Knowledge Management and COVID-19: A Review of the Literature and Implications for Practice

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Abstract: Knowledge Management (KM) was an essential strategic resource during the Covid-19 crisis. KM has been crucial in guiding organizations to make strategic decisions on behalf of individuals. This paper aims to review the research on KM and COVID-19. Based on an empirical systematic review of research conducted, content analysis has been conducted for several peer-reviewed articles in the English language. Research findings, implications, and future research agenda are presented. The results indicate that deploying appropriate KM models and managing knowledge relevant to the COVID-19 epidemic enhances effective decision-making and enables crisis management. The findings stress the importance of using enterprise social networking (ESN) systems in times of crisis, especially during face-to-face restrictions.

Keywords: Knowledge management, COVID-19, Systematic literature review

1. Introduction

The COVID-19 outbreak initiated in China was declared a pandemic on March 12, 2020, by the World Health Organization (WHO) (Brătianu & Bejinaru, 2020). The pandemic affected business organizations worldwide in various ways (Azyabi, 2021, Easa et al, 2024). It is considered one of the most disastrous pandemics, as the world has introduced lockdowns, including several restrictions for each walk of life (Brătianu & Bejinaru, 2020). It requires visionary and capable leadership, organizational capabilities, and sustainable knowledge management practices to lower the impact of such a crisis. In addition, an organization's knowledge ecosystem becomes essential to create explicit and tacit knowledge, containment, and dispersion (Pinzaru & Zbuchea, 2020). Knowledge is crucial during pandemics and crises as it prevents the organization from potential harm by lowering danger to a minimum (Almatrooshi et al, 2021).

In pandemics and crises, employees work off-site, disrupting communication and reducing knowledge sharing (Abdalla, Renukappa, & Suresh, 2022). A similar situation developed during COVID-19 when the concept of working from home started trending and emerged as a threat to organizations' survival (Ng, Fong, & Lo, 2021). This time of difficulty made it possible for organizations to rethink that organizational survival is directly related to knowledge management and innovation (Schiuma, Jackson & Lönnqvist, 2021). According to Morawiec and Sołtysik-Piorunkiewicz (2022), the importance of knowledge management cannot be undermined to manage complicated and challenging situations successfully. In the early days of COVID-19, researchers focused on knowledge management concerning the healthcare sector (Menniniet al, 2021). It requires appropriate knowledge about preventive measures to address the issue quickly (Abdalla et al, 2022).

The quick adaption to external changes determines the resilience of an organization. It is only possible if support for dynamic knowledge is available in a timely available. Wang and Wu (2021) said knowledge is one of the organization's most important assets. However, an organization must know how to use the available knowledge best to ensure business sustainability, especially during turbulence (Mennini et al, 2021). In this regard, Azyabi (2021) complemented the endurance of organizations linked with effective knowledge management and its usage. Wang and Wu (2021) further suggested that knowledge management can develop a better solution for managers to optimum use of scarce resources when a crisis hits the organization. To survive the coronavirus pandemic, organizations must need to develop strategies and methods for managing knowledge (Schiuma et a, 2021). Effective knowledge management can become a reason for organizational survival during Covid-19 and may be a significant factor in its amassed performance (Hsieh et al, 2020).

Nevertheless, knowledge management has yet to be researched concerning pandemics and crisis-related decision-making. The mentioned gap is being addressed in this research by analytically reviewing the available literature, especially conceptually and empirically investigated work relating to COVID-19 and knowledge management. The available knowledge, however, needs to be more articulated and highly fragmented, making the gap more prominent (Ammirato, Linzalone, & Felicetti, 2021).

2. Methodology of the Review

Google Scholar, Emerald, Science Direct, EBSCOhost, JSTOR, Taylor & Francis, Wiley Online Library, and Sage database were used to search for articles published in peer-reviewed international journals or recognized conference proceedings. Our strategy was confined to articles written in English to select relevant and coherent publications. We used keywords like "Knowledge management," "COVID-19," and combinations of these words. The authors managed and cleaned the data. The cited publications were chosen for their relevance to the authors' selected themes. We could find critical sources and rule out the others by analyzing each document's abstract. The relevance of the research, that is, the coverage of the stated subject, was the exclusion criterion. Following this screening, only 23 articles remained in the sample. The papers examined were published in 14 journals between 2020 and 2023 (Table 1). The list is mainly comprised of high-ranking journals in knowledge management.

