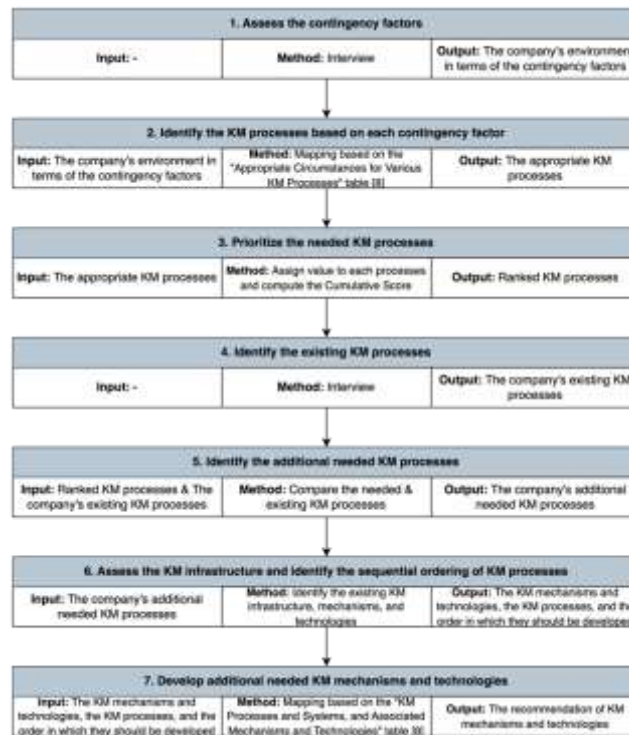


Fig. 3. The steps for identifying appropriate KM solution

#### 4. Results And Analysis

##### a. Contingency View of KM Result and Analysis

The interview results regarding the contingency factors of KM in the company, Table IV shows this.

Table 4. Interview Result

Contingency Factor	Interviewee 1	Interviewee 2	Interviewee 3
Task Uncertainty	High	High	High
Task Interdependence	High	High	High
Explicit/Tacit	Explicit	Explicit	Explicit
Procedural/Declarative	Declarative	Declarative	Declarative
Organization Size	Small	Small	Small
Business Strategy	Low Cost	Low Cost	Low Cost
Environmental Uncertainty	High	High	High

The evaluation findings of contingency factors for PT XYZ firm are described in Table V, which is derived from the interview data shown in Table IV.

Table 5. Contingency Factor Assessment Result

Category	Code	Result
Task Uncertainty	TU	High (H)
Task Interdependence	TI	High (H)
Explicit/Tacit	E/T	Explicit (E)
Procedural/Declarative	P/D	Declarative (D)
Organization Size	OS	Large (L)
Business Strategy	BS	Low Cost (LC)
Environmental Uncertainty	EU	High (H)

On task uncertainty and task interdependence categories, all three interviewees answered that the company has a high level of both. This is because the company operates in the logistic service field, where tasks are interdependent among internal departments and external partners. In terms of knowledge characteristics, the company tends to be more dominant in explicit and declarative knowledge. Explicit knowledge, such as SOP documents, reports, diagrams, etc., is crucial in executing job descriptions for departments involved in this study, namely the upper management team, product team, and sales team. For example, in sales, the team must utilize supporting tools like a customer relationship management system and tools for creating a letter of proposal (LOP). To use these tools, they must refer to established SOPs and document guidelines. Meanwhile, declarative knowledge is also dominant in the company, as most tasks and business decisions are based on facts and data. The company's bureaucracy is quite flexible depending on current business needs, although there are specific conditions where business processes must follow established procedures.

In the context of organizational and environmental characteristics, three aspects are analyzed: organization size, business strategy, and environmental uncertainty. An organization is classified as large when it has at least 1500 employees, and conversely, it is considered small if it has fewer than 1500 employees [18]. The total number of employees at PT XYZ, as indicated by staffing data from December 2023, is 600 people. In essence, this implies that the company size is small.

Currently, the company is strategically centered on a low cost approach. The focus is on targeting a pre-segmented market. It involves directing attention towards specific markets that offer greater revenue potential instead of expanding across various market segments. This strategy entails optimizing existing services to attain the reliability goals established by the company.

Furthermore, the necessity for the company to collaborate with various external partners makes the company has a high environmental uncertainty. Additionally, the company is subject to the dynamic forces of evolving IT trends, competitive landscapes, and market dynamics. This interconnectedness introduces a multitude of variables and influences, significantly adding to the complexity of the company's operational environment.

