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Exploring strategies to manage expectational knowledge in higher education after COVID-19 pandemic

Denok Sunarsi[1], Horas Djulius[1], Azhar Affandi[1], Sidik Priadana[1], Umi Narimawati[2], Iman Sudirman[1]
[1]Master of Management, Postgraduate, Universitas Pasundan, Bandung, Indonesia
[2]Master of Management, Postgraduate, Universitas Komputer Indonesia, Bandung, Indonesia

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ABSTRACT

The COVID-19 pandemic has brought unprecedented challenges and opportunities for knowledge management systems (KMS) in various domains and sectors. This research explores the strategies to manage expectational knowledge in higher education after the COVID-19 pandemic. This study employed a qualitative research method with a case study design to capture the students' perspectives on strategies to manage expectational knowledge in higher education after the COVID-19 pandemic. The participants are students at the doctoral program, Universitas Pasundan, Bandung, West Java, Indonesia. The interview was conducted in December 2022 using a semi-structured interview technique and then was analyzed using thematic analysis. This research found four strategies doctoral management students use to manage expectation knowledge after the COVID-19 pandemic. The strategies are codification, personalization, knowledge partnering, and knowledge harvesting. The research implications of this study provide a foundation for future research endeavors to advance the understanding and application of knowledge management strategies in the post-pandemic higher education landscape.

Corresponding Author:

Denok Sunarsi
Master of Management, Postgraduate, Universitas Pasundan
Dr. Setiabudi Street No.193, Gegerkalong, Sukasari District, Bandung, West Java, Indonesia
Email: denoksunarsi@mail.unpas.ac.id

1. INTRODUCTION

The COVID-19 pandemic has brought unprecedented challenges and opportunities for knowledge management systems (KMS) in various domains and sectors. The pandemic has accelerated the adoption and use of digital technologies and platforms to enable remote work, learning, and collaboration [1]–[5]. This requires KMS to be more user-friendly, secure, and scalable and to leverage cloud, artificial intelligence, and big data technologies to enhance knowledge creation, organization, sharing, and utilization [6]. The pandemic has changed the expectations and needs of customers, who demand more accurate, timely, and personalized information and solutions. This requires KMS to be more customer-centric, responsive, and innovative and to provide seamless self-service and omnichannel support options to enhance customer satisfaction and loyalty [7]. The pandemic has disrupted and transformed the delivery and assessment of education, as well as research and innovation activities [8]–[13]. This requires KMS to be more flexible, adaptive, and inclusive and to support online, hybrid, and blended learning modes, as well as collaborative and interdisciplinary research and innovation projects [8]. The pandemic has created new problems and opportunities for knowledge creation and application, as well as new sources and types of knowledge. This requires KMS to be more agile, dynamic, and diverse, as well as to facilitate knowledge partnering, harvesting, and transfer, as well as knowledge workers' productivity and creativity. Therefore, KMS, after

the pandemic of COVID-19 may need to undergo significant changes and improvements to cope with the new realities and demands of the post-pandemic world. KMS may also play a vital role in enhancing the resilience, recovery, and sustainability of various domains and sectors in the post-pandemic world.

This research explores that expectational knowledge is rooted in expectations, hypotheses, or judgments [14]. It is a type of tacit knowledge that is difficult to articulate and transfer to others [14]. In higher education, expectational knowledge can refer to the assumptions and beliefs of students, faculty, and administrators about education's purpose, quality, and outcomes [15]. The COVID-19 pandemic has disrupted and transformed higher education in many ways, challenging the existing expectational knowledge of various stakeholders. Some of the possible impacts of the pandemic on expectational knowledge in higher education are: students may have different expectations about the mode, cost, and value of education, as they have experienced online, hybrid, and flexible learning options during the pandemic [16], [17]. They may also have different expectations about their skills and competencies to succeed in the post-pandemic world, such as digital literacy, adaptability, and resilience [18]. Faculty may have different expectations about their roles, responsibilities, and rewards, as they have had to adapt to new pedagogies, technologies, and assessment methods during the pandemic [16]. They may also have different expectations about the quality and impact of their research, as they have faced challenges and opportunities in collaborating, disseminating, and accessing knowledge in the pandemic context [18]. Administrators may have different expectations about their institutions' mission, vision, and strategy, as they have had to cope with financial, operational, and reputational pressures during the pandemic [16]. They may also have different expectations about their institutions' governance, leadership, and culture, as they have had to foster innovation, inclusion, and sustainability in the pandemic situation [18].