Table 1: List of journals and ranking

Journal title	Article count	Percentage (%)	Journal ranking in Scopus
Knowledge Management Journals			
Journal of Knowledge Management	4	17%	Q1
Knowledge Management Research & Practice	3	13%	Q2
The Learning Organization	1	4.4%	Q2
Knowledge and Process Management	5	22%	Q2
General Management Journals			
Technology in Society	1	4.4%	Q1
Sustainability	1	4.4%	Q2
Journal of the Knowledge Economy	1	4.4%	Q2
Business Informatics	1	4.4%	Q4
Metamorphosis	1	4.4%	-
Journal of Work-Applied Management	1	4.4%	Open Access /DOAJ Seal
IEEE Engineering Management Review	1	4.4%	Q3
Conference Proceedings			
Proceedings of the 14th International Management Conference	1	4.4%	-
IEEE International Conference on Technology Management, Operations and Decisions (ICTMOD)	1	4.4%	-
Proceedings of International Conference on Emerging Technologies and Intelligent Systems	1	4.4%	-

3. Findings

The previous literature has outlined three main themes of KM linked to COVID-19.

3.1 Knowledge Management Strategies and COVID 19

In their study, Pinzaru and Zbuchea (2020) examined how to incorporate the lessons learned from COVID-19 into knowledge management strategies. They provided a thorough methodology for collecting and organizing tacit knowledge into explicit knowledge. This idea is to gather information and structure a knowledge repository on a collaborative interface that allows networking and communication to build a true knowledge culture. Pinzaru and Zbuchea (2020) highlighted that organizations should set up a unique Covid-19 outbreak learned lessons platform. Lessons learned should be explicitly labeled wherever they fit functionally (namely, departments, circumstances, etc.). Correct classification and distribution to the proper personnel are necessary. The platform's design should also be user-friendly to make usage as easy as possible. Starting with the lessons learned, organizations shall create and develop a knowledge culture at the cultural and organizational levels. Future studies need to go beyond empirical discussions and focus on observations on how the lessons learned during the COVID-19 outbreak are really being implemented into company strategy (Pinzaru & Zbuchea, 2020).

Iacuzzi, Fedele, and Garlatti (2020) focused on the different knowledge management strategies. Under the medical crisis caused by the diffusion of the COVID-19, three schools in Northeast Italy were able to assess critical assets and practices to strategically manage knowledge and maintain functioning during instability whilst responding to uncertain circumstances. Three factors were identified: the directing role of educational leaders, support structures that assisted in sustaining services and activities, and ICT infrastructures that enabled educational and administrative activities to be managed remotely. The authors revealed that Coronavirus epidemics have an influence on knowledge, techniques, and tasks in the Italian educational system. The study emphasized the importance of revisiting existing knowledge management practices and reconsidering those that do not contribute to the larger institutional aim in the current setting.

Hsieh, Nguyen, Wang, and Lee's (2020) research uncovered distinct effective knowledge management techniques for competitive advantage in the franchising hospitality sector. The research revealed three primary topics as effective knowledge management strategies: geographical advantage, crisis management, and a headquarters system. The findings revealed that a strategic knowledge management implementation technique might lead to a massive operation while simultaneously adjusting a firm's competitiveness and performance.

Brătianu and Bejinaru (2020) examined the properties of emergent knowledge strategies and compared them to purposeful knowledge strategies. Deliberate methods are no longer effective, and organizations must move swiftly to ensure their survival. Emergent strategies are based on what is unknown, while deliberate strategies are based on what is known. As a result, KM shall swiftly migrate from knowledge exploitation to knowledge exploration and from knowing what we don't know to not knowing what we don't know.

From a knowledge management perspective, Ng, Fong, and Lo (2021) developed an integrated risk-based paradigm for practice that supports quick action through respective authorities during an epidemic outbreak. The study emphasized the importance of establishing confidence within a healthcare system as the base of KM and communicating by maintaining that public health officials share information consistently through the media whilst also establishing a prolonged working collaboration in spreading vital information during a global epidemic.

Tomé, Gromova, and Hatch (2022) argued that the COVID-19 pandemic is a knowledge disaster with a severe knowledge failure at its heart. They declared that to overcome the coronavirus outbreak, a combination of "old normal" and "COVID-19" knowledge strategies is required. New competencies and abilities will be developed because of the new system. New competencies will indeed be addressed via the use of technology (as hybrid solutions), by changing people (dynamic capabilities and competencies), and by mandating the development of new procedures (new knowledge management strategies).

