

Navigating Knowledge in the Hybrid Era: Critical Success Factors for Managing Knowledge in Commercial and Industrial Hybrid Workplaces

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Abstract: Hybrid work (HW) environments are increasingly prevalent, necessitating effective knowledge management practices (KMPs) to ensure organizational success. This study aims to evaluate the critical success factors (CSFs) of KMPs in hybrid workplaces, emphasizing the integration of quality management systems and structured knowledge management frameworks to enhance industry relevance. The research was conducted in two successive steps. First, the literature review was conducted to derive the CSFs of KMPs. As little literature was found regarding CSFs of KMPs in HW, CSFs of KMPs in traditional office-centric work were also considered. Second, a semi-structured interview was conducted to evaluate these CSFs in HW. The participants were from five global organizations across various industry sectors that adopt hybrid work and practice extensive knowledge management (KM). The study shows that CSFs for effective KM in HW are: well-designed processes and policies, comprehensive training and development systems, strategic use of technology, strong leadership support, a culture of cooperation and participation, seamless integration of KM into daily workflows, adaptability to organizational changes, and continues evaluation through feedback mechanisms. These factors collectively enable organizations to manage knowledge effectively, enhancing overall performance and adaptability in hybrid work environments. This study focused on the unique context of hybrid workplaces, a relatively new and evolving work model, and exploring the critical success factors for effective knowledge management within this setting. By examining diverse industries and utilizing in-depth case studies, this research provides practical insights into how organizations can successfully implement knowledge management practices in hybrid settings, thereby contributing to the broader discourse on quality systems and structured KM frameworks.

Keywords: Critical success factor, Knowledge management practices, Hybrid work, Remote work

1. Introduction

The concept of Knowledge Management (KM) has undergone significant transformation with the emergence of hybrid workplaces, which blend traditional office environments with remote work practices. As organizations increasingly embrace hybrid work arrangements, implementing KM in such settings has become pivotal for maintaining competitiveness and fostering innovation. Hybrid workplaces present unique challenges and opportunities for knowledge sharing and collaboration, necessitating adaptive strategies that cater to both physical and virtual environments (Baker, 2021). Hybrid environments require seamless knowledge transfer across digital and physical spaces, necessitating the use of technology-enabled platforms and cultural reinforcement to sustain knowledge flow.

Global events like the COVID-19 pandemic have significantly accelerated the transition to hybrid workplaces. This unforeseen shift forced many organizations to rethink their operational models. The pandemic highlighted the need for robust Knowledge Management practices (KMPs) that are flexible enough to accommodate a dispersed workforce while ensuring uninterrupted access to critical knowledge resources (Clara, 2021). As a result, organizations had to adapt their KM systems to support not only co-located environments but also remote and asynchronous work setups (Deloitte, 2020; Gartner, 2021).

In hybrid workplaces, traditional KM systems, originally designed for co-located environments, often fall short in supporting the needs of a workforce that is no longer bound by physical office spaces. These systems may struggle to facilitate effective knowledge sharing and collaboration when team members are distributed across different locations and time zones (Deloitte, 2021). Consequently, identifying and understanding the critical

success factors (CSFs) for KM in hybrid environments is essential for developing strategies that ensure continuity and adaptability in the face of evolving work dynamics.

Given the complexities of hybrid work environments, it is clear that organizations must reevaluate their traditional KM practices. While extensive research exists on knowledge management practices in traditional or remote settings, little attention has been given to the unique challenges and opportunities within hybrid workplaces. This study bridges the gap by identifying and analyzing critical success factors (CSFs) specific to hybrid environments, contributing to a practical framework for KM tailored to hybrid organizational structures.

2. Literature Review

2.1 Knowledge Management Practices (KMPs)

Early conceptualizations of KMPs focused primarily on processes of knowledge creation and transfer as well as emphasized the roles of tacit and explicit knowledge (Dalmarco et al., 2017). According to Nonaka (1994), tacit knowledge exists within each individual and should be transferred to turn into explicit one to be useful within the organization. On the other hand, Alavi and Leidner (2001) further defined KM practices as a set of techniques, systems, and processes aimed at creating, storing, transferring, and applying knowledge within organizations.

Recent conceptualizations of KMPs have expanded to include various perspectives on how knowledge is managed. While some studies, such as those by Alegre et al. (2013), identify dissemination and storage as the primary KM practices, others, like Xie, Zou and Qi (2018), propose a more comprehensive view, incorporating acquisition, assimilation, transformation, and exploitation as key dimensions. Lai and Lin (2012) offer another perspective, identifying knowledge creation and acquisition, knowledge diffusion and integration, and knowledge storage as the three dynamic processes that capture the essence of KM practices.