Therefore, expectational knowledge in higher education after the COVID-19 pandemic may be more diverse, dynamic, and complex than before. This may pose challenges and opportunities for higher education institutions to align, communicate, and leverage their expectational knowledge to enhance their performance, quality, and relevance in the post-pandemic world [15], [18]. Some possible strategies to manage expectational knowledge in higher education are codification, personalization, knowledge partnering, and knowledge harvesting. Codification involves capturing, storing, and organizing explicit knowledge in databases, documents, or repositories that others can easily access and reuse [19]. Codification can help standardize and disseminate the expectations of various stakeholders, such as an institution's curriculum, policies, and procedures [19]. Personalization involves facilitating the exchange, sharing, and creation of tacit knowledge through social interactions, networks, and communities of practice (CoP) [19]. Personalization can help foster a culture of trust, collaboration, and innovation among stakeholders and elicit and address their diverse and dynamic expectations [19]. Knowledge partnering involves establishing strategic alliances and partnerships with external stakeholders, such as industry, government, and society, to co-create and co-deliver knowledge that meets their expectations and needs [20]. Knowledge partnering can help enhance higher education's relevance, quality, and impact in the post-pandemic world [20]. Knowledge harvesting involves identifying, collecting, and analyzing the best practices, lessons learned, and success stories from stakeholders' experiences during the pandemic [20]. Knowledge harvesting can help identify the gaps, opportunities, and challenges in managing expectational knowledge and inform the improvement and innovation of higher education [20].

Students' expectational knowledge in higher education after the COVID-19 pandemic refers to students' assumptions and beliefs about the purpose, quality, and outcomes of education in the post-pandemic world [14]. Students may expect more flexibility, accessibility, and affordability in their education as they have experienced online, hybrid, and blended learning modes during the pandemic [15]. They may also expect more personalized and customized learning experiences that suit their needs, preferences, and goals [15]. Students may expect more relevance, value, and impact in their education as they have faced new challenges and opportunities in the post-pandemic world [15], [21]. They may also expect more skills and competencies in demand in the post-pandemic world, such as digital literacy, adaptability, resilience, creativity, and collaboration [15], [16]. Students may expect more diversity, inclusion, and equity in their education, as they have witnessed the inequalities and injustices that the pandemic has exposed and exacerbated [16]. They may also expect more social responsibility and sustainability in their education as they have realized the interdependence and vulnerability of the global community [16]. Therefore, students' expectational knowledge in higher education after the COVID-19 pandemic may be more complex, dynamic, and diverse. This may pose challenges and opportunities for higher education institutions to align, communicate, and leverage their students' expectational knowledge to enhance their performance, quality, and relevance in the post-pandemic world [14], [21].

Institutions can assess and address students' expectational knowledge after the pandemic using specific methods or strategies. Institutions can use engagement and communication platforms to interact and collaborate with students on their expectations, goals, and challenges. Engagement and communication can help institutions build trust, rapport, and mutual understanding with students and align and communicate their

expectations and standards [22], [23]. Therefore, institutions can assess and address students' expectational knowledge after the pandemic using specific methods and strategies suitable for their context and goals. By doing so, institutions can enhance their performance, quality, and relevance in the post-pandemic world. This research explores the strategies to manage expectational knowledge in higher education after the COVID-19 pandemic. Therefore, this research proposes research question: i) What are strategies to manage expectational knowledge in higher education after the COVID-19 pandemic?

2. METHOD

2.1. Research design

This study employed a qualitative research method with a case study design to capture the students' perspectives on strategies to manage expectational knowledge in higher education after the COVID-19 pandemic. A case study research design, often used in the social sciences, is a methodological approach that involves an in-depth investigation of a single individual, group, or event [24]. Because earlier studies omitted specific qualitative data, we could investigate it.

2.2. Research setting

The participants are students at the doctoral program, Universitas Pasundan, Bandung, West Java, Indonesia. The interview was conducted in December 2022. The criteria for selecting the participants are based on their five years of teaching experience and active students of Doctoral Management as well as their willingness to participate in three interview sessions consisting of appointment, initial data collection, and confirmation interview. Of the ten participants, two are from state universities, and the rest are from private universities.

2.3. Data collection

Semi-structured interviews were used in this investigation. With the participant's consent, an audio recorder captured the Bahasa interview. After that, the audio tape was translated into English and transcribed. This data collection process was divided into two primary phases. First, a call was made to each participant to inquire about their availability. Either the designated room given by the researchers or the participant's convenient location could be used for the interview. Second, the first author conducted interviews with participants. The third type of interview is a confirmation interview, which is focused on data that requires participant clarification. Each interview session lasted roughly sixty minutes, and participants may only participate in up to three sessions. The interview followed the protocol. What are strategies to manage expectational knowledge in higher education after the COVID-19 pandemic? was an example of the interview questions.