3.2 ICT and Knowledge Management During COVID-19

Lockdowns in global markets because of the COVID-19 epidemic have expedited a pre-existing shift brought about by the pervasiveness of digital technology (Klein & Todesco, 2021). COVID-19, according to Pinzaru and Zbuchea (2020), boosted and expedited the digitalization process by mandating remote working and demanding rapid business adaption and optimization. It is worth noting that collaborative digital technology (DT) will enable real-time cooperation and knowledge exchange after the epidemic. Knowledge management is required so that the potential of digital technologies may be investigated and used (Klein & Todesco, 2021). Stakeholders will also have more significant and faster access to knowledge (Pinzaru & Zbuchea, 2020).

Wang and Wu (2021) focused on IT-enabled knowledge management and crisis management approaches to fully understand how to use knowledge management in crisis management contexts via IT to avoid or mitigate negative crisis implications for healthcare organizations in Taiwan and lessen the risk of exposure to COVID-19. Mennini et al (2021) argued that decision-makers could manage a crisis by integrating and using data from interactive techniques by employing a knowledge management approach based on the communal sharing of knowledge processes.

Chaturvedi and Singh (2021) offered different knowledge management initiatives that combine technology, process stakeholders, and the relevant organizations. The authors emphasized the need to accelerate knowledge management procedures since knowledge is critical to the success of employees and organizations. Chaturvedi and Singh (2021) recommended developing a solid knowledge management platform with artificial intelligence (AI) capabilities and using integrated digital technologies best. According to Al-Hakim et al (2020), with the use of technology and the application of artificial intelligence, the organization should be capable of delivering a complete, adaptable, and objective knowledge mapping.

Knowledge management processes may be effectively applied in the COVID-19 situation to provide a focused and effective response to the epidemic (Chaturvedi & Singh, 2021). According to Wang and Wu (2021), developing knowledge management techniques to cope with COVID-19 is critical. Mennini et al (2021) added that the COVID-19 outbreak has adversely impacted public bodies' ability to respond to the crisis promptly and efficiently, emphasizing the importance of these organizations reinventing their knowledge approach through process reconfiguration. Azyabi (2021) argued that KM processes enable enterprises to significantly cut lead times by identifying and responding to changing market conditions.

Azyabi (2021) studied the influence of KM processes and information technology on SMEs' responsiveness to the coronavirus crisis. The study assessed the effectiveness of 136 SMEs in the Kingdom of Saudi Arabia in responding to and dealing with the challenges of the COVID-19 epidemic. Raudeliuniene, Albats, and Kordab (2021) highlighted that information technology and social networks positively influence the knowledge management cycle in Middle Eastern organizations. The authors added that the COVID-19 pandemic has exacerbated the global demand for new communication and knowledge-sharing technology.

Sharing knowledge with external and internal organizations may greatly assist SMEs in making better decisions about their varied activities (Azyabi, 2021). This approach may have a role in mitigating the effects of the COVID-19 epidemic. Wang and Wu (2021) revealed that knowledge management enables health organizations to fully utilize knowledge resources to make informed decisions for coping with the COVID-19 pandemic. Haneberg (2021) argued that the COVID-19 epidemic had significantly influenced entrepreneurial endeavors, particularly in areas with few knowledge resources and high contextual uncertainty.

Wang and Wu (2021) added that knowledge management platforms support the improvement of knowledge's accuracy, consistency, and dependability, minimizing fear and anxiety caused by deception and allowing vital ability to be widely shared, assessed, and updated regularly as needed. Mennini et al (2021) highlighted that to build effective strategies and deliver services that meet people's requirements, public institutions must recognize the significance of managing common knowledge.

According to Abdalla et al (2022), smart cities (SC) technologies and techniques encompass a substantial perspective for controlling COVID-19, and their significance is expected to grow in the future. They also stated that using SC technologies allows for effective public participation during the outbreak and permits two-way interaction, which significantly influences implementation protective measures. Hence, investing in knowledge management is crucial since it is one of the significant factors determining the effect of COVID-19 epidemics.