In addition to these evolving views, Alegre et al. (2013) describe KM practices as organizational activities focused on the application and use of knowledge. Contemporary research, such as that by Alcoforado et al. (2019), emphasizes the role of technology in enhancing the accessibility and usability of knowledge across organizations. Al-Sulami et al. (2023) explicitly define KMPs as a collection of processes involved in knowledge creation, storage, acquisition, sharing, and application, with these processes being interconnected to ensure high-quality knowledge that boosts overall performance. The authors approach the five processes (knowledge creation, storage, acquisition, sharing, and application) as a stacked and intertwined set of ingredients that produce an engine for change with robust, valuable knowledge. To this end, effective KMPs are critical to fostering innovation and decision-making as well as staying competitive in fast-evolving industries (Li et al., 2020).

2.2 Critical Success Factors (CSFs) of Knowledge Management Practices (KMPs)

The success of Knowledge Management Practices (KMPs) is essential for enhancing organizational efficiency and innovation, as it directly influences the ability to leverage collective knowledge (Lam et al., 2021). Effective KMPs not only improve decision-making processes but also foster a culture of continuous learning and adaptation within organizations (Donate & Guadamillas, 2011). Researchers highlighted that the effectiveness of KMPs hinges on several critical success factors, as listed in Table 1. To better understand how these factors interrelate and contribute to successful knowledge management practices, Figure 1 illustrates a theoretical framework developed from previous studies.

Table 1: CSFs of KMPs from various authors

Critical Success Factors (CSFs)	Author(s)
People	(Abu-Alsondos, 2023)(Ali, Bajwa & Rehman, 2021)(Kulkarni, Ravindran & Freeze, 2007) (Mostofa, Othman & Zulkifli, 2023)
Process	(Abu-Alsondos, 2023) (Ali, Bajwa & Rehman, 2021)(Mostofa, Othman & Zulkifli, 2023)
Strategy	(Abu-Alsondos, 2023) (Jennex & Olfman, 2003) (Mostofa, Othman & Zulkifli, 2023) (Nadison & Elezi, 2022)
Technology	(Abu-Alsondos, 2023)(Detjen & Webber, 2023)(Dutta, Vedak & Sawant, 2023)(Herlina et al., 2024)(Jennex & Olfman, 2003) (Kanagasabapathy, n.d.) (Kulkarni, Ravindran & Freeze, 2007) (Mostofa, Othman & Zulkifli, 2023) (Ali, Bajwa & Rehman, 2021)

Critical Success Factors (CSFs)	Author(s)
Culture	(Abu-Alsondos, 2023) (Detjen & Webber, 2023) (Herlina et al., 2024)(Kanagasabapathy, n.d.) (Kulkarni, Ravindran & Freeze, 2007) (Mostofa, Othman & Zulkifli, 2023)(Nadison & Elezi, 2022) (Ali, Bajwa & Rehman, 2021)(Septari & Latief, 2020)
Leadership	(Cheak et al., 2022) (Detjen & Webber, 2023) (Dutta, Vedak & Sawant, 2023)(Herlina et al., 2024) (Kanagasabapathy, n.d.) (Kulkarni, Ravindran & Freeze, 2007) (Mostofa, Othman & Zulkifli, 2023) (Septari & Latief, 2020)
Employee Training	(Cheak et al., 2022) (Detjen & Webber, 2023) (Kanagasabapathy, n.d.) (Mostofa, Othman & Zulkifli, 2023)(Ali, Bajwa & Rehman, 2021)(Septari & Latief, 2020)
Empowerment	(Detjen & Webber, 2023) (Kanagasabapathy, n.d.)
Communication	(Lewis-Pryde & Evans, 2016)
Organizational Structure	(Mostofa, Othman & Zulkifli, 2023)
Policy	(Arias Velásquez & Mejía Lara, 2021)

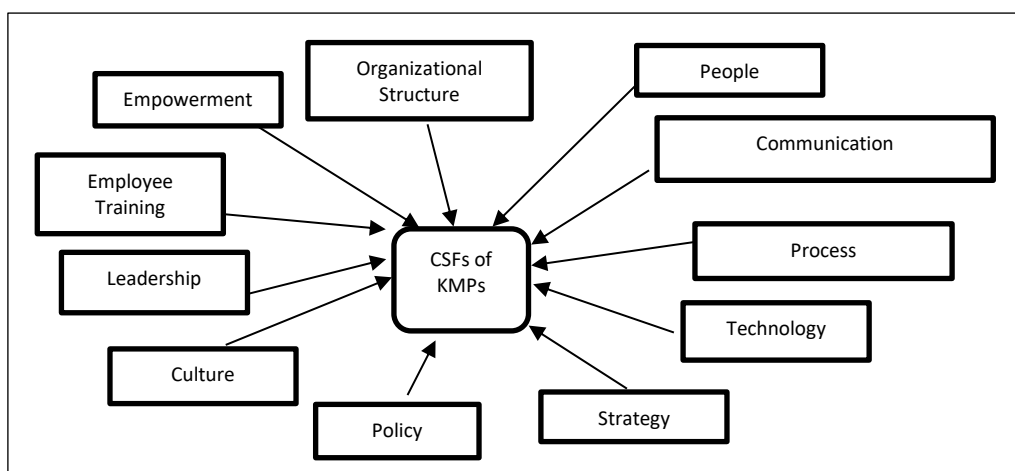


Figure 1: Theoretical Framework of CSFs of KMPs from previous studies

Figure 1 shows the theoretical framework of CSFs of KMPs from previous studies. The success of knowledge management (KM) largely depends on the people involved and the quality of communication within the organization. Effective communication between internal and external stakeholders is crucial for the open sharing, retrieval, organization, and leveraging of knowledge, particularly through social networks (Lewis-Pryde & Evans, 2016). People play a significant role in KM, as their willingness to share knowledge and engage in KM activities directly influences the overall success of KM systems (Abu-Alsondos, 2023). Trust and collaboration among employees are essential for fostering an environment where knowledge is freely exchanged, leading to improved organizational performance.