#### b. KM Processes Prioritization

Subsequently, the corporation proceeded with the priority of its knowledge management procedures. This assessment follows the guidelines given in Table III and is based on the outcomes of the contingency factor analysis shown in Table V. The degree of agreement between the knowledge management technique and every contingency variable is shown in the columns for contingency factors. Assessment of the alignment is facilitated by comparing the knowledge management process with the statement in the contingency factor column. If a match is found, it is designated as "Yes" and given a numerical value of 1. If a match is not found, it is designated as "No" and given a numerical value of 0. If the assessment result is coherent yet presents two separate options, it is categorized as "OK" and assigned a rating of 0.5.

**Table 6.** KM Process Prioritization Analysis Based On Contingency Factor result

Contingency Factors	KM Sub-processes							
	P1	P2	P3	P4	P5	P6	P7	P8
TU	N	Y	Y	N	N	N	Y	N
TI	Y	Y	Y	Y	N	N	OK	OK
E/T	Y	N	N	Y	N	Y	OK	OK
P/D	OK	OK	OK	OK	OK	OK	N	N
OS	OK	Y	Y	N	OK	OK	Y	N
BS	N	N	OK	OK	OK	OK	Y	Y
EU	Y	Y	N	N	N	N	Y	Y
Total "Y"	3	4	3	2	0	1	4	2
Total "OK"	2	1	2	2	3	3	2	2
Total "N"	2	2	2	3	4	3	1	3
Cumulative Score	4	4.5	4	3	1.5	2.5	5	3

The cumulative scores of each KM process are displayed in the last row of Table VI. These scores guide the selection of priority. The KM processes that are most essential for the company are highlighted. Table VII lists the prioritized results of various KM procedures.

**Table 7.** Priority of KM Processes Based on Contingency Factors Assessment Result

KM Sub-processes	Cumulative Score	Max Score	Percentage (%)
P1	4	6	66.67%
P2	4.5	6.5	69.23%
P3	4	6	66.67%
P4	3	6	50.00%
P5	1.5	5.5	27.27%
P6	2.5	5.5	45.45%
P7	5	6	83.33%
P8	3	6	50.00%

The priority analysis result for KM processes needed outlined in Table VII highlights the top three contingency factors. These include direction, combination, and socialization for KS. Externalization and internalization occupy the two lowest positions.

### c. Existing KM Processes Implementation

Currently, the company has certainly implemented various KM processes in running its business. Table VIII illustrates the percentage and ranking of the usage of KM processes in the company. It was obtained from interviews with three employees from the upper management team, IT Product team, and SalesOps team.

**Table 8.** Existing KM Process Implementation

Existing KM Sub-processes	Cumulative Score	Max Score	Percentage (%)
P1	4	5	80
P2	3.66	5	73.33
P3	2.66	5	53.33
P4	3	5	60
P5	2	5	40
P6	1.6	5	33.33
P7	4.3	5	86.67
P8	4.6	5	93.3

In the "Combination" process (P1), upper management synthesizes financial data, customer feedback, and industry trends to develop informed business strategies. Concurrently, the IT Product team utilizes aggregated stakeholder data to effectively identify and address stakeholder pain points and potential solutions. Meanwhile, SalesOps combines client onboarding data to evaluate team performance and revenue trends. While the Sales team seldom requires intricate data synthesis, their concentrated sales efforts continue to serve as a primary catalyst for business growth.

In the socialization process, whether for KD (P2) or KS (P3), the upper management is actively forging connections with internal and external stakeholders to gather valuable insights, not only in determining business strategies but also in contributing to the collective understanding and organizational culture through social interactions. The Product team frequently collaborates with data and tech teams to identify IT solutions for both client and internal challenges. These knowledge-sharing sessions extend beyond the immediate team, facilitating a comprehensive understanding of existing IT capabilities and dynamic current conditions. SalesOps, while infrequently conducting tutorial sessions for sales tool proficiency, focuses on understanding pricing strategies for sales through information flow from the management team to the sales leads. This integrated approach underscores the significance of socialization in both knowledge discovery and sharing.

In the context of Exchange (P4), management typically engages at a high-level during working-level discussions but does so infrequently. Product teams frequently collaborate, especially with tech and business teams to ensure product development aligns with needs, costs, and timelines, emphasizing a comprehensive understanding among stakeholders. Meanwhile, SalesOps rarely engages in exchange unless there are changes in services offered to customers.

