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Optimizing Operational Performance Through Knowledge Management Practices: An Edtech Case Study

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ABSTRACT

As a growing Indonesian EdTech firm with a diverse client portfolio, the operation division faces some challenges in collaboration, documentation, upskilling, and onboarding. These challenges reveal gaps in knowledge management (KM) practices that hinder the optimum operation performance. To answer each of the research questions comprehensively, researchers use qualitative methods and thematic analysis to analyze the data. Primary data was gathered through in-depth interviews with seven internal respondents and one from another industry with a dedicated division to implement KM. There are 12 emerging themes from the 136 unique codes that are being categorized into SECI framework. The Socialization mode occurred informally through knowledge transfer and asking a peer for help, externalization tends to be deprioritized and scattered, Combination was limited by a significant technical skill gap, and internalization relied heavily on self-learning. This research proposes four structured action plans that align with the SECI model to optimize operation performance. The action plans are the KM Sharing Program, the Documentation First Movement, Optimize Process and Technical Capabilities, and Structured Internal Learning. Although the action plans have not yet been implemented, they are formulated based on internal suitability and best practices from another highly dynamic industry.

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1. INTRODUCTION

The online learning method has been used and improved widely since the COVID-19 pandemic. To enhance the learning experience through digital platforms, EdTech startups are competing to create curriculum and online platforms that are accessible and easy for learners to understand (Adeoye & Otemuyiwa, 2024; Singh et al., 2020). The financial outlook for this industry is promising where the revenue of the online learning platform projected an increase continuously by 78.8 million USD between 2024 until 2026 (Statista, 2024). This becomes an opportunity for the company, an EdTech (Educational Technology) firm dedicated to develop technology professional in Indonesia, to solidify its position as an industry leader.

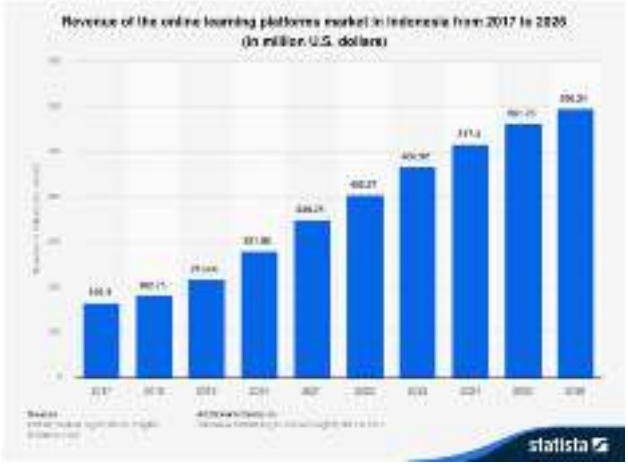

Figure 1. Revenue of the Online Learning Platform Market in Indonesia from 2017 to 2026. Source: (Statista, 2024)

As a company that primarily focuses on transforming individuals through technology education, the company aims to produce high-quality technology professionals. The company operates in a highly dynamic industry, characterized by technology adoption to streamline operation processes. This growth is measured using a combination of KPIs and individual performance metrics. However, the vast growth of startup companies is often not followed by internal system and human resources capabilities to keep pace causing significant operation strains (Davalas, 2023; Oliva & Kotabe, 2019). Some of the challenges faced by the operation division include efficiently managing multiple parallel campaigns while maintaining standards, accommodating the diversity of learners and clients, and adapting to both internal and external challenges, such as adopting new technologies like automation. These problems and complexities hinder the optimization of operation performance. Operation performance is the ability to achieve organizational objectives effectively and efficiently by performing a company's core activities. The concept of operation performance arises as the measurement of an organization's success amid intense industrial competition (Khosroniya et al., 2024; Mbaidin et al., 2020)

To address that multifaceted challenges and systematically advance towards optimum operation performance, a strategic focus on knowledge management becomes essential. Since the 1990s, knowledge management has been widely used for identifying, creating, sharing, using, and managing an organization's collective knowledge and information to optimize employee performance, enhance company competitiveness, and optimize business