2.4. Data analysis

The data was analyzed using thematic analysis following Braun and Clarke [25]. The data was taken interactively and continuously. According to Liaw *et al*. [26] and Leung *et al*. [27], qualitative data analysis is carried out interactively and continuously until completion so that the data is saturated. According to Liaw *et al*. [26] and Leung *et al*. [27], data validity is tested using qualitative research methods, including credibility, transferability, dependency, and suitability tests. Additional experts examined the interview guide to ensure the study had enough internal validity [28]. Additionally, both interviewers rehearsed the process to ensure their techniques were consistent. To ensure no biases in the data analysis process, the emerging themes were discussed with another set of researchers at Universitas Pasundan, Bandung, West Java, Indonesia. By conducting the analysis and data gathering concurrently, it was possible to determine whether the data were dependable or consistent after the findings showed data saturation.

3. RESULTS AND DISCUSSION

This study focuses on possible strategies for managing expectational knowledge in higher education. Expectations trigger learning processes [29]. We interviewed ten Doctoral students through an engagement and communication approach. It can help institutions build trust, rapport, and mutual understanding with students and align and communicate their expectations and standards [22], [23]. We collected the data through semi-structured interviews; the interview results found that doctoral students revealed four strategies to manage expectational knowledge after the COVID-19 pandemic. The four strategies include codification, personalization, knowledge partnering, and knowledge harvesting. The details of the strategy are presented as follows.

3.1. Codification

This strategy involves capturing, storing, and organizing explicit knowledge in databases, documents, or repositories that others can easily access and reuse [19]. Codification can help standardize and disseminate the expectations of various stakeholders, such as an institution's curriculum, policies, and

procedures [19]. Codification in KMS transforms tacit knowledge into explicit knowledge that can be documented, stored, and shared. Codification involves organizing and representing knowledge in a form and structure that others can easily access and reuse. Codification can help standardize and disseminate knowledge, reduce knowledge loss and duplication, and enhance knowledge reuse and transfer [30], [31]. As presented below, some codification aspects in this research are decision trees, decision tables, databases, documents, and repositories.

3.1.1. Decision trees

Decision trees represent the steps and choices involved in a particular task or process. It helps students capture and codify experts' logic, rules, or best practices. A decision tree is a hierarchical decision support model that uses a decision tree to represent choices and their potential outcomes. It is one method of presenting an algorithm with just conditional control statements. Decision trees are frequently utilized in operations research, particularly in decision analysis, to determine the most likely course of action for a given objective. A student reported his experience managing expectational knowledge using the decision tree strategy.

> *I prefer to record my learning by making decision-tree strategies in the form of a flowchart-like structure of nodes. Each internal node represents a "test" on an attribute. Each branch represents the outcome of the test. Each leaf node represents a class label (decision taken after computing all attributes). (Interview with student 3)*

Using the decision-tree strategy in which the routes from root to leaf indicate classification rules the student reported using this information from the interview. In decision analysis, competing alternatives' expected values (or expected utility) are computed using a decision tree and the closely related influence diagram, which serve as a visual and analytical decision assistance tool. Three different node types make up a decision tree: decision nodes, which are represented by squares; chance nodes, which are represented by circles; and end nodes, which are represented by triangles.

3.1.2. Decision tables

Decision tables are tabular representations of the conditions and actions involved in a particular task or process. They help students capture and codify the criteria and outcomes of experts or best practices. A decision table is a straightforward visual aid indicating which actions to take in response to specific conditions. Decision tables are algorithms that produce a series of commands. A sequence of if-then-else and switch-case statements in a computer language might be used to express the data in decision tables, as could decision trees.

> *Decision tables are a very effective tool for complex software testing and requirements management. They help check all possible condition combinations for testing, and testers can also quickly identify missed conditions. (Interview with student 1)*

The students disclosed during the interview that every choice is associated with a variable, relation, or predicate, the possible values of which are enumerated among the condition choices. Every action is a process or operation that needs to be carried out, and the entries indicate whether or not the action needs to be carried out for the set of condition alternatives that the entry relates to.

3.1.3. Databases

Databases are collections of structured and organized data that can be queried and manipulated. They can help store and organize the codified knowledge in electronic formats. In databases, expectational knowledge can anticipate trends, make predictions, and guide decision-making processes. It is knowledge rooted in expectations, hypotheses, or judgments.

> *Databases are crucial in storing and managing expectational knowledge and vital for decision-making and problem-solving. It helps organizations to leverage their collective wisdom effectively and efficiently.*

The student also experienced KMS using databases to store and manage different types of knowledge, including expectational knowledge. These systems can facilitate collaboration, link individuals to subject matter experts when necessary, and avoid repeating past mistakes or reinventing the wheel. They focus on knowledge storage, curating, and refinement, but they may also be used as a system for knowledge creation.

3.1.4. Documents

Documents are written or printed records that contain information and knowledge. They can help document and communicate codified knowledge in textual or visual formats. Documents play a significant

role in capturing and sharing expectational knowledge. Expectational knowledge, which comes from expectations, judgments, beliefs, working hypotheses, and associations based on previous experiences, often produces mental models and connections.