The processes that govern the creation, sharing, and utilization of knowledge are fundamental to KM success. Clear and standardized processes ensure that knowledge is effectively managed and exploited, promoting better information sharing, collaboration, and decision-making within the organization (Abu-Alsondos, 2023). Technology also plays a critical role in KM, providing the tools and platforms necessary to support these processes. The adoption of advanced technologies, such as intranets, intelligent search techniques, and knowledge management systems (KMS), enhances the organization's ability to apply existing knowledge and create new knowledge, thereby gaining a competitive advantage (Abu-Alsondos, 2023; Kulkarni, Ravindran & Freeze, 2007).

One of the key drivers of success in KM is a well-defined strategy, which provides an alignment of KM initiatives with an organization's objectives. Strategic planning ensures that knowledge management systems are deployed effectively, allowing organizations to maximize the return on technology investments and achieve their goals (Abu-Alsondos, 2023). Additionally, an efficient KM policy provides a framework for implementing KM practices and advancing organizational objectives such as teaching, research, and operational efficiency (Arias Velásquez

& Mejía Lara, 2021). The integration of KM strategies into the broader organizational strategy is essential for sustaining KM practices and ensuring their long-term success.

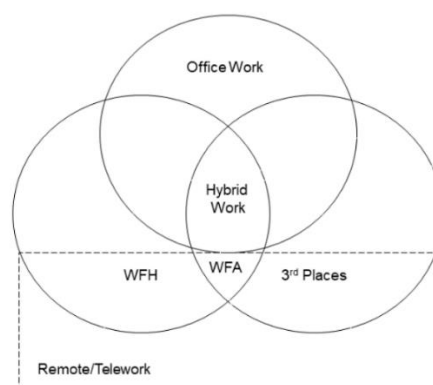
Organizational culture is the most critical moderating factor in KM systems' effectiveness. Positive culture, which supports knowledge sharing, cooperation, and trust, has a highly significant impact on the efficacy of strategic planning, processes, and technology of KM success (Abu-Alsondos, 2023). Leadership also plays a pivotal role in KM, as strong leadership is needed to provide strategic direction, foster a supportive environment, and encourage the creation, sharing, and use of knowledge within the organization (Detjen & Webber, 2023; Herlina et al., 2024). Transformational leadership, in particular, is effective in creating a knowledge-rich environment that promotes innovation and the dissemination of knowledge. Transformational Leadership refers to a leadership style that inspires and motivates employees to go beyond their immediate self-interests to achieve organizational goals (Phong, 2021). This leadership approach fosters a knowledge-sharing culture, encourages innovation, and supports the continuous development of employees, aligning with KM objectives

Employee training is essential for equipping individuals with the necessary knowledge and skills to effectively manage KM systems and contribute to the organization's knowledge base (Cheak et al., 2022). Continuous training programs help employees adapt to the evolving demands of KM, ensuring that they are well-prepared to utilize KM tools and processes. Empowerment is also crucial, as it enables employees to take ownership of their roles in KM, fostering a culture of fluidity and adaptability (Detjen & Webber, 2023). Finally, the organizational structure must support KM initiatives by providing the necessary resources and infrastructure to facilitate knowledge-sharing and collaboration (Mostofa, Othman & Zulkifli, 2023). A well-designed and outcome-defined organizational structure, aligned with KM strategies and practices, is vital for sustaining KM efforts and achieving long-term success.

2.3 Hybrid Work (HW)

In the aftermath of the COVID-19 pandemic, most organizations have adopted a hybrid work model, characterized by a flexible arrangement where employees divide their time between traditional office settings and remote working environments. Hybrid workplaces are designed to harness the benefits of both in-person collaboration and the flexibility of remote work, allowing employees to work from various locations, including their homes or "third places" such as coworking spaces, libraries, or cafes, offering greater autonomy over their work schedules (Felstead & Reuschke, 2020; Waizenegger et al., 2020).

The research conducted by Hopkins and Bardoel (2023) further discovered that hybrid work has become a strategic response to the changing demands of the modern workforce, balancing the traditional office environment with remote work to enhance productivity, employee satisfaction, and organizational resilience. Figure 2 shows the positioning of hybrid work as a flexible work model that combines both office-based work and remote work. Remote work includes various arrangements such as working from home (WFH), working from anywhere (WFA), and working from third places. Work From Home (WFH) refers to a work arrangement where employees perform their job responsibilities remotely from their personal residences. In contrast, Work From Anywhere (WFA) provides employees with the flexibility to work from various locations beyond their home or office, such as coworking spaces, libraries, or cafes. This positioning of hybrid work within academic literature underscores its significance as a flexible working arrangement in the evolving nature of work (Hopkins & Bardoel, 2023; Waizenegger et al., 2020).