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processes (Gautama, 2023; Nazarizade & Azizi, 2018; Nina, 2025). Three research questions are being answered within this paper: (1) What are the existing knowledge management practices in the company's operation division? (2) What are the problems that hinder the company's operation division from enhancing operation performance? and (3) What is the knowledge management implementation plan that can be suggested to optimize operation performance in the company operation division? By adopting the right knowledge management practices, the company can create a continuous cycle of knowledge creation and utilization. This approach will empower the operation division to convert valuable and mostly uncodified knowledge into shared and actionable assets. Furthermore, it supports all the critical components for enhancing operation performance and ensuring the company's sustained success in the competitive EdTech landscape.

1.1 Knowledge Management

There are two types of knowledge, tacit and explicit. Tacit is a type of knowledge that is owned by individuals and often act as a differentiation between one to another. On the other hand, explicit knowledge is owned by organizations or type of knowledge that is available in the accessible form such as platform, model, or document (Maravilhas & Martins, 2019; Mitchell et al., 2021). Meanwhile, knowledge management is a systematic strategy for maximizing a company's competitiveness, values, and goals (Budiman et al., 2022; Davalas, 2023). This strategy helps a business stay relevant in the long term amid tight competition.

Knowledge management involves defining, acquiring, disseminating, storing, applying, and assessing organizational knowledge. However, challenges arise since knowledge is intangible. In startups, the highest barriers are knowledge assessment, dissemination, and acquisition (Budiman et al., 2022; Oliva & Kotabe, 2019). Knowledge silos often emerge, inhibiting effective communication and creating skill gaps within the organization. Several factors that either support or hinder knowledge-sharing include trust, personal communication, organizational culture, and leadership (Liestiawati, 2015; Rodgers, 2023).

1.2 Operation Performance

Operation performance is a concept that has been developed over the time. There are five basic performance objectives that are applicable in all types of firms, including quality, speed, dependability, flexibility, and cost (Abubakar et al., 2019; Cu et al., 2021; Haq & Faizan, 2022). In a service-based company, especially with a B2B model, operational performance is influenced by several supporting factors including high-quality B2B relationships with clients and customers, efficient knowledge-sharing systems through ICT platforms, organizational learning and documentation, leadership and senior management support, as well as adaptability and innovation culture (Cu et al., 2021; Islami & Mulolli, 2020; Mbaidin et al., 2020; Yeo & Lai, 2020; Yudhistira et al., 2024).

Process standardization is crucial for improving operational performance through consistency and efficiency (Bandara & Gable, 2023; Romero et al., 2015). However, hindering factors include intensifying competition, knowledge silos, and lack of process documentation (Feng et al., 2024; Gharib et al., 2025).

1.3 Relationship between KM and operation performance

According to the research from 605 valid responses from Saudi service sector knowledge creation has the strongest correlation to quality performance, operation performance, and

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innovation performance compared to other KM processes (Abubakar et al., 2019; Alharbi & Aloud, 2024). This finding highlights the importance of making strong knowledge creation system in a company.

As one of the operation objectives, speed to the external customer can be helped by decreasing decision-making time and good/service the movement from inside of the operation. Through the SECI model approach, an Engineering, Procurement, Construction, and Installation (EPCI) company successfully developed an innovative framework to optimize project efficiency. The established knowledge management system engaged daily contract workers in their activities to meet project standards. With a proper KM system, a business can identify the low-cost production methods and consider the best one that creates more value added and also to improve the quality of employees (Arsawan et al., 2022; Yudhistira et al., 2024).

2. METHODS

To protect organizational and participants confidentiality, the name of the company, as well as internal team names, programs, and job titles, have been anonymized using pseudonyms. This qualitative study aims to examine and enhance knowledge management within the company's operation division. It addresses business issues related to knowledge management practices, which were identified through initial findings showing inefficiencies that affect operation performance. The research is structured around three key objectives: identifying current knowledge management practices, understanding KM problems that hinder operation performance optimization, and recommending KM improvement strategies. The scope of the study is limited to internal operation functions and focuses exclusively on knowledge management practices.