> *Document packaging is essential in capturing and sharing expectational knowledge, such as reports and analysis, meeting minutes and transcripts, project plans and proposals, and emails and memos.*

The students explained their experience in capturing and sharing expectational knowledge using documents. Reports and analysis documents capture the insights and expectations of experts in a particular field. They often include predictions about future trends and developments. Meeting minutes and transcripts documents capture the discussions and decisions made during meetings. They can provide insights into the thought processes and expectations of the participants. Project plans and proposal documents outline the expected outcomes of a project and the steps needed to achieve them. They capture the expectations of the project team. Emails and memos documents capture informal communications between team members. They can provide insights into the expectations and assumptions of individuals within an organization. Thus, when stored and managed effectively, these documents can serve as a valuable resource for understanding and leveraging expectational knowledge within an organization.

3.1.5. Repositories

These are centralized or distributed systems that store and manage codified knowledge. They can provide access and retrieval mechanisms for codified knowledge. Repositories in the context of expectational knowledge serve as a storage and management system for this type of knowledge. Expectational knowledge, which comes from expectations, judgments, beliefs, working hypotheses, and associations based on previous experiences, often produces mental models and connections.

> *In expectational knowledge, repositories consist of digital knowledge repositories for multidisciplinary studies and biological data repositories for Bioscience disciplines.*

From the interview with the students, they know repositories in the context of expectational knowledge by dividing them into digital knowledge repositories and biological data repositories. Digital Knowledge Repositories store digital forms of expectational knowledge. They can include reports, analyses, meeting minutes, project plans, and other documents that capture the insights and expectations of experts in a particular field [32]. Another repository is for Biological Data: repositories store biological data in Bioscience. Scientists contribute their work and time to these repositories, creating new work for these scientists and contributing to science [32].

KMS often use repositories to store and manage different types of knowledge, including expectational knowledge. They can facilitate collaboration, link individuals to subject matter experts when necessary, and avoid repeating past mistakes or reinventing the wheel. In summary, repositories are crucial in storing and managing expectational knowledge, vital for decision-making and problem-solving in various fields. They help organizations leverage their collective wisdom effectively and efficiently.

3.2. Personalization

This strategy involves facilitating the exchange, sharing, and creation of tacit knowledge through social interactions, networks, and CoP [19]. Personalization can help foster a culture of trust, collaboration, and innovation among stakeholders and elicit and address their diverse and dynamic expectations [19]. Personalization in a knowledge management system facilitates the exchange, sharing, and creation of tacit knowledge through social interactions, networks, and CoP. Personalization focuses on the people and their collaboration rather than the documents and their accessibility. Personalization can help foster a culture of trust, collaboration, and innovation among knowledge workers and elicit and address their diverse and dynamic expectations [33]. Some of the methods and tools for personalization found in this research are social media, networks, and community of practice as follows:

3.2.1. Social media

These are online platforms that enable users to create and share content, as well as to communicate and interact with others. They can help connect and engage knowledge workers and facilitate knowledge sharing and creation through various media formats, such as text, images, and videos. Students use some examples of social media platforms in this research for personalization in KMS.

> *Facebook can help me connect and engage knowledge workers and facilitate knowledge sharing and creation through various media formats. (Interview with Student 2)*

The student from the interview reported that Facebook is a widely used social networking platform that offers various features to its users. It allows individuals to create profiles, post updates, share photos and videos, join groups, and chat with friends. Facebook is considered a powerful tool for knowledge workers. It provides a platform for them to connect, engage, and collaborate. Knowledge sharing and creation can be facilitated through various media formats on Facebook. This can lead to new ideas, problem-solving, and innovation. Another social media was also commonly used by student X, as reported by student 1.

> *X can help me disseminate and access knowledge and provide real-time updates and insights on various topics and events. (Interview with Student 1)*

The students expressed their experience that X is a popular microblogging site that allows users to post short messages, which their followers and the public can see. It is a powerful tool for disseminating and accessing knowledge quickly and efficiently. X can provide real-time updates and insights on various topics and events, making it a valuable resource for staying informed about the world. It is also an excellent platform for engaging in discussions, debates, and sharing and discovering new ideas. Another student also prefers to use more severe nuances of social media that tend to be addressed for academic and professional purposes.

> *LinkedIn is a professional networking site that allows me to create profiles, showcase my skills and achievements, connect with other professionals, and join groups and communities. LinkedIn can help me build and maintain relationships among knowledge workers and provide access and support to relevant knowledge sources and experts. (Interview with student 7)*

The interview showed that students prefer using LinkedIn as a social media for professional support. It is considered a professional networking site that offers a variety of features to its users. It allows individuals to create profiles, showcase their skills and achievements, connect with other professionals, and join groups and communities. LinkedIn can indeed be a valuable tool for knowledge workers. It provides a platform for building and maintaining professional relationships. It also provides access to relevant knowledge sources and experts, making finding information, getting advice, and learning from others in your field easier. Moreover, LinkedIn can be used to find job opportunities, learn about companies, and stay current with industry trends. It is an excellent resource for both job seekers and employers.