Regarding Externalization (P5), the upper management tends to rely on verbal communication, with documentation being a rare occurrence. The Product team, on the other hand, actively practices externalization by frequently generating various documents like product requirement documents, PRFAQs, and system tutorial for users. In contrast, externalization is notably infrequent within the SalesOps domain. In the context of Internalization (P6), the upper management seldom incorporates this activity into their job description. Meanwhile, the IT Product team usually observes data, reports, or specific team behaviors to deeply understand the business processes for designing IT solutions. In SalesOps, there was once on-the-job training focusing on best practices for sales activities to support the sales team in their roles. However, such activities are currently rare.

In the Direction (P7) process the Management plays a crucial role by providing clear guidance on the company's vision, mission, needs, and overall business direction. This serves as a foundational framework for decision-making. The Product team strategically determines priorities by aligning with the direction set by the management and other stakeholders, carefully considering factors like urgency and effort requirements. However, there is a common issue where information from superiors is inadequately communicated to their subordinates. This arises from frequent oversights, lack of documentation, and the absence of formal notifications to the team members.

Meanwhile, SalesOps actively uses the established direction to achieve sales targets.

Last KM process is Routines (P8) which frequently used in the company. The upper management applies Standard Operating Procedures (SOP) across all business activities, conducting bi-weekly management meetings to assess current business conditions. Additionally, each department leads provide weekly updates on their teams' progress to ensure all tasks stay on track. The IT Product team has daily stand-ups and weekly stakeholder meetings to track development processes. Meanwhile, the SalesOps relies on routines to handle repetitive sales tasks, focusing on selling services and ensuring a smooth customer journey. These routines are integrated into the daily job descriptions of the sales team. However, sales often fail to meet sales SLAs up to client onboarding due to operational issues stemming from a lack of knowledge and documentation related to product information and business tool usage.

#### d. Development of Additional Knowledge Management Processes Needs

Considering the Knowledge Mangement processes outlined in Table VIII and those found based on contingency variables in Table VII, we further identify additional KM subprocesses needed. We classified the KM subprocesses into low or high priority levels. A KM subprocess is deemed low priority if its importance percentage is below 60%, and high priority if it is 60% or higher. In Table IX below, we map the priority level of the existing and identified KM subprocesses based on contingency factors into their respective rankings and action plans.

**Table 9.** KM Process Priority Ranks

Priority Level	Rank	Action Plan
<b>KM Sub-processes Based on Contingency Factors</b>	Existing KM Sub-processes	
<b>High</b>	Low	1
<b>High</b>	High	2
<b>Low</b>	High	3
<b>Low</b>	Low	4

When the identified KM subprocesses, based on contingency factors, are prioritized highly, but the priority level of the existing KM subprocesses is low, developing these KM subprocesses becomes the top priority. This is because the KM subprocesses should have been implemented in the company but have not been. Conversely, when both the identified KM subprocesses and the existing KM subprocesses are highly prioritized, further development of these KM subprocesses becomes the second priority since they are already properly implemented and do not require major changes. If the priority level of the identified KM subprocesses is low, but the existing KM subprocesses are high, development will only occur if resources are available, as the subprocesses are not urgently needed but are already in place. Lastly, if both the identified and existing KM subprocesses have low priority levels, development will not proceed as it is considered unnecessary.

**Table 10.** Additional KM Processes Needed

KMP	Priority Level		Development Rank
	KM Subprocesses Based on Contingency Factors	Existing KM Subprocesses	
P1	High	High	2
P2	High	High	2
P3	High	Low	1
P4	Low	High	3
P5	Low	Low	4
P6	Low	Low	4
P7	High	High	2
P8	Low	High	3

Based on Table X, it might be inferred that the most important supplementary Knowledge Management subprocess is socializing, which involves the sharing of information (P3), meaning it must be developed first. Next, combination (P1), socialization for knowledge discovery (P2), and direction (P7) can be developed later. Meanwhile, exchange (P4) and routines (P8) can be developed if the company has the resources needed. And externalization (P5) and internalization (P6) don't need to be developed in this current condition.