Table 1. Interviewee details
Source: Author

IN	Position
IN1	Head of Operation
IN2	Senior Manager from Team A
IN3	Manager from Team B
IN4	Manager from Team A
IN5	Associate Manager
IN6	Program Coordinator 1 from Team A
IN7	Program Coordinator 2 from Team A
IN8	Head Department of Learning and Development in a Healthcare Industry

The interview is conducted with seven representatives from the operation team including the Head of Operation, a Senior Manager in the Team A, Managers in Team A and B, an Associate Manager and two Program Coordinators in the Team A. Besides, one participant, Head Department of Learning and Development in a Healthcare industry also being interviewed to validate the findings. Each interviewee is given different questions list based on their role and position.

The gathered primary data from interviews will be analyzed through thematic analysis for identifying patterns, meaning, and final conceptualization of interview data. To conduct a

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thematic analysis, it should fulfill the 6Rs principles, including Robust, Resplendent, Relevant, Radical, Righteous, and Regal (Naeem et al., 2023; White, 2019). According to Figure 2, the thematic analysis has six main steps, designed to systematically extract meaning from qualitative data including: selection of quotations, keywords, coding, themes, conceptualization, and development of a conceptual model.

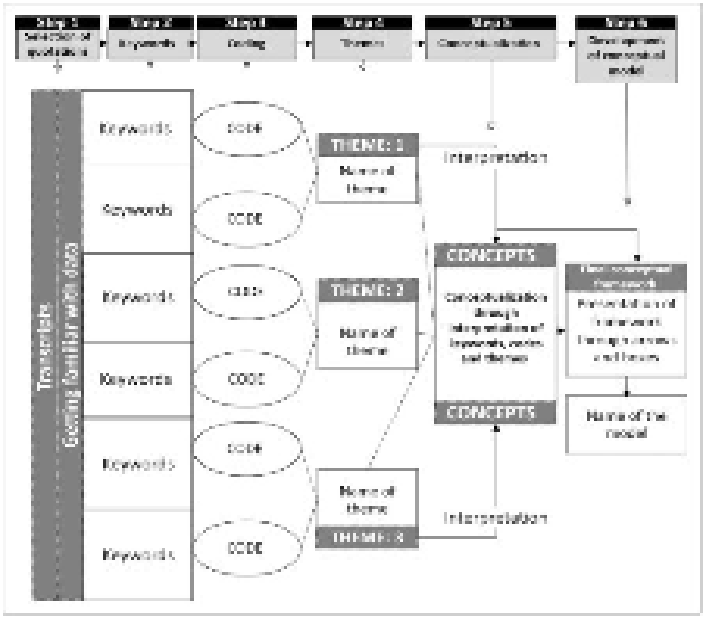

Figure 2. Step by Step a Thematic Qualitative Analysis.
Source: (Naeem et al., 2023)

Nvivo is the software that allowed data management efficiently, systematic coding, categorization, and identify relevant occurred patterns in text. This process involved creating a structured coding formulation, categorization, and retrieval of relevant occurring patterns (Intezari & Gressel, 2017; Rodgers, 2023). This software is not only make it possible to enhance transparency and auditability of the analysis process, but also provide analytical capacity focusing on interpreting patterns, identifying themes, and developing a deeper understanding of a complex knowledge dynamics in an organization.

3. RESULTS AND DISCUSSION

Based on Table 2, there are 12 themes illustrate the KM system, challenges, and how far the identified challenges affect the operation performance. Besides, a suitable KM plan can be interpreted after analyzing the existing condition and challenges. From these 12 themes, a cycle of KM was identified, namely the SECI model. There are 136 developed codes focused on 12 sub-themes and four primary themes of the SECI model.