3.2.2. Networks

Common interests, goals, or values connect these individuals or organizations. They can help build and maintain relationships among knowledge workers and provide access and support to relevant knowledge sources and experts. Some examples of networks that were used for personalization in KMS in this research are as follows:

> *I belong to professional associations as organizations that represent and support the interests and development of professionals in a specific field or industry. They can help connect and engage knowledge workers and provide access and support to relevant knowledge sources and experts. (Interview with student 5)*
> *I engage in innovation networks as groups of individuals or organizations that collaborate to create, share, and apply new knowledge for innovation. They can help cultivate and nurture tacit knowledge and to generate and apply new knowledge through collaborative problem-solving and innovation. (Interview with Student 10)*
> *I am active in a learning network as a group of individuals or organizations that learn from each other and improve their practice through mutual feedback and reflection. They can help disseminate and access knowledge and provide real-time updates and insights on various topics and events. (Interview with student 9)*

The students seem to belong to three categories based on their interest in networks: professional associations, innovation networks, and learning networks. Network platforms can play a significant role in knowledge sharing and professional development. A student who uses networks for professional association purposes considers networks as organizations crucial in supporting the interests and development of professionals in specific fields or industries. They provide a platform for knowledge workers to connect, engage, and access relevant knowledge sources and experts. They also often offer resources such as training, conferences, and publications to help members stay current in their field. Another student uses networks for innovation and community purposes. Innovation network groups are considered to foster collaboration among individuals or organizations to create, share, and apply new knowledge for innovation. They play a crucial role in cultivating and nurturing tacit knowledge, which is the kind of knowledge that is difficult to

transfer to another person by writing it down or verbalizing it. These networks can generate and apply new knowledge through collaborative problem-solving and innovation. Another perspective of using networks is for learning group purposes. Learning networks are individuals or organizations that learn from each other and improve their practice through mutual feedback and reflection. They can help disseminate, access knowledge, and provide real-time updates and insights on various topics and events. These networks promote a culture of continuous learning and improvement.

3.2.3. Communities of practice

These groups share a domain of interest and interact regularly to learn from each other and improve their practice. They can help cultivate and nurture tacit knowledge and generate and apply new knowledge through collaborative problem-solving and innovation. They are people who share a common interest or passion and learn how to do it better as they interact regularly.

> *I manage my expectational knowledge through communities of practice for creating shared identity, exchanging information, fostering professional development, and promoting my innovation. (Interview with student 2)*

The students reported their experience managing expectational knowledge through CoP by creating a shared identity among members around a specific field or interest. Communities or practices can enable the exchange of information and the sharing of experiences, leading to the generation of new knowledge. The students also reported that CoP can foster professional development by providing opportunities for learning from others. Finally, promoting innovation is crucial by encouraging the exploration of new ideas and approaches.

In a CoP, members can engage in joint activities, help each other, and share information. They build relationships that enable them to learn from each other. Members of a CoP are not necessarily colleagues at work, but they interact on an ongoing basis, discussing their practice, exploring common issues, and sharing solutions. CoPs can exist in physical settings, like a lunchroom at work, a field setting, a factory floor, or elsewhere, but they can also exist online, such as within discussion boards, newsgroups, or other virtual spaces. Whether in a physical or virtual environment, the goal is to gain knowledge related to their field. It's about sharing, learning, and creating knowledge together.

3.3. Knowledge partnering

This strategy involves establishing strategic alliances and partnerships with external stakeholders, such as industry, government, and society, to co-create and co-deliver knowledge that meets their expectations and needs [20]. Knowledge partnering can help enhance higher education's relevance, quality, and impact in the post-pandemic world [20]. Knowledge partnering in a knowledge management system establishes strategic alliances and partnerships with external stakeholders, such as industry, government, and society, to co-create and co-deliver knowledge that meets their expectations and needs. Knowledge partnering can help enhance knowledge management's relevance, quality, and impact and foster innovation, collaboration, and learning across boundaries. Students reported that they manage expectational knowledge through knowledge partnering by emphasizing its benefits, challenges, best practices, and criteria for selecting knowledge partners.

3.3.1. The benefits of knowledge partnering

A student reported in the interview that knowledge partnering has some benefits in managing expectational knowledge. These benefits include increased access and diversity, improved alignment and communication, leveraging complementary strengths, and fostering a culture of trust. Student 10 reported these benefits.