3.3 Knowledge Management and COVID-19 Crisis Management

The Coronavirus enabled individuals, societies, and companies to recognize the absence of a crisis management philosophy on various stages (Almatrooshi et al, 2021). Considerable numbers of research have discussed knowledge management's role in managing the COVID-19 crisis. Edghiem, Guo, Bridge, and McAreavey (2021) suggested the formation of cross-university working groups to improve knowledge sharing among Northwest universities. This will enable the rapid exchange of COVID-19 adaptive guiding principles and the outcomes of coming up with new creative efforts to lead COVID-19 responses. Knowledge management practices help crisis management (Oktari et al, 2020) because available knowledge assists in quick, visionary, and practical decisions learned from past experiences (Martins et al, 2019).

Li, Zhou, Stafford, and Wang (2020) proposed a crisis management prototype model emphasizing the coronavirus outbreak. During the knowledge acquisition procedure, crisis management stakeholders (frontline staff, administrative authority, and technical authority) ought to obtain important crisis management knowledge (COVID-19) needed at work. Li et al (2020) added that effective coordination among these three critical players in knowledge extraction and sharing is necessary for the system and crisis management efforts to succeed. Cegarra-Navarro, Vătămănescu, and Martínez-Martínez (2020) examined knowledge hiding as a coping strategy during the initial stages of the pandemic, comparing behavioral trends in Spain and China. Their findings shed light on how national and organizational cultures influence knowledge practices under pressure. Building on this, Cegarra-Navarro et al. (2021) introduced a context-sensitive view of the shift from knowledge hiding to citizen engagement, underscoring the fluid and adaptive character of knowledge management (KM) processes across both public and private sectors. Further, Martínez-Martínez et al. (2022) applied bibliometric methods to trace the development of environmental KM in the hospitality sector during the COVID-19 period, highlighting how industry-specific research can expose thematic blind spots and identify emerging research priorities.

4. Discussion and Implications

Twenty articles related to knowledge management and COVID-19 published between 2020 and 2022 were reviewed and analyzed in this study. Three main themes were identified: knowledge management strategies, knowledge management, crisis management, and ICT and knowledge management. The COVID-19 epidemic demonstrated how organizations operate in a complicated and volatile business environment. The COVID-19 disaster occurred because of a significant knowledge failure at its core, which exacerbated the crisis.

The COVID-19 epidemic has added to uncertainties and challenged organizations' sustainability. Findings revealed that the management of knowledge for innovation is intrinsically linked to the survival of organizations. Grasping the approach and techniques for managing knowledge to survive the COVID-19 outbreak is critical for any organization's livelihood and sustainability. Previous studies highlighted the importance of knowledge management in managing crises such as COVID-19. Knowledge management is regarded as essential to managing organizations through a problem. The findings indicate that deploying appropriate KM procedures and working knowledge relevant to the COVID-19 epidemic enhances effective decision-making and enables crisis management.

Furthermore, knowledge management strategies are critical in building organizational resilience and reorganizing operations (Easa, 2019, El Khatib and Ali, 2022). KM is expected to give valuable insights to assist managers in rethinking their organizations so that it provides them with the KM ability to digest and respond to the COVID-19 epidemic's consequences successfully. Many industries and businesses are expecting hybrid remote work to become a reality. Firms have realized they need more than traditional strategic thinking in planning and making the right decisions. Leaders must acquire new skills and capabilities to lead firms in the post-pandemic period successfully. On the other hand, IT solutions may improve organizations' knowledge management and crisis management capabilities by increasing organizational responsiveness and flexibility.

Organizations must focus on knowledge exploration and obtaining new competencies through hybrid solutions, building dynamic capabilities, and establishing new emergent strategies to maintain their survival. According to the findings, KM has been crucial in creating knowledge-based networks to develop ideas, find the most suitable techniques for exchanging and analyzing information, and expand capabilities to generate creative solutions. Several studies have recommended using digital technology and investing in knowledge management systems to better communicate and share knowledge during a pandemic like COVID-19.

This research aimed to illustrate how KM, as a contemporary practice and theory, may help managers reconsider and revive their organizations in a crisis. The bulk of the existing research is conceptual, and empirical studies are needed to examine and extend the findings to ensure organizations' resilience during a pandemic.

Ethics statement: We hereby declare that ethical clearance was not required for this research.

AI statement: We hereby confirm that AI tools were not used the creation of this paper.

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