Source: Hopkins & Bardoel (2023)

Figure 2: The positioning of hybrid work within the existing academic literature

Recent studies have highlighted the growing preference for hybrid work models among knowledge workers worldwide. Knowledge workers are defined as professionals whose primary role involves handling, analyzing, and generating knowledge-based outputs, often using specialized expertise, creativity, and technology. Examples include researchers, analysts, IT specialists, consultants, and professionals in education and finance. In June 2022, Gallup surveyed a nationally representative sample of 8,090 remote-capable employees in the US, finding that 60% now prefer hybrid work options (Wigert & Agrawal, 2022). Similarly, a pulse survey from Future Forum in July 2022, which included 10,646 knowledge workers globally, revealed that hybrid work is already the dominant business model for 49% of these workers (Forum, 2022) and an April 2022 study of 1,421 Australian knowledge workers shows a majority (54%) following a hybrid work model, with 23% still working remotely full-time and 22.9% back in the office full-time (Hopkins & Bardoel, 2022). Consistent with these findings, hybrid work is expected to persist in the post-pandemic era (Tran, 2022).

3. Methodology

3.1 Research Setting

The study was conducted as an inductive, qualitative research, focusing on five hybrid workplaces across different industries. The aim was to explore the CSFs of KMPs within these organizations. Case studies were employed, which is particularly effective in providing an in-depth, contextualized understanding of complex phenomena within real-world settings (Yin, 2018). Each organization was treated as a distinct case, allowing for a comparative analysis across cases to identify patterns and unique insights (Eisenhardt, 1989).

3.2 Data Collection

Data was collected from November 2023 to April 2024 via in-depth interviews with employees across various functions and levels, including directors, specialists, managers, and engineers. The selection of participants from different organizational levels was intentional, aiming to capture a wide range of experiences and perspectives related to KMPs. This diversity enriched the study's findings by offering varied insights into KM practices across different operational environments.

Participants were drawn from five hybrid workplaces that have been practicing hybrid work for a minimum of three years, with most having adopted this arrangement since 2020, providing a robust foundation for assessing the long-term impact and sustainability of hybrid work models. Moreover, these organizations were also recognized for their best practices in KM, which become a cornerstone in hybrid environments for maintaining effective collaboration, fostering innovation, and ensuring organizational productivity. The strategic selection of these organizations allowed for a comprehensive exploration of the relationship between well-established KM practices and the successful implementation of hybrid work.

The data for this study was gathered through semi-structured interviews, which is a popular method within the qualitative research framework. The interviews were carried out online via Google Meet or Microsoft Teams and lasted between 20 and 30 minutes. Such a method allowed the participants to manage the interview schedule, which was particularly relevant in the hybrid working environment. Data collection continued until theoretical saturation was reached, meaning that no new categories relevant to the research questions emerged, ensuring informational redundancy (Saunders, Lewi & Thornhill, 2009). Additionally, all personally identifiable information was removed, and companies were referred to only by their industry type (see Table 2) to ensure confidentiality and anonymity.

Table 2: Participants of the Study

Participant	Position	Company	Industry/Sector
Participant 1	Deputy Director of Research	Company A	Financial Services
Participant 2	T&E Specialist	Company B	Oil and Gas
Participant 3	Senior Manager HRM	Company C	Oil and Gas
Participant 4	Software Engineer	Company D	IT Company
Participant 5	Senior Sales Manager	Company E	OEM power generation equipment

3.3 Data Analysis

The qualitative data obtained from interviews were analyzed using thematic analysis, facilitated by the software ATLAS.ti. This method involves coding the data in several phases to identify key themes and patterns related to