> *Knowledge partnering can increase access and diversity, improve alignment and communication, leverage complementary strengths, and foster a culture of trust. (Interview with student 10)*

The student expressed that knowledge partnering can increase access and diversity of knowledge sources and experts. This can provide new perspectives and insights on various topics and issues, enriching the knowledge pool. It can also improve the alignment and communication of knowledge expectations and standards, reducing the gaps and conflicts between knowledge producers and users. Knowledge partnering allows different partners to leverage their complementary strengths and resources. This can create synergies and value-added outcomes for all parties involved. Lastly, knowledge partnering can foster a culture of trust, reciprocity, and mutual benefit. This can help build long-term and sustainable relationships among partners. These benefits make knowledge partnering a powerful tool for knowledge management and innovation. It is a collaborative approach that can lead to shared learning, improved performance, and the creation of new knowledge.

3.3.2. Challenges of knowledge partnering

Knowledge partnering in expectational knowledge management requires careful planning, implementation, evaluation, and balancing of benefits and challenges. Knowledge partnering can be a powerful strategy to enhance knowledge management's performance, quality, and innovation in the post-pandemic world. However, as some students reported in the interview, some challenges must be considered.

> *Knowledge partnering can be challenging in identifying and selecting the right partners and negotiating and agreeing on the terms and conditions of the partnership. (Interview with student 2)*
> *Knowledge partnering can be time-consuming and costly to manage coordinate and deal with the administrative and legal issues involved. (Interview with student 3)*
> *Knowledge partnering can be risky and uncertain, as it can be difficult to share and exchange knowledge with external partners and protect the knowledge's intellectual property and confidentiality. (Interview with student 4)*
> *Knowledge partnering can be complex and dynamic, and it is necessary to cope with changes and uncertainties in the external environment and adapt and adjust the partnership accordingly. (Interview with Student 5)*

It seems that the challenge of knowledge partnering is identifying and selecting partners. It can indeed be difficult to locate and choose the right partners. This process requires a clear understanding of the partnership's goals and potential partners' capabilities. Negotiating and agreeing on the terms and conditions of the partnership can also be challenging. Another challenge is management and coordination. Managing and coordinating the partnership can be time-consuming and costly. This includes dealing with administrative and legal issues, which can be complex and require specialized knowledge. Sharing and exchanging knowledge is another crucial challenge that needs attention. Sharing and exchanging knowledge with external partners can be risky and uncertain. It is essential to have measures to protect the intellectual property and confidentiality of the knowledge being shared. Finally, coping with changes and uncertainties is also necessary. The external environment can be complex and dynamic, with changes and uncertainties that can impact the partnership. Adapting and adjusting the partnership accordingly can be a challenging task. These challenges highlight the importance of careful planning, clear communication, and effective knowledge-sharing management. Despite these challenges, knowledge partnering can benefit all parties involved when handled well.

3.3.3. Best practices for selecting and managing knowledge partners

The interview shows that students revealed their expectations regarding the best practices for selecting and managing knowledge partners. The primary practice aligns with the vision and goals, which are continued by leveraging complementary strengths and resources. The next best practice is establishing effective communication and coordination; the last is adapting and learning from the partnership.

> *I think the best practice for selecting and managing knowledge partners is ensuring that the partners share a common vision and goals for the knowledge partnership and that they have clear and realistic expectations and roles. (Interview with student 6)*
> *The best practice for selecting and managing knowledge partners is identifying and utilizing each partner's strengths and resources. (Interview with student 7)*
> *Setting up and maintaining regular and transparent communication and coordination mechanisms among the partners comprises the best practices for selecting and managing knowledge partners. (Interview with student 8)*
> *It is essential to be flexible and responsive to changes and uncertainties in the external environment and to feedback and learning from the partnership. These are best practices for selecting and managing knowledge partners. (Interview with student 9)*

The interview results show that aligning the vision and goals is the first best practice for selecting and managing knowledge partners. This involves ensuring that the partners share a common vision and goals for the knowledge partnership and have clear and realistic expectations and roles. This can help create a sense of trust, commitment, and accountability among the partners. The second-best practice is leveraging the complementary strengths and resources. This involves identifying and utilizing the strengths and resources of each partner, such as their expertise, network, reputation, or technology. This can help create synergies and value-added outcomes for the partnership and help overcome each partner's weaknesses and gaps. The third best practice is establishing effective communication and coordination. This involves setting up and maintaining regular and transparent communication and coordination mechanisms among the partners, such as meetings, reports, feedback, or platforms. This can help monitor and measure the partnership's progress

and performance and identify and resolve any issues or conflicts that may arise. The last best practice is adapting and learning from the partnership. This involves being flexible and responsive to the changes and uncertainties in the external environment and the feedback and learning from the partnership. This can help adjust and improve collaboration, fostering innovation and learning among the partners.

3.3.4. Some criteria for selecting knowledge partners [34], [35]

The interview results also indicate possible criteria for selecting knowledge partners regarding expectational knowledge management. The requirements are based on strategy, operation, relationship, capability, and openness. The details of the requirements are presented.