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Table 2. Overview of coding thematic framework

No.	Conceptualization	Theme development	Number of codes	Number of quotations/ reference
1	Socialization	Tacit Knowledge Exchange	16	17
2		Barriers to Collaboration	7	8
3		Socialization Implementation Plans	6	7
4	Externalization	Articulating Know-How	9	14
5		The Documentation Dilemma	13	20
6		Externalization Implementation Plan	12	15
7	Combination	Combining and Integrating Explicit Knowledge	19	37
8		Bottlenecks in Combination	8	14
9		Combination Implementation Plans	14	16
10	Internalization	Explicit to Tacit Knowledge Practice	12	21
11		Problem in Internalization Practices	9	9
12		Internalization Implementation Plans	11	17
Total	4	12	136	195

3.1 Existing KM Practices

The knowledge owned by individuals that is shared directly through shared experiences and interactions is called socialization (Farnese et al., 2019; Mardiani et al., 2023; Nina, 2025). The interview reveals clear and culturally embedded ways for problem-solving that prioritize peer-to-peer support. IN 7 explicitly stated, "first I ask my peers, if there's a case like this, what's the best way to handle it or what can I do. If I haven't gotten an answer from my peers and I've already hit a wall, at that one level I can't find a new answer, then I ask the level above me."

There are also formal existing knowledge exchange, such as regular team and division meetings, as a structured forum for socialization. IN4 described “I still use weekly meetings to sync everyone, you know, regarding their progress, what the bottlenecks are.” The value of these meetings as a way to sync everyone who needs to be involved regarding the progress and any arising bottlenecks. “On Wednesdays, we'll have a weekly meeting to discuss progress or

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maybe just have a discussion, like sharing, 'Oh, we just had this campaign yesterday, it seems interesting if we apply it to other campaigns too'" These meetings are not limited to progress or work updates, but also serve as a space for collective reflection and knowledge dissemination, where learnings from one task can be shared for a broader application.

Beyond formal meetings, the managers also encourage a broader culture of communication and collaboration. One of the highlighted policies is that employees must take lunch breaks away from their workstations, whether in meeting rooms or work desks. IN 2 stated "to encourage us to not just deal with laptops but also be able to communicate with other individuals." These formal interactions create opportunities for spontaneous conversations that can span professional collaboration, work-related storytelling, and personal connection, thereby strengthening social bonds and facilitating regular exchange of tacit knowledge (Bogatinoska et al., 2024; Shiferaw, 2024).

Furthermore, in situations of onboarding existing or new hire into a new role, knowledge transfer relies heavily on direct, experiential methods. IN 7 explained "Because if we do knowledge transfer, it's usually verbal and directly demonstrated." It shows the process as transfer learning, typically known as verbal and through direct demonstration. In this activity, explicit documentation only acts as a secondary reference to consult when the details are missed during the hands-on transfer.

While this reliance on peer support and direct interaction builds strong team coordination and possibilities for rapid, localized problem-solving, it also points to a potential cultural dynamic when escalating issues to management is viewed as a final step. The procedural flow of this problem's escalation acts as an informal flow and social filter as stated by IN 7, "If I have difficulty, I ask ask my peers first, then to those at a higher level than me, to ask about how to solve it or the alternatives I can do to overcome that issue." This dynamic empowers each individual to sharpen their problem-solving skills, but decreases the potential to resolve a more complex problem that requires managerial authority or cross-functional intervention. Besides, there is a risk of keeping valuable knowledge within a small and certain team of members that will hinder the sharing in the larger amount within larger organizations (Budiman et al., 2022; Centobelli et al., 2017; Garcia et al., 2019).

Transfer learning for critical processes, such as role transitions of an employee to another team, shows a risk of knowledge loss, and a little to medium scalability method. This strategy makes organizational memory mostly continue to specific individuals and is dependent on the availability and teaching abilities of those who own the knowledge. This shows a contrast of these practices and the organization's strategy to push towards systematization, also revealing the differences between ground and high-level goals.

