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Research Article

Knowledge Management in the COVID-19 Era

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Abstract:

The pandemic has been a watershed in the knowledge management that is carried out in Higher Education Institutions (HEIs). Studies on vulnerability and resilience risks highlight material, financial and human resources as the central axis of the knowledge network, although research on stigma indicates that mistrust prevails between decision makers and those who carry them out. Therefore, the objective of this work was to contrast the hypotheses related to knowledge management as a regulatory process of trust relationships between the parties involved. A cross-sectional, exploratory, and correlational study was carried out with a sample of 10 professional practitioners and social workers involved in COVID-19 care. The results show that a structure of nodes prevails that begins with innovation, continues with competitiveness and ends with efficiency as central, unifying and structural axes of information translation and knowledge transfer. The results are not extensive to the university community, although they are innovative because they highlight trust as the guiding principle of knowledge management.

Keywords: COVID-19, Stigma, Knowledge management, Knowledge network, Risk

Introduction

The COVID-19 pandemic has demonstrated the critical importance of knowledge management in responding to emergencies and global health crises (Vuong et al., 2022). Knowledge management is a process that consists of identifying, capturing, organizing, storing and sharing knowledge within an organization to improve its performance and obtain competitive advantages. This discipline focuses on managing both explicit knowledge (found in documents, databases, manuals, etc.) and tacit knowledge (experience, skills, intuitions) that reside in the minds of individuals.

Knowledge management has been essential to collect relevant information about the virus, its spread, symptoms, treatments and prevention strategies (Kirchner, Ipsen & Hansen, 2021). Knowledge management has enabled experts and scientists to collect, analyze and share real-time data on the spread of the virus, its burden of disease and the impact on different populations. Collaboration and knowledge sharing between researchers and laboratories around the world have been essential in accelerating the development of effective vaccines and treatments against the virus. Knowledge management has been instrumental in communicating accurate and up-to-date information about the pandemic to the general population, health workers, and decision makers.

Knowledge management has allowed health professionals to learn from the best practices and experiences of other colleagues in different regions, which has led to an improvement in the care and management of patients with COVID-19 (Wang & Wu, 2021). Knowledge management has facilitated the dissemination of information on prevention measures such as social distancing, mask wearing and hand washing, which has been crucial in controlling the spread of the virus. Health institutions and governments have been able to learn from the lessons learned during the pandemic, identify weaknesses in the response, and better prepare for future health emergencies. Knowledge management has enabled health systems and public health authorities to constantly monitor the epidemiological situation, which has been essential for making informed decisions about policies and restrictions.

Knowledge management has been a powerful tool to address the challenges posed by the COVID-19 pandemic (Ghasemi, Nejad & Aghaei, 2021). It has enabled a faster and more efficient response to an emergency, as well as a more effective exchange of critical information and knowledge between different actors around the world. As the fight against the pandemic continues and new global health challenges are faced, knowledge management will continue to be essential to deal with these crises effectively. Knowledge management has become crucial in today's business environment, where knowledge is a valuable asset that drives innovation and effective decision making. Some of the main practices and tools used in knowledge management include: Identifying and collecting relevant and valuable information from various sources, both internal and external, to ensure that no essential knowledge is lost. Structure knowledge in a logical and systematic way, using taxonomies, categories and labels, to facilitate its search and retrieval. Use content management systems, databases, and repositories to securely store knowledge and ensure it is available to employees who need it. Promote the exchange of knowledge among the members of the organization, whether through training, meetings, communities of practice or online collaboration platforms. Take advantage of the lessons learned from past projects and experiences

to avoid repeating mistakes and continuously improve processes and results (Velásquez & Lara, 2021). Foster an organizational culture that values and promotes collaboration, innovation and constant learning. Use technological tools, such as customer relationship management systems (CRM), learning management systems (LMS) or document management software, to facilitate knowledge management. Improved decision-making by having relevant and updated information, leaders can make more informed and accurate decisions. It facilitates the emergence of new ideas and approaches, since the exchange of knowledge and diverse perspectives is encouraged. Reduction of duplication of efforts since it avoids the loss of time and resources in reinventing solutions or carrying out tasks that have already been carried out successfully in the past. Adaptation to change: It allows organizations to adapt more quickly to changes in the environment by learning from previous experiences and being open to new ways of doing things.