> *The criteria for selecting knowledge partners are the degree of alignment and compatibility between the potential partners' vision, goals, and values. (Interview with Student 10)*
> *It is essential to use the degree of integration and coordination between the potential partners' processes, practices, and systems for selecting knowledge partners. (Interview with student 1)*
> *Selecting knowledge partners requires a degree of rapport and mutual understanding between the people and cultures of the potential partners. (Interview with student 3)*
> *We must assess the level of expertise, resources, reputation, and network of potential partners and the willingness and ability to share and exchange knowledge for selecting knowledge partners. (Interview with student 8)*

The interview data shows some criteria to be considered when selecting knowledge partners. The first criterion is a strategic fit, which refers to the degree of alignment and compatibility between the potential partners' vision, goals, and values. A high strategic fit can enhance the partnership's trust, commitment, and accountability. The second criterion is operational fit, which refers to the degree of integration and coordination between potential partners' processes, practices, and systems. A high operational fit can improve the partnership's efficiency, effectiveness, and quality. The third criterion is relationship fit, which refers to the degree of rapport and mutual understanding between the people and cultures of the potential partners. A high relationship fit can foster the partnership's collaboration, communication, and innovation. The last criterion is capability and openness, which refers to the level of expertise, resources, reputation, and network of the potential partners, as well as their willingness and ability to share and exchange knowledge. A high capability and openness can increase the access, diversity, and value of the knowledge in the partnership.

3.4. Knowledge harvesting

This strategy involves identifying, collecting, and analyzing the best practices, lessons learned, and success stories from stakeholders' experiences during the pandemic [20]. Knowledge harvesting can help identify the gaps, opportunities, and challenges in managing expectational knowledge and inform higher education's improvement and innovation [20]. Knowledge harvesting in a knowledge management system capture, documents, and shares the tacit knowledge of experts or top performers within an organization and converts it into explicit knowledge that others can transfer and apply. Knowledge harvesting can help preserve and leverage an organization's valuable knowledge assets and enhance its performance, quality, and innovation. As the fourth aspect of expectational knowledge management, knowledge harvesting consists of five stages. The first stage is identifying the knowledge domain and the experts. The second stage is interviewing the experts and eliciting their tacit knowledge. The third stage is documenting and organizing the elicited knowledge. The fourth is validating and verifying documented knowledge. The last step is sharing and transferring documented knowledge. The details on knowledge harvesting are as follows:

> *Deciding which crucial procedure or assignment requires knowledge harvesting is essential to managing expectational knowledge. Then, locate the subject matter experts or high achievers with the necessary tacit understanding. (Interview with student 6)*
> *Knowledge harvesting in expectational knowledge management can be conducted by interviewing the experts semi-structured and extracting their tacit knowledge through various methods like asking, narrative, probing, and scenarios. (Interview with student 4)*
> *Knowledge harvesting is crucial in expectational knowledge management, which can be found by recording, typing, and evaluating the interview material, then arranging the knowledge or information obtained into a logical and consistent framework. (Interview with student 7)*
> *In expectational knowledge management, knowledge harvesting is necessary. It requires evaluating, testing, and improving the documented information or knowledge while getting input and approval from experts and other stakeholders to guarantee its quality, reliability, and completeness. (Interview with student 5)*

The most crucial thing in knowledge harvesting for expectation knowledge is providing software, documentation, or repositories to distribute and deliver the documented information to the intended users, making it easier for them to access, retrieve, and apply it. (Interview with student 1)

By analyzing the interview transcript, it can be summarized that the steps of knowledge harvesting regarding expectational knowledge management consist of five stages. The first stage is identifying the knowledge domain and the experts, which involves selecting the critical process or task that requires knowledge harvesting and identifying the experts or top performers who possess the relevant tacit knowledge. The second stage is interviewing the experts and eliciting their tacit knowledge, which involves conducting structured or semi-structured interviews with the experts, using techniques such as probing, questioning, storytelling, or scenarios to elicit their tacit knowledge, such as their insights, rules, criteria, or judgments. The third stage is documenting and organizing the elicited knowledge, which involves recording, transcribing, and analyzing the interviews and organizing the elicited knowledge into a coherent and consistent structure, such as a decision tree, a decision table, or a frame. The fourth is validating and verifying documented knowledge, which involves reviewing, testing, and refining the demonstrated knowledge and ensuring its accuracy, completeness, and reliability, with the experts' and other stakeholders' feedback and approval. The last step is sharing and transferring documented knowledge, which involves disseminating and delivering it to the intended users through software, documents, or repositories and facilitating its access, retrieval, and application. These steps are studied in [36] on some of the steps involved in knowledge harvesting. Therefore, knowledge harvesting in expectation knowledge management is a crucial technique to capture and convert the often-hidden insights of human expertise into specific, actionable know-how that can be transferred and used by others.