From the tacit knowledge that is being transferred through various formal and informal activities in the operation division, the know-how activity emphasizes how the knowledge owner translates into an accessible form. Any valuable knowledge owned by individuals needs to be articulated into explicit and accessible forms like documents, manuals, or models. The organization has to ensure that the outputs are accessible, manageable, and can be improved for a better workflow and standard level (Mardiani et al., 2023; Nina, 2025). Within the operation division, these practices do exist but appear to be fragmented and driven by immediate, practical necessities rather than a cohesive, organization-level strategy.

The division provides the centralized knowledge like Wiki, project management tools, and cloud-based file repository. The primary repository for explicit knowledge platforms that are being used frequently is cloud-based file repository. IN 3 explained that team members ,"so far, it's only been in the cloud-based repository, where they save documents in their respective team folders. And that will be used, for example, if there's a team transition or a

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change in players, then that document is what they have to hand over to the new team," usually save the documented work in their respective drives. Responsibilities handover or team transition is the main trigger that enables the usage of the knowledge repositories.

A team has a distinct strategy to make externalization habits happens regularly. IN3, the manager, implemented a system of daily check-ins using the project management platform. Each working day, the member team is required to "Ask everyone to write down what they have completed that day." This creates a daily, explicit record of work that has been completed and potential bottlenecks.

There is a clear intention at a strategic level to build a more centralized knowledge base. IN1 confirmed "yeah, like on a wiki, but each team also has their own documents. The purpose is that if someone new joins, they can just read what we've documented." The knowledge sharing platforms like Wiki or others existing platforms are intended for documenting SOPs, so the new hire who has just joined the company can use it as a reference. Another structured externalization is the execution of growth plans, where employees are required to articulate their learning objectives and goals for the upcoming quarter. The SOPs documents being restored on a different platforms like project management tools and cloud-based repositories, depends on the team and the document content.

Comparing different perspectives from interview participants, there is a significant goals for documentation and the day-to-day operation reality. The Head of Operation's goal of a central, self-service sharing platforms for scalable onboarding shows intention for a permanent and maintainable knowledge asset. However, the previous statement by IN3 shows otherwise where the documentation documents tend to be scattered. The fragmented ecosystem of individual cloud-based repositories and documents is created for the handover. The difference in documentation fundamental goals shows a central finding of this analysis.

The gap shows that the act of externalization within the division tends to be more reactive than proactive. Knowledge is being captured as a mandatory requirement of some event that happens, like being transferred into another team, or a daily report at the beginning of the day. However, the improvement or design on how to do things better is not being captured properly, making the existing standardized document more about how to get things done. This externalization system affects the other modes of the knowledge spiral, especially the combination.

Combination, a phase of KM, involves the configuration and systemization of explicit knowledge into new and more complex forms. This mode is kept developed and is the most strategic aspect of KM in the operation division. It shows a strategically emphasized aspect of KM at the organization by a top-down mandate for enhancing efficiency, ensuring quality control, and optimizing flexibility through the aggressive implementation of automation and the creation of standardized operation procedures (Gutterman, 2023; Oliva & Kotabe, 2019)

Automation acts as the central part of the company's operation strategy, with numerous processes that were once manual and labor-intensive having been systematized. As stated by IN1, "The scheduling is automated now. If it wasn't automated, it would be crazy. [A complex mentor-to-participant ratio for thousands of learners], that used to be manual, right? How many people were just making the schedule? Now it's automated, it's the same." The existence of automation workflows matches instructors' schedules with mentors and the collection of post-session feedback through the integration of Apps Script with Google Sheets.

Furthermore, the division has successfully codified some of its core knowledge such as learning framework combining multiple techniques, including gamification, project-based assessments, and a standardized curriculum. This is also aligned with IN1 stated "we

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combined all of that, and finally rediscovered the formula. To develop technology professionals, the learning format must be like this: there's a standardized curriculum, someone to verify with a project, and gamification." This statement shows that the operation division should maintain a high level of service standards to maintain the quality of services.