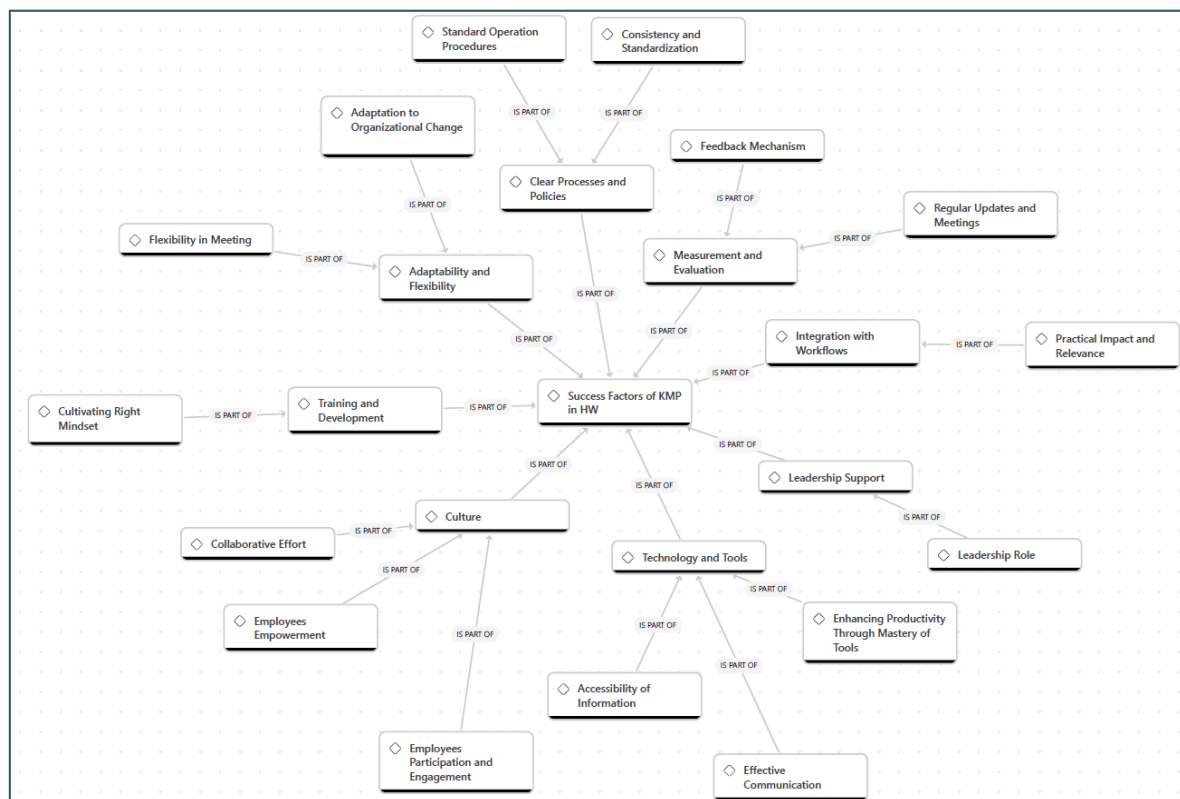
the CSFs of KMPs in hybrid workplaces. The use of ATLAS.ti enables a systematic approach to managing and organizing large datasets, ensuring a thorough exploration of the data while maintaining methodological rigor (Muhr & Friese, n.d.). Thematic analysis is particularly appropriate for studies like this, where textual data are interpreted following a detailed and nuanced assessment to facilitate the understanding of complex phenomena (Braun & Clarke, 2006).

3.4 Verification of Interview Questions and Coding Scheme

To ensure research quality and reliability, a systematic approach was followed. The interview questions were reviewed and verified by experts from the academic area and the industry. The experts, with substantial academic and practical experience in the field, provided critical insights that helped refine the questions to better address the research objectives (Creswell et al., 2010). This verification process helped align the questions with current KM practices and ensured that they were capable of eliciting relevant and meaningful responses from the participants (Patton, 2002). Similarly, the coding scheme used in the thematic analysis was also reviewed and verified by the same experts. This step was especially important to validate the appropriateness of the codes and to ensure that they accurately represented the data (Braun & Clarke, 2006). Expert verification contributes significantly to the credibility of the research findings, providing an additional layer of scrutiny to the analytical processes used (Morse, Olson & Spiers, 2002). It also ensures that the interpretations are grounded in established KM theory and practices, including Nonaka and Takeuchi's (1995) SECI model of knowledge conversion and Alavi and Leidner's (2001) framework on KM systems, thus enhancing the academic integrity of the study.

4. Findings

Our empirical findings demonstrate that the critical success factors of knowledge management practices encompass several key areas that contribute to the effective management and dissemination of knowledge within organizations. As shown in Figure 3, these factors include clear processes and policies, training and development, technology and tools, leadership support, culture, integration with workflows, adaptability and flexibility, and measurement and evaluation.



Source: Authors own work

Figure 3: Theoretical Framework of CSFs of KMPs in hybrid workplaces

4.1 Clear Policies and Processes

Policies and processes play a fundamental role, as they ensure that there are established Standard Operating Procedures (SOPs) for employees to refer to when needed. This facilitates smooth operations but also empowers employees to perform their tasks professionally and properly, as highlighted by Participant 2: *"We need to have a perfect... a proper SOP... If we have available SOP that they can refer to, then they can just carry out their work professionally and properly."* Policies and processes must be supported by well-defined strategies to ensure systematic management of knowledge. SOPs serve as detailed work instructions that guide employees through each step of the process (Dalkir, 2011). These SOPs must be strictly adhered to, rather than being 'referred to when needed,' to ensure consistency, efficiency, and compliance with established knowledge management protocols.

Furthermore, the importance of having a formal policy that encourages information sharing and storage is emphasized by Participant 1, who states, *"Obviously, at the top level, policy is the key. If you have a formal policy of encouraging people to share information and storing information so that people can access it freely."* Consistence in how knowledge is stored and presented is another critical element. As Participant 1 adds, *"You need to be consistent in your application of how that knowledge is stored and how that knowledge is presented."* This ensures that the knowledge management practices are standardized across the organization, reducing ambiguity and enhancing the reliability of the stored information.