Knowledge management is an essential discipline for any organization that wants to stay competitive and be successful in a dynamic and constantly changing business environment (Saide & Sheng, 2021). By leveraging the knowledge that their employees possess and facilitating its flow and access, companies can achieve higher levels of productivity, efficiency and innovation. In the context of knowledge management, there are different scales or levels of approach that are used to understand and address knowledge in an organization. These scales help to visualize how knowledge flows and is managed within a company or community. Knowledge management at the level of each individual within the organization tries to understand how knowledge is acquired, created, shared and used by employees and how it influences their performance and decision-making. At the group or team level, the focus is on how to improve collaboration, communication, and knowledge sharing among team members to achieve more efficient and effective performance. At the organizational level, it analyzes how the organization manages knowledge to obtain competitive advantages and improve its performance. It focuses on how knowledge is stored, shared, and applied across the enterprise, and how it integrates with business processes and strategies. Knowledge management between different organizations or entities includes strategic alliances, collaborations, knowledge networks and other ways of sharing information and experience between different actors. At the societal scale, knowledge is managed and shared through public policies, educational systems, research networks, and other initiatives that promote large-scale knowledge sharing and dissemination.

The measurement of knowledge management is an important aspect to evaluate the effectiveness of the practices and strategies implemented in an organization (Deliu, 2020). Although measuring knowledge quantitatively can be challenging, there are several ways to assess and monitor the impact of knowledge management. Periodic employee surveys can be conducted to assess their perception of knowledge management in the organization. These surveys may include questions about the availability of information, the ease of access to relevant knowledge, the effectiveness of knowledge management tools, and collaboration between teams.

Key performance indicators (KPIs) related to knowledge management can be useful to measure its impact on organizational performance (Schleper et al., 2021). These KPIs can include the problem resolution rate, the improvement in decision making, the response time to queries, the knowledge retention rate in the organization, among others. You can analyze the productivity of teams and employees before and after implementing knowledge management initiatives. An increase in productivity may indicate better management and access to relevant knowledge. At the end of the projects, evaluation sessions can be held to identify lessons learned and how the knowledge was applied during the project. These lessons can feed into future knowledge management strategies.

Comparing knowledge management in the organization with other companies in the same sector or with good industry practices can provide an external perspective and help identify areas for improvement (Bratianu & Bejinaru, 2021). If collaboration platforms and internal social networks are used, the degree of interaction and participation in these platforms can be analyzed to measure the level of collaboration and the flow of knowledge between employees.

However, the measurement of knowledge management has not been carried out from its scientometric dimension, which suggests the impact of knowledge on productivity, competitiveness and innovation based on expert evaluation and consultation with members of an organization.

Therefore, the objective of this work was to establish the scientometric network of knowledge management in a public university in central Mexico. In other words, during the pandemic, knowledge management was oriented towards corporate governance; identity, reputation and image of the university in risk communication and damage control. Therefore, a scientometric study with students and professors reflects the impact of anti-COVID-19 policies on the productivity, competitiveness and innovation of the university.

Are there significant differences between the theoretical structure of knowledge management in the face of anemia with respect to the structure observed in the present work?

Hypothesis 1. The impact of anti-pandemic policies on knowledge management suggests that the confinement and distancing of people reduced the transfer of knowledge to preventive measures. Consequently, the theoretical structure and the answers of the respondents will be different.

Hypothesis 2. Knowledge management, defined as the translation and transfer of knowledge, having been impacted by anti-COVID-19 policies and reduced to prevention recommendations, intensified in non-collaborative or non-entrepreneurial groups.

Hypothesis 3. The translation and transfer of knowledge reduced to prevention recommendations encouraged innovation, productivity and competitiveness in entrepreneurial and collaborative groups, but decreased their financial transparency.

Method

Design. A documentary, cross-sectional, exploratory and correlational study was carried out with a sample of 100 students (M = 23.4 SD = 2.3 age and M = 7'895.00 SD = 456.00 monthly income) from a public university in Mexico and selected according to their inclusion in the system of professional practices and social service in strategic alliance with public health institutions.
Instrument. The Prisma systematic registry was used (see Figure A1 in the annex) to be able to record the selection of indexed sources and the answers to the questionnaire of trigger questions: How did the pandemic change your trust towards people? How did you carry out your academic, professional and work training in the face of the pandemic? How to modify your contact and study habits due to the pandemic? Benford's test suggests that the record is valid as it covers more than 30% of the cases in the first figures.
Procedure. Participants were contacted through institutional mail. The guarantee of confidentiality and anonymity is attached. They were informed that the results would not affect their academic status, since the objectives and those responsible for the project carried out the research for academic purposes and in strict adherence to the ethical standards of the American Psychological Association. A focus group was held to homogenize the concepts. The Delphi technique was used to evaluate the selected abstracts according to a Likert-type criterion: 0 = "totally disagree" to 5 = "totally agree".
Analysis. The coefficients of centrality, grouping and structuring were estimated with the purpose of contrasting the hypotheses. Values close to unity were assumed as evidence of non-rejection of the hypotheses.