**e. Knowledge Management Technologies and Mechanisms for Supporting the development of Knowledge Management Processes Needs**

The main focus of KM mechanisms and technology to support the establishment of Knowledge Management subprocesses is on in-person meetings and on-the-job training, which may include the use of computer-based simulations. After the establishment of these mechanisms and technologies, the firm has the capability to further create other mechanisms and technologies as specified in Table XI.

**Table 11.** Knowledge Management Technologies & Mechanisms to Support Knowledge Management Processes

Knowledge Management Sub-processes	Knowledge Management Mechanisms	Knowledge Management Technologies
<b>Socialization for Knowledge Sharing</b>	On-the-job training and face-to-face meetings	Systems simulations using computers
<b>Direction</b>	Conventional hierarchical relationships	Capture and transfer of experts' knowledge, decision support systems
<b>Socialization for Knowledge Discovery</b>	Conferences, brainstorming retreats, and cooperation projects	Video-conferencing, electronic discussion groups
<b>Combination</b>	Meetings, documents, and collaborative creation of documents	Databases, Web-based access to data, repositories of information, best practices, and lessons learned

On-the-job training is suitable for helping SalesOps understand the good and correct sales process. Face-to-face meetings are suitable to help build mutual understanding. So far, on-the-job training is rarely carried out for SalesOps teams, even though this activity is very important to strengthen their technical skills and knowledge. Meanwhile, face-to-face meetings have been carried out, but only for daily coordination. It is best to also hold face-to-face meetings to instill an organizational culture among employees.

In providing direction regarding vision, goals, business strategy, and so on, the company has implemented a traditional hierarchical relationship mechanism from management to subordinates, but miscommunication often occurs. Additionally, sometimes information does not reach those who need to know it. Therefore, it is necessary to improve this mechanism, one of which is by providing formal notifications to subordinates containing clear directions. However, in determining priorities based on directions from management and other stakeholders with many considerations, companies can use a decision support system to help determine more accurate decisions.

Companies may regularly arrange conferences, brainstorming retreats, and collaborative projects to promote the exploration of new information, establish future corporate direction and strategy, and tackle team issues. Communication across departments may be improved by using video conferencing technologies and internet discussion groups.

Apart from that, in combining explicit knowledge managed by the company to create new or more complex knowledge, the company has carried out meetings, documentation and collaboration

in creating documents which are supported using databases and repositories. We recommend companies to develop best practices tailored to company needs to optimize the combination process. Documenting minutes of meetings and lessons learned is also highly recommended so that companies can avoid mistakes they have made or even improve their achievements.

## 5. Conclusion and Future Works

Knowledge is a very valuable asset for organizations. Knowledge must be managed well and exploited optimally to increase the organization's competitive advantage. There are KM processes and subprocesses that can be done to achieve this. However, not all KM processes and subprocesses are suitable for implementation. Prioritization needs to be carried out to determine what KM processes and subprocesses should be implemented according to the characteristics of the organization. This research uses a contingency view of KM to identify what KM processes, subprocesses, mechanisms and technologies are suitable to be implemented at PT XYZ. The findings of this research indicate that PT XYZ should give priority to the development of socializing for the purpose of sharing information, providing guidance, and facilitating the discovery and integration of knowledge. These subprocesses may be supported by implementing methods such as on-the-job training, face-to-face meetings, conventional hierarchical connections, conferences, brainstorming retreats, joint projects, documentation, and collaborative document production. The technology that can facilitate these mechanisms encompasses computer-based simulations, knowledge capture and transfer, decision support systems, videoconferencing, electronic group discussions, data bases, internet-based data access, information repositories, best practices, and lessons learned. This approach aims to address the issues faced by PT XYZ and enhance its KM processes. Future research can focus on designing and implementing KM systems. Additionally, other researchers can apply this contingency view of KM to study KM processes in companies across different industries.