On top of this, an effective quality management system is essential to ensure consistency and accountability in knowledge management practices (Ashok Jashapara, 2004). This includes well-documented policies, standardization of processes, and the use of quality assurance mechanisms such as internal audits and feedback loops to maintain knowledge integrity.

4.2 Training and Development

Training and Development also play a pivotal role, particularly in cultivating the right mindset among employees. Participant 4 highlighted the need for a culture where knowledge sharing and management are valued: *"Everybody has to have that good mindset,"*. Continuous training initiatives ensure that employees remain adaptable and proficient in utilizing KM tools and practices. Moreover, fostering a culture of learning and development helps embed knowledge management as a core organizational value, driving sustained engagement and participation across all levels of the organization. Martelo-Landroguez and Cepeda-Carrión (2016) stated that effective knowledge management requires a culture of stewardship, where employees actively take responsibility for maintaining and transferring organizational knowledge. Training should focus not only on technical skills but also on knowledge and training strategies, including Continuous Professional Development (CPD), to ensure long-term knowledge sustainability.

4.3 Technology and Tools

The role of technology and tools is crucial in ensuring the accessibility of information, as emphasized by Participant 5: *"Regardless of where your location, you should be able to access [information]."* The use of technology, particularly cloud-based solutions, facilitates this accessibility, ensuring that employees can access the information they need from anywhere, thus supporting remote and hybrid work environments. Additionally, mastering these tools enhances productivity, as noted by Participant 5: *"If you did not master into that, how you gonna... expedite of the works based on that."* Effective communication is another critical factor, with Participant 2 highlighting the importance of clear and efficient communication channels: *"The communication factor... where the person who highlighting the importance of clear and efficient communication channels: presents it must use a good presentation, material, tools, and at the same time, the person who wants to accept the information also needs to be ready."*

4.4 Leadership Support

Leadership support is a vital component of successful knowledge management practices. Leaders must actively drive the adoption of knowledge management practices and set an example for others. As Participant 3 notes, *"Leaders... have to rally the team to use it, to use whatever system that we have in place."* Leadership's role in fostering a culture that values knowledge management is crucial to ensuring its success across the organization.

4.5 Culture

Culture within the organization, particularly in terms of Employee Participation and Engagement, is also essential. Participant 1 highlights this by stating, *"The key factor would be... participation. Whether people*

actually have the interest in." This indicates that fostering a culture where employees are actively engaged and motivated to contribute to knowledge management is critical for its success. Additionally, Collaborative Effort and Employee Empowerment are necessary to create an environment where all members show stewardship and contribute to the process, ensuring that knowledge is actively maintained and disseminated throughout the organization.

4.6 Integration with Workflows

Integration with workflows ensures that knowledge management practices are not seen as separate from daily work but are embedded within it. As Participant 1 points out, *"Most people... are not really that much concerned with knowledge management unless it affects them on a day-to-day basis."* This indicates the need for knowledge management to be closely aligned with everyday tasks to be relevant and effective.

4.7 Adaptability and Flexibility

Adaptation to organizational change is a crucial factor, as it reflects how organizations evolve their knowledge management practices in response to shifting internal and external environments. Participant 1 highlights the significance of this adaptability by noting, *"...Since then, I've seen a rapid shift in how we do our work and how the company actually promotes sharing information across businesses and sharing knowledge."* This statement underscores the importance of being responsive to change, particularly in how knowledge is shared and managed across different areas of the business. Furthermore, Participant 1 mentions the impact of the COVID-19 pandemic, stating, *"Over the last few years, particularly after COVID, that allowed us to get more in touch with other teams."* This illustrates how significant events can drive organizations to enhance their knowledge-sharing practices, leading to better communication and collaboration across teams.

4.8 Measurement and Evaluation

Finally, measurement and evaluation also play a critical role in the success of knowledge management practices. One of the key aspects of this is the implementation of effective Feedback Mechanisms. Participant 2 emphasizes the importance of gathering feedback, stating, *"You can get feedback from every one of us."* This practice ensures that employees can share their challenges and expectations, allowing the organization to provide the necessary support. Additionally, Participant 2 highlights how feedback mechanisms contribute to continuous improvement: *"If they have any challenges in their work, they can share... what they need help with, so we can assist further from that."* This approach not only helps in addressing immediate concerns but also fosters a culture of continuous learning and development including structured Continuous Professional Development (CPD) programs, to ensure that employees remain competent and adaptable.

Regular updates and meetings are components of effective measurement and evaluation. Participant 2 explains, *"My company has this practice where every month, or every week if there are changes, they will send an email to us, and then we have this team meeting every once every two weeks with the team leader, with everyone for knowledge sharing."* Regular updates ensure that employees are kept informed about any changes or developments, while periodic meetings provide a platform for knowledge sharing and collective learning. These practices are vital in fostering knowledge sharing, collaboration, and continuous learning across teams and departments, which is essential for the success of knowledge management initiatives.