To ensure the service quality can be maintained, employee performance management has also been systemized. The COO (IN1) explained that the company has shifted its performance management. Instead of linking bonuses to specific, self-directed "growth" goals, the company now focuses on standardized KPIs and competencies.

Aside of the employee performance evaluation, the operation division is divided into two main teams, team A (client-facing programs) and team B (self-paced programs), which are designed to handle different types of programs with a clear objective, operation models, and client profiles. This heavy emphasis in the combination mode shows the organization's strategic shift from a startup-like model towards a more mature, scalable enterprise model. The terms used by the manager level above, like formula, learning model, and standard, indicate the effort to reduce the dependability of key individuals as a classic strategy for managing growth (Frese & Keith, 2015; Gutterman, 2023; Haddadpoor et al., 2015).

Converting explicit knowledge back into the personal tacit knowledge is a process called internalization in SECI. According to IN 6, "We don't have a specific SOP, so it's more like learning by doing," which indicates that learning by doing is a fundamental pillar of employee development within the operation division. The thing is, regardless of how long they have been with the company since they have a heavy responsibility to define how to accomplish something effectively despite the variation of each campaign.

The division strongly encourages employees to conduct self-directed learning and on-the-job adaptation, which is supported by onboarding programs for new hires and company-sponsored training opportunities. IN7 described this method clearly, "So we have to explore on our own, and from there I kind of, you know, realized that it has to be done independently by me." IN7 also explained that the self-exploration activity often involves a practical methodology of reverse engineering an existing task, such as referring to the existing documents, so they can reuse the same formula and then explore new functions or methods to meet the defined requirements. This approach is culturally reinforced since most of the flows are they need to find out by themselves first.

A new hire received a more formalized internalization support, such as joining a mandatory writing workshop as part of an onboarding session. The goals of this training was stated by IN2, "we want new team members, especially in Operation, to know how to communicate with clients, communicate with customers, communicate with users, whether it's from a writing perspective or when speaking directly to the user." After completing the onboarding activities, the new hire is still being watched closely by their assigned leaders to ensure that all the work they have done meets the company standards. This activity will continue until the quality of work done has met the needs of a needs of higher levels standard even if this standard still did not explicitly being determined.

Furthermore, the company provides a budget for employees' upskilling or reskilling to support their growth through external training. This process is mostly employee initiated and requires managers' approval beforehand. As stated by IN2, "In the end, from the founder's perspective, he's more transparent about where he wants the company to go. What kind of employees does he want? From there, the employees also follow that direction as a result of that information." This approval phase also determines whether the training aligns with the broader objective of the company.

Self-exploration and a learning-by-doing culture are a double-edged sword because, on the

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positive side, they enforce proactivity, adaptability, and a deep understanding of tasks. However, if not executed well, it can burden each individual particularly for new employees who need time to adapt to the work scope and team culture. In terms of deep learning, encouragement to find solutions on their own is a strategic move. On the contrary, supported by the previously identified weaknesses in externalization, it can become inefficient and frustrating. Employees are asked to explore a territory that has not been adequately mapped, turning a learning opportunity into a time-consuming and stressful activity.

This creates a mismatch between the rapid growth of operation demands and the inherently slower pace of individual experiential learning. The work environment is characterized by the constant emergence of "pop-ups" or urgent new tasks that are unexpected. When the employee is in "learning-by-doing" with a steep learning curve, being involved in a high-pressure situation, they can be overwhelmed, which increases the risk of employee burnout and knowledge gaps. Even providing a formal budget training is a valuable mitigation strategy, but its reactive, employee-proposed basis means it is not strategically taken to close skill gaps across the organization. Instead, it serves solely as an individual development, rather than a systematic programming approach to improve operation performance.

