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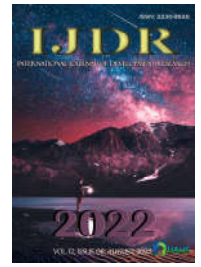
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RESEARCH ARTICLE

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CHALLENGES IN IMPLEMENTING ORGANIZATIONAL KNOWLEDGE MANAGEMENT: AN INTEGRATIVE REVIEW

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ABSTRACT

Organizational knowledge management plays an important role in building new knowledge in businesses, provided it is well managed in the implementation. Nonetheless, some authors criticize the replicability of the most popularized models, dividing opinions regarding the generalization of knowledge management models. In order to shed more light on the challenges and whether knowledge management models can be generalized, this study sought to elucidate how academic research addresses this context through an integrative review. Some results of the case studies analyzed revealed a small number of articles on the subject, although it was possible to identify organizational changes in the implementation phase of the models and the existence, still propaedeutic, of a hybrid knowledge management model that may be a divider in this dichotomy.

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INTRODUCTION

In recent decades, there has been a stream of research on the use of knowledge management to leverage competitive strategies and the performance of the organizations' processes because, in practice, its complexity is latent given the challenges organizations face in the implementation phase (Tsai, 2013). Researchers have sought to evidence their practices through knowledge management models capable of corroborating the construction of new knowledge on the use of organizational knowledge (Martín & Diván, 2017). Knowledge management within an organization plays a pivotal role as long as it is well managed. Hence, an adequate knowledge of life cycle management is required, as well as a follow-up and alignment of the evolution of its application in all sectors of the organization and not just technology, employees, machines, and structures. This also includes the intangible practices of the process, including organizational culture, the quality of processes, performance indicators, skills, and assessments, as some of the requirements for an interactive sharing of knowledge, thus requiring initiative and mutual effort among stakeholders (Santos & Varvakis, 2021). In the construction of organizational knowledge management models concerning science, a dichotomy regarding the applicability of these models to be generalized or individualized in light of organizations stands out. Authors have criticized the most popularized models so far as being unable to be replicated in other organizations or even

restricted to a particular context of the country of origin (Elezi & Bamber, 2018). Given this scenario, this study sought to shed more light on the challenges of implementing organizational knowledge management and whether they can be generalized through an integrative review to understand how the researchers approach this theme.

METHODS

To achieve the research results, we performed an integrative review of the main databases Scopus, Scielo, and Web of Science, accessed on April 13, 2022. These databases have the main and most important publications on the theme, thus contributing significantly to the proposed objective. Important indexations consist of high-impact factor journals, thus validating their relevance to the scientific and academic community. Peer review was correlated to journals' high quality and the probability of the journals having this evaluation method. To understand how organizational knowledge methods are adapted, we analyzed the evidence of theoretical and case studies in the researched articles and the main challenges organizations described in the implementation phase. This analysis was conducted utilizing an integrative review according to the systematic methods of Torraco (2005), Whittemore and Knafl (2005), and Botelho *et al.* (2011). The following key terms (i.e., search strings) were applied:

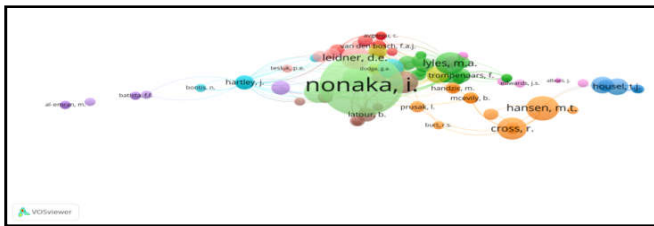
TITLE-ABS-KEY (“Organizational knowledge”) AND (“Theory*” OR “Model*” OR “Method*” OR “System*” OR “Management”) AND (“Case” OR “case study”), resulting in 344 articles in English and Portuguese from 2011 to 2021. After excluding the duplicates, there were 268 remaining articles (Table 1).

Table 1. Integrative review steps

Steps	Scielo	Scopus	WOS	Total
Total searches	4	166	174	344
After excluding duplicates	0	166	102	268
After reading the abstract, title, and keywords	0	23	14	37

Source: Authors' data (2022)

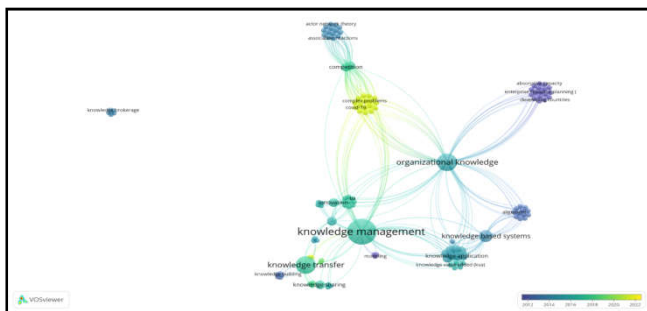
The titles, abstracts, and keywords were then read to identify the remaining articles; 231 articles were excluded, leaving 37 articles that were later read in full. Afterward, we were assured that all the discussions were reached and organized the studies in a single spreadsheet to identify possible data duplicates. By applying these filters, the data were analyzed, reduced, displayed, and discussed using the synthesis matrix and the thematic markers, enabling us to categorize the articles. The VOVviewer software was used to shed more light on the existing connections in the researched database. The author Nonaka was identified as the knowledge management link given the number of citations in 2018, leading to new connections (authors) until 2021 (Figure 1).



Source: Developed by the authors (2022)

Figure 1. Map of citations

Another point analyzed was that the keyword “knowledge management” builds the main cluster of this database, similarly identified in the year 2018 by Nonaka’s citations (Figure 2). This word connects to the other four keywords: “organizational knowledge,” “knowledge-based systems,” “knowledge transfer,” and “competition,” which, when connected, are transposed to form new clusters.



Source: Developed by the authors (2022)

Figure 2. Map of the keywords

The activities of the companies that stand out in implementing organizational knowledge management are listed in Table 2. Consulting stood out with the most implementations ($n = 7$), followed by public services ($n = 5$), which is a sector that is not very common in the implementation of these tools, followed by the industry ($n = 2$) and logistics ($n = 1$). After reading the selected articles, based on the synthesis matrix, the data revealed relevant contributions regarding the adaptations used in implementing a knowledge management model in organizations; the challenges and difficulties of

implementing knowledge management in organizations varied. Nevertheless, initially, it is important to highlight that the benefits of knowledge management can never be achieved if the practical aspects are not integrated into an application model. Tsai (2016) reported that inter-