5. Discussion

The findings from this study suggest that several critical success factors (CSFs) are pivotal for the successful implementation of Knowledge Management Practices (KMPs) in hybrid workplaces. These factors include clear processes and policies, training and development, technology and tools, leadership support, organizational culture, integration with workflows, adaptability, and continuous evaluation through feedback mechanisms. The presence of well-defined Standard Operating Procedures (SOPs) ensures that employees have access to the necessary guidelines to execute their roles effectively, thereby enhancing operational efficiency and professionalism within the organization. This corroborates the findings of Nonaka (1994) and Alavi and Leidner (2001) that highlight the importance of structured processes for converting tacit knowledge into explicit knowledge, ultimately fostering better knowledge utilization within organizations.

The integration of training and development into KMPs plays a significant role in ensuring that employees possess the requisite skills and mindset to contribute to knowledge sharing and management effectively. The study participants emphasized that continuous training initiatives not only enhance employees' proficiency in using KM tools but also embed a culture of learning and knowledge sharing as a core organizational value. This aligns with Donate and Guadamillas (2011) assertion that continuous learning and adaptation are fundamental

to leveraging collective knowledge. Moreover, the emphasis on training aligns with the broader perspective of KMPs as a set of interconnected processes aimed at fostering a learning-oriented organizational culture (Lai & Lin, 2012).

Technology and tools emerge as another critical enabler of KMPs in hybrid workplaces, especially in the context of remote and hybrid work environments. The study reveals that cloud-based solutions and advanced communication tools facilitate seamless access to information regardless of employees' locations, enhancing productivity and collaboration. These findings are consistent with Alcoforado et al. (2019), who emphasized the role of technology in improving knowledge accessibility and usability across organizations. The implementation of such technology-driven KM systems supports the transformation of knowledge into actionable insights, promoting innovation and organizational agility, as noted by Xie, Zou, and Qi (2018).

Leadership support is also found to be a decisive factor in the success of KMPs. The results highlight that strong leadership is necessary to drive the adoption of knowledge management systems and foster a supportive environment for knowledge sharing. Leaders must serve as role models, advocating for the use of KM practices and encouraging employees to actively engage in these initiatives. This is in line with research by Detjen and Webber, (2023) and Herlina et al. (2024), which indicates that transformational leadership can significantly impact the dissemination and utilization of knowledge within organizations. Such leadership creates a knowledge-rich environment that supports continuous learning and innovation, making it an essential component of effective KM strategies.

A positive organizational culture is crucial for the success of KMPs, particularly in fostering an environment that encourages trust, collaboration, and knowledge sharing among employees. The study participants emphasized the role of culture in enhancing participation and engagement in KM activities. This view is supported by Septari and Latief (2020), who argued that organizational culture acts as a moderator, influencing the effectiveness of strategic planning, processes, and technology in knowledge management systems. A supportive culture not only motivates employees to share knowledge but also ensures the alignment of KM practices with broader organizational goals.

Lastly, the integration of KM practices into daily workflows and the adaptability of these practices to organizational changes are critical for sustaining KM initiatives over time. The findings indicate that KM practices must be closely linked to employees' everyday tasks to be effective and relevant. This approach ensures that knowledge management is not perceived as an additional burden but as an integral part of the workflow. Moreover, the adaptability of KM practices to respond to shifts in internal and external environments, as highlighted by the participants, is essential for maintaining the relevance and effectiveness of KM systems. This is consistent with the findings of (Abu-Alsondos, 2023), who highlighted the need for KM practices to be flexible and responsive to changing organizational contexts.

In summary, the study's findings demonstrate that successful implementation of KMPs in hybrid workplaces requires a holistic approach that incorporates clear processes and policies, continuous training and development, appropriate technology and tools, strong leadership support, a positive organizational culture, integration with workflows, and adaptability to organizational changes. The integration of Knowledge Management (KM) and Quality Management (QM) is essential for improving organizational processes and efficiency. KM plays a critical role in quality systems by facilitating the structured capture, sharing, and application of knowledge within an organization (Baltus, 2001). The findings offer new perspectives that enable organizations to create a knowledge-rich environment that fosters innovation, enhances decision-making, and ensures sustainable performance in hybrid work settings. Unlike prior studies focused on either traditional or remote work settings, this study sheds light on how hybrid work environments necessitate distinct approaches to processes, leadership, and technology. For instance, the findings reveal the importance of integrating KM practices directly into hybrid workflows, a factor previously overlooked in the literature.

6. Conclusion and Recommendations

6.1 Conclusion

The success of knowledge management (KM) in organizations is deeply rooted in the involvement of people and the quality of communication within the organization. The literature emphasizes that effective communication between internal and external stakeholders is crucial for the open sharing, retrieval, and organization of knowledge, which is often facilitated by social networks (Lewis-Pryde & Evans, 2016). Trust and collaboration among employees are vital, as they foster an environment where knowledge is freely exchanged, ultimately leading to improved organizational performance (Abu-Alsondos, 2023). This is echoed in the findings, where the

importance of policies, process descriptions, and Standard Operating Procedures is highlighted as essential for ensuring knowledge standardization and compliance (Participant 2).