Results

Competitiveness is the central node of the social representations of those surveyed. That is, the knowledge management network revolves around competitiveness. It means then that knowledge management is defined as a system of translation and transfer of knowledge and skills in the face of the pandemic that establishes intermediation, proximity, gradation and influence of competitiveness with respect to other nodes.
In the case of the group as the guiding axis of the knowledge network, competitiveness is hegemonic. In this sense, knowledge management; translation and transfer of knowledge are built as borders that enhance competitiveness as a gradient where knowledge accumulates
The knowledge network, defined as a structure of relationships between nodes and edges, was evaluated as a learning system in which the transfer of innovation begins and culminates in the translation of effectiveness. In other words, knowledge management is a process of translation and transfer of innovation and effectiveness on which the other nodes are produced and reconfigured
The values of centrality, grouping and structuring suggest the non-rejection of the hypotheses related to the differences between the theoretical structure with respect to the established empirical model.

Discussion

The contribution of the study lies in the establishment of a knowledge network for COVID-19 at a public university in central Mexico. The results show that the competitive one is the central and hegemonic node in which the other nodes are related and structured. In this process, two dimensions related to the translation and transfer of innovations and efficiency (Karakose et al., 2021). Such findings correspond to studies of stigma where relationships of mistrust prevail between users of public services with the authorities regarding the communication of risks of the pandemic (Jalal et al., 2021). The knowledge network is built from relationships of trust between the parties involved (Al-Omoush, Simón-Moya & Sendra-García, 2020). In the present work it was established that competitiveness catalyzes innovation and transforms it into efficiency as the learning axis of the network. This discovery suggests a system of trust between the authorities and the student community that the literature identifies as corporate governance (Sotomayor-Castillo et al., 2021). In other words, identity, reputation, and image are trust structures that the literature links to efficiency, competitiveness, and innovation (Mahdi & Nassar, 2021). The identity or sense of belonging to a group makes it possible for the knowledge network to be distinguished from other structures in terms of its translation and transfer of knowledge (Gombos et al., 2021). Next, reputation extends the sense of belonging towards a prestige that will serve to build an institutional image (Putrino et al., 2020). In this way, the trust between the parties materializes in indicators of innovation, competitiveness and efficiency (Landolo et al., 2021). Studies on stigma warn that distrust of authorities is not permanent and can even be reversed as long as the parties involved continue to believe in the technology (Aleanizy & Alqahtani, 2021). In this way, confidence in vaccines translates into acceptance of the anti-COVID-19 immunization policy (Chi, 2021). Therefore, the inclusion of stigma in the knowledge network is recommended to be able to contrast the relationships between the nodes.
However, the limits of the study revolve around the nodes that make up the knowledge management structure. Even though the focus group technique and Delphi allow delineating and evaluating the concepts, this exercise does not reach an explanatory status but rather a descriptive one. In addition, the selection of the sample does not allow extending the findings towards a proportional representativeness of the university community, although the findings are consistent with the state of the art, it is necessary to stratify the population in order to establish vulnerability, risk and resilience groups as recommended by the literature itself.
Despite the limitations of the study, it is possible to highlight the knowledge network as an innovation. Review studies indicate that the knowledge network depends on strategic alliances between public institutions and private organizations, although this paper warns that competitiveness reflects this alliance. Therefore, it is necessary to investigate the structure of trust, vulnerability, risk and

resilience in order to be able to anticipate knowledge management scenarios aimed at defenselessness and inaction in the face of crises.

Conclusion

The objective of the study was to establish the knowledge network in a sample of students from a public university in central Mexico regarding the pandemic. The results corroborate the stigma studies because it highlights trust as a common denominator between the parties involved in order to translate and transfer the essential knowledge in the face of the health crisis. In addition, the structure found suggests that the network begins with innovation, continues with competitiveness, and culminates with the efficiency of the knowledge management system in the face of COVID-19. Within the framework of studies on risk, vulnerability and resilience, this paper suggests and recommends the inclusion of stigma as a central axis of the university agenda in terms of prevention or reaction to SARS CoV-2.

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