3.2 Existing Challenges in KM Practices That Hinder Operation Performance

Based on findings, while KM practices the informal peer collaboration gives a significant positive impact on knowledge transfer, some key challenges need to be addressed, especially under the pressure of a highly dynamic work environment and workloads. This situation makes the employee reluctant to seek help from their peers, affecting the failure to address skill gaps in a shorter time, notably in business communication. IN7 stated that "because sometimes in situations like that I don't want to burden others on my team, and because I feel that on my team there are also other priorities that they need to complete." there is a great hesitation to ask for assistance from peers who are perceived to be equally or more overworked. The challenges in initiating collaboration arise from this perspective, creating an urgency for the division to intervene. Furthermore, it will make the informal support from peers begins to fail, creating hidden knowledge silos.

The other challenge is a skill gap in business communication skills, especially for employees who rarely interact with clients but are required to in some circumstances. The manager highlighted the difficulty in communicating campaign lowlights to the client, such as stagnant student progress, in a way that does not alarm the client. This could causes damage to client and company relationships and prevents the identification of collaborative solutions.

Compared to the other SECI modes, the externalization mode is the most significant and systemic weakness. The creation of an explicit document is widely acknowledged to be incomplete, inconsistent, scattered, and often sacrificed due to the main tasks. This causes downstream problems that affect other parts of every aspect of the knowledge spiral. Interview participants consistently stated "But it's not all well-documented yet, it's limited to sometimes being documented and sometimes not, so it's like fifty-fifty, for example." It shows documentation in terms that increasing deficiencies, characterized by not neat, exists but is scattered and half complete. This indicates that when knowledge is externalized, it is not organized into a coherent, accessible system. IN6 stated the absence of some SOP documents when the leaders moved to another team. This makes the employees tend to rely on informal knowledge and individual memory, increasing the risk of inconsistency of process flow that affect the inconsistency of quality.

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The researchers view this obstacle as a cultural and structural issue since the documentation is viewed as a secondary task. The documentation benefit was also being questioned by IN6, “It's quite a waste of time, especially when we still have tasks that need to be done.” Also, documentation is something that needs to be done and helps them to finish their mandatory tasks. This suggests the organization’s structure and pressures indirectly devalue the work of knowledge creation in favor of immediate task completion. Besides, even when documentation about better new solutions is being made, it will likely be omitted. This fact was confirmed by IN7 stated, “For example, from my work habits, if I initially never did something but then decided to do it, well, that's something I documented. Right now, there are also things I'm exploring, but I haven't made the documentation for them yet.”

The documentation dilemma is not an isolated issue but rather the root cause of other identified operation performance challenges. The Head of Operation strategic plan to make documentation a mandatory component of the company's Objectives and Key Results (OKR) is a formal attempt to address the gap that arises because of this systemic issue. As the strategic priority, the combination mode, where explicit knowledge combines to create advanced knowledge, has its challenges. This arises from the complexity of executing multiple large-scale programs with very dependence on certain roles, and bottlenecks created by external stakeholders. The system is created to support and push efficiency that reduces complex forms of delay and friction.

Internally, the strategic push for automation has created a critical dependency on a small pool of technical experts. IN4 explained, “for example, if there's a request, we can explain it in more detail, but actually creating it might be a bit challenging from my team's side because most of us are non-IT and would have to learn programming languages and so on,” that it becomes a challenge for most non-IT. In the peak season, when most of the campaigns are running and automation requests are also increasing simultaneously, it indicates a finite resource as the human bottleneck. This is a direct consequence of a gap in internalization and the existing skill gap in automation. The operation division implemented advanced combination tools without a corresponding strategy, with the employee readiness to execute and actively participate.

The challenges of internalization are significantly defined as “adaptation gap” since there is an intense demand of the work environment, including high workloads, rapid change, and prioritizing technical complexity to optimize the operation performance. However, this causes misalignment between individual abilities to learn and adapt effectively.