Moreover, having formal policies that promote information sharing and standardized practices ensure that knowledge management is reliable and consistent across the organization, reducing ambiguity (Participant 1). Technology and tools also play a pivotal role in KM by providing the necessary platforms and systems to support knowledge-sharing processes. The adoption of advanced technologies like cloud-based solutions enhances accessibility, enabling employees to access information regardless of their location, which is especially important in remote and hybrid work environments (Participant 5). This technological support is aligned with the literature, which argues that such tools are crucial for leveraging existing knowledge and creating new knowledge, thus providing a competitive advantage (Abu-Alsondos, 2023; Kulkarni, Ravindran & Freeze, 2007). Additionally, the findings underscore the importance of leadership in driving KM practices, as leaders must champion these initiatives and ensure that knowledge management systems are effectively utilized across the organization (Participant 3). This aligns with the literature that highlights the need for strong leadership to provide strategic direction and create a supportive environment for knowledge management (Detjen & Webber, 2023).

Finally, the findings emphasize the significance of organizational culture, adaptability, and continuous evaluation in the success of KM practices. A culture that encourages participation and collaboration is crucial, as it motivates employees to engage in knowledge-sharing activities and take ownership of their roles in KM (Participant 1). This is supported by the literature, which identifies organizational culture as a critical factor in the effectiveness of KM systems (Abu-Alsondos, 2023). Moreover, the ability to adapt to organizational changes, as seen during the COVID-19 pandemic, is essential for maintaining effective knowledge management practices (Participant 1). Continuous measurement and evaluation, through feedback mechanisms and regular updates, ensure that KM practices are constantly improving and remain relevant to the organization's needs (Participant 2). The organizations must conduct continuous assessments, evaluating the effectiveness of their knowledge-sharing strategies, technology integration, and compliance with quality management standards to ensure the sustainability and adaptability of knowledge management practices, as highlighted in the literature (Mostofa, Othman & Zulkifli, 2023).

This research highlights the framework of essential factors that contribute to the success of knowledge management (KM) practices within organizations. Effective KM relies heavily on a quality system and management approach, which includes policies and strategies, process descriptions, and operational instructions like standard operating procedures, which ensure consistency and professionalism in knowledge sharing and utilization. The role of technology is also crucial, as it provides the necessary tools to facilitate accessibility and enhance productivity across remote and hybrid work environments. Leadership support emerges as a vital driver in fostering a culture of knowledge sharing, collaboration, and engagement, while a supportive organizational culture further motivates employees to actively participate in KM activities. Moreover, the ability to adapt to organizational changes and the implementation of continuous measurement and evaluation mechanisms are key to sustaining KM practices and ensuring their long-term effectiveness. These factors collectively enable organizations to manage and leverage knowledge effectively, ensuring that knowledge is effectively shared and utilized across the organization, ultimately leading to improved organizational performance and competitiveness. In summary, this study provides a novel contribution by developing a comprehensive framework of CSFs for KM in hybrid workplaces. These findings not only address the gaps in KM research but also equip organizations with actionable strategies for fostering knowledge sharing, innovation, and adaptability in hybrid work settings.

6.2 Recommendations

To enhance the generalizability and applicability of findings, future research should consider expanding the sample size and including a wider range of industries and organizational sizes. This would provide a more comprehensive understanding of knowledge management practices (KMPs) across diverse contexts, including sectors not represented in the current study, such as healthcare, education, and manufacturing. Additionally, incorporating longitudinal studies would offer insights into how KMPs evolve over time, especially in response to changes in work environments like the increasing adoption of hybrid work models. Such an approach could help explore the long-term impact of critical success factors (CSFs) on organizational performance and innovation.

Researchers are also encouraged to explore the specific challenges associated with knowledge management in hybrid workplaces. Investigating issues such as maintaining a cohesive organizational culture, ensuring effective communication, and managing technology adoption could yield targeted strategies for improving KMPs.

Addressing these challenges would be particularly beneficial for organizations seeking to optimize their knowledge management systems within the context of hybrid work arrangements.

As hybrid work environments continue to expand globally, future studies should focus on understanding how cultural differences influence knowledge management practices. Examining how organizational and national cultures interact to shape KMPs in multinational or cross-cultural hybrid workplaces could provide valuable insights. This would enable organizations to tailor their KM strategies to suit diverse cultural contexts and foster better collaboration across geographically dispersed teams.

Furthermore, future research should consider employing a mixed-methods approach that combines quantitative and qualitative data collection techniques. This would enable a deeper exploration of KMPs while providing a broader perspective on the effectiveness of these practices. Using multiple methods, such as surveys, interviews, and case studies, would allow for more robust data triangulation and increase the reliability of the findings. Finally, researchers could investigate the role of emerging technologies, such as artificial intelligence (AI) and machine learning, in enhancing KMPs in hybrid work settings. Exploring how these technologies can support knowledge creation, sharing, and storage would provide organizations with cutting-edge solutions to manage knowledge more effectively. This would also address the evolving demands of hybrid work environments, enabling organizations to stay competitive and agile in the face of ongoing digital transformation.

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