## References

- [1] S. Wang, J. Abbas, M. S. Sial, S. Álvarez-Otero, and L. I. Cioca, "Achieving green innovation and sustainable development goals through green knowledge management: Moderating role of organizational green culture," *Journal of Innovation and Knowledge*, vol. 7, no. 4, Oct. 2022, doi: 10.1016/j.jik.2022.100272.
- [2] C.-H. S. Liu and T.-P. Dong, "Discovering the relationship among knowledge management, sustainability marketing and service improvement: the moderating role of consumer interest," *International Journal of Contemporary Hospitality Management*, vol. 33, no. 8, pp. 2799–2816, Jan. 2021, doi: 10.1108/IJCHM-12-2020-1468.
- [3] Z. Siregar, Suryana, E. Ahman, and S. Senen, "Does Knowledge Management Enhance Innovation: A Literature Review," *International Journal of Scientific & Technology Research*, vol. 8, pp. 1991–1994, Sep. 2019.
- [4] D. Klimecka-Tatar and M. Ingaldi, "How to indicate the areas for improvement in service process - the Knowledge Management and Value Stream Mapping as the crucial elements of the business approach," *Revista Gestão & Tecnologia*, vol. 20, pp. 52–74, May 2020, doi: 10.20397/2177-6652/2020.v20i2.1878.
- [5] T. Schoenherr, D. Griffith, and A. Chandra, "Knowledge Management in Supply Chains: The Role of Explicit and Tacit Knowledge," *Journal of Business Logistics*, vol. 35, May 2014, doi: 10.1111/jbl.12042.
- [6] M. R. Jalilvand, J. Pool, M. Khodadadi, and M. Sharifi, "Information technology competency and knowledge management in the hospitality industry service supply chain," *Tourism Review*, vol. ahead-of-print, Sep. 2019, doi: 10.1108/TR-04-2018-0054.
- [7] E. Ode and R. Ayavoo, "The mediating role of knowledge application in the relationship between knowledge management practices and firm innovation," *Journal of Innovation & Knowledge*, vol. 5, no. 3, pp. 210–218, 2020, doi: <https://doi.org/10.1016/j.jik.2019.08.002>.
- [8] I. Becerra-Fernandez and R. Sabherwal, *Knowledge Management Systems and Processes*, 2nd ed. New York: Routledge, 2014.

- [9] R. M. Grant, "Toward a knowledge-based theory of the firm," *Strategic Management Journal*, vol. 17, no. S2, pp. 109–122, Dec. 1996, doi: 10.1002/smj.4250171110.
- [10] I. Shehabat, "The Role of Knowledge Management in Organizational Performance and Gaining Sustainable Competitive Advantage," in *Proceedings of the 2020 Asia Service Sciences and Software Engineering Conference*, New York, NY, USA: ACM, May 2020, pp. 133–139. doi: 10.1145/3399871.3399878.
- [11] J. Darroch, "Developing a measure of knowledge management behaviors and practices," *Journal of Knowledge Management*, vol. 7, no. 5, pp. 41–54, Dec. 2003, doi: 10.1108/13673270310505377.
- [12] M. Shahzad, Y. Qu, A. U. Zafar, and A. Appolloni, "Does the interaction between the knowledge management process and sustainable development practices boost corporate green innovation?," *Bus Strategy Environ*, vol. 30, no. 8, pp. 4206–4222, Dec. 2021, doi: 10.1002/bse.2865.
- [13] A. Khan and M. Tao, "Knowledge absorption capacity's efficacy to enhance innovation performance through big data analytics and digital platform capability," *Journal of Innovation & Knowledge*, vol. 7, no. 3, p. 100201, Jul. 2022, doi: 10.1016/j.jik.2022.100201.
- [14] U. F. Sahibzada, J. Cai, K. F. Latif, and H. F. Sahibzada, "Knowledge management processes, knowledge worker satisfaction, and organizational performance," *Aslib Journal of Information Management*, vol. 72, no. 1, pp. 112–129, Jan. 2020, doi: 10.1108/AJIM-10-2019-0276.
- [15] K. Breznik, "Knowledge Management – from its Inception to the Innovation Linkage," *Procedia Soc Behav Sci*, vol. 238, pp. 141–148, 2018, doi: 10.1016/j.sbspro.2018.03.017.
- [16] M. U. Shehzad, J. Zhang, M. Dost, M. S. Ahmad, and S. Alam, "Knowledge management enablers and knowledge management processes: a direct and configurational approach to stimulate green innovation," *European Journal of Innovation Management*, 2022, doi: 10.1108/EJIM-02-2022-0076.
- [17] J.-C. Spender, "Making knowledge the basis of a dynamic theory of the firm," *Strategic Management Journal*, vol. 17, no. S2, pp. 45–62, Dec. 1996, doi: <https://doi.org/10.1002/smj.4250171106>.
- [18] S. P. Robbins, *Organization theory: Structure, Design, and Applications*, 3rd ed. Upper Saddle River: Prentice Hall, 1990.