The onboarding and adaptation period of a new hire has some challenges. IN7 recalled the initial moments in the company where shyness and a lack of communication skills for the first three months, “maybe at first, I was still, you know, still, uh, because I'm a bit shy, so when interacting with new people, I was a bit, you know, reserved, not yet as lively as that.” It points to a managerial system that integrates social and cultural aspects, so the learning curve of new employees can be optimized.

The mutation or movement from one team to another often requires employees to learn from the beginning, especially if the scope of scope is completely different. IN4 explained that “Or maybe even transferred, like me, literally to a completely different team, right? From curriculum team to the operation team, or operation to somewhere else. Well, that would mean different work and so on.”

This combination of factors, a "sink or swim" learning culture, insufficient documentation, heavy workloads, and impractical technical expectations, results in a demanding and potentially unsustainable learning environment. The adaptation gap is not simply an individual employee challenge, but part of a systemic issue deriving from the misalignment of

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the other three knowledge management modes. The organization's drive for swift, scalable implementation is not adequately supported by its human capital readiness, underscoring a need for more organized and supportive internalization processes to bridge the gap between operation demands and employee capabilities.

4. CONCLUSION

There are three main objectives in this study: to identify the existing knowledge management practices in firms operation division, to identify the existing problems in knowledge management that hinder firms operation division for enhancing operation performance, and to suggest the knowledge management implementation plan that can be suggested to optimize operation performance in the EdTech firm's operation division.

The existing KM practices are a combination of informal strength in socialization and systemic weaknesses in externalization. The peer-to-peer support enables speed and gets straight to the point of problem-solving. Meanwhile, the company's strategic focus on combination through automation and process standardization is the main factor to optimize the operation performance and stay competitive amid the intense competition. However, the weaknesses in externalization has a characteristic more reactive and fragmented, with multiple repositories which ineffective for a long run. Internalization in the division heavily depends on a "learning by doing" culture, while it is supporting resourcefulness, but tend to be inefficient also places a significant burden on employees.

This study identified some specific KM challenges that inhibit operation performance and need to be addressed quickly. The nature of socialization through informal interaction can not be utilized regularly due to communication frictions and skill gaps. The effect of slowing down project execution and the risk relationship with external stakeholders, especially clients, can not be avoided. Aside of that, the most critical challenges is documentation dilemma arising from weak externalization, which identified as the central bottleneck to operation scalability by crippling efforts to automate processes and efficiently onboard new hires. This affects the challenges in combination, such as being highly dependent on technical specialists, as the symptoms of these previous modes in SECI. The final mode, the externalization process, is struggling due to an adaptation gap in adaptation, fueled by a lack of structured support and documentation, directly threatening operation performance through a mismatch between the rapid operation growth and the slow pace of individual learning.

To optimize operation performance, a holistic and integrated KM implementation plan is proposed through this research. A sustainable KM plan to achieve the optimum operation performance can be done by implementing proposed solutions to address the interconnected challenges across all four SECI modes simultaneously. The proposed recommendations are: structured KM sharing program, documentation first movement, optimize process and technical capabilities, and structured internal learning. The proposed solution is beyond a set of tools or activities but also a strategic initiative of cultural change to meet the managerial level vision of conducive tacit knowledge sharing, standardized documentation, building programming thinking capabilities, and providing a structured system for employee learning and adaptation. In conclusion, the operation performance in the Company's operation division is strongly linked to the existing practices of KM ecosystem. The suggested KM practices aim to move from a reactive, high-effort operation system to a proactive, scalable, and sustainable one. The success of achieving these goals will directly impact the operation performance enhancement. Some recommendations are provided for the company's

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Operation division. The recommendations for future research are also given based on this study. A detailed implementation plan is proposed in the previous part. The key strategic recommendations for stakeholders including structured KM sharing program, documentation first movement, optimize process and technical capabilities, and structured internal learning.

5. AUTHORS' NOTE

The authors declare that there is no conflict of interest regarding the publication of this article. Authors confirmed that the paper was free of plagiarism.

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