4. CONCLUSION

Exploring strategies to manage expectational knowledge in higher education after the COVID-19 pandemic is significant for academia and organizational practice. The findings suggest that the identified strategies, including codification, personalization, knowledge partnering, and knowledge harvesting, can serve as valuable frameworks for higher education institutions to adapt to the post-pandemic landscape. From an academic perspective, the implications of this research highlight the need for further exploration and development of these strategies in the context of knowledge management in higher education. This could involve in-depth studies on the implementation and effectiveness of these strategies in different educational settings and their impact on student engagement, learning outcomes, and institutional performance. Regarding organizational practice, the research implications underscore the practical relevance of these strategies for educational institutions seeking to enhance their knowledge management processes. Institutions can consider integrating these strategies into their post-pandemic planning and operational frameworks to manage expectational knowledge, foster collaboration better, and promote innovation among students and knowledge workers. Furthermore, the research implications call for considering technological tools and platforms, such as social media and KMS, to support the implementation of these strategies. Exploring the integration of emerging technologies and digital platforms in the context of knowledge management in higher education could offer additional avenues for research and practical application. Overall, the research implications of this study provide a foundation for future research endeavors to advance the understanding and application of knowledge management strategies in the post-pandemic higher education landscape.

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BIOGRAPHIES OF AUTHORS

Denok Sunarsi, S.Pd., M.M., CHt. is an associate professor recognized for her significant contributions to the academic and research community. Her work spans a range of topics, demonstrating her versatility and depth in research. Currently, she is studying at the doctoral program in Management Science, postgraduate program, Universitas Pasundan, Bandung, West Java, Indonesia. She can be contacted at email: denoksunarsi@mail.unpas.ac.id, denoksunarsi@gmail.com.

Prof. Dr. H. Horas Djulius, S.E. is a professor in Economics at Faculty of Economics and Business, Universitas Pasundan. He teaches Managerial Economics, Industrial Economics, Research Methodology and Econometrics. His research interests include creative economy, tourism economy, knowledge spillover, and organizational behavior. He can be contacted at email: horasdjulius@unpas.ac.id.

Prof. Dr. H. Azhar Affandi, S.E., M.Sc. is a chancellor at Universitas Pasundan. The author teaches Strategic Management, Financial Management, and Corporate Budgeting in the undergraduate program (S1), teaches Strategic Management, Human Resource Planning and Strategy in the Master of Management program (S2), and teaches Contemporary Management and Contemporary Strategic Management in the Doctoral Program in Management Science (S3). He obtained a Bachelor's degree in Economics (SE) from Universitas Pasundan, a Master of Science degree (M.Sc.) from the University of Gent in Belgium, and a doctorate degree (Dr) in Management from Padjadjaran University. In terms of practical experience, the author also works as a management consultant for private and government projects. Additionally, he actively provides guidance for thesis, dissertation, and research paper writing. Currently, the author serves as the Chairperson of the Doctoral Program in Management Science. He can be contacted at email: azhar.affandi@yahoo.com.

Prof. Dr. H. M. Sidik Priadana, MS was born in Cirebon on December 4, 1955. Also, as a secretary of the doctoral program in Management Studies at Universitas Pasundan. The author himself pursued his education, obtaining a Bachelor's degree in Statistics from UNPAD, a Master's degree in Economic Sciences from UNPAD, and a Doctorate in Economics from UNPAD. He has held the position of professor of economics since 1999. He holds the rank and position of senior adviser/IV E since 2008. Currently, he is teaching as a professor of economics and management and is a Faculty Member in several postgraduate programs at various universities. He currently serves as the secretary of the doctoral program in Management Science at UNPAS, Bandung. He can be contacted at email: msidik.priadana@gmail.com.

Prof. Dr. Dra. Hj. Umi Narimawati, S.E., M.Si., is a professor in the Doctoral Program of Management Science, postgraduate program, Universitas Komputer Indonesia. Apart from being active as a lecturer and professor, the author is also often a Thesis and Dissertation Examiner Advisor at several universities both at home and abroad: UNPAD, UNPAS, TRISAKTI, UMA Medan, UMT Malaysia, YSU South Korea & Dong A Univ South Korea. In addition to being active in the world of education, the author is also active as a West Java Movement Advisor, Sekoper Cinta, APTISI, APTIKOM, ISEI, PERWARI, PERSIKINDO and many more. Registered as Gender Expert Indonesia and West Java 2021 until now, and several other vacancies. In addition to being active as a teacher, the author also actively conducts research and publications in both accredited international journals and national journals. For writers, 'My breath is a breath of benefit for others'. She can be contacted at email: umiarie@email.unikom.ac.id.

Prof. Dr. H. Iman Sudirman, DEA, is an academic associated with the Institut Teknologi Bandung (ITB) in Indonesia. He has been involved in various educational activities and has received numerous recognitions for his contributions. This includes awards like the Habibie Award, the Indonesia Art Award, and several Satyalencana Karyasatya awards from the Government of Indonesia for his years of service. He can be contacted at email: iman@mail.ti.itb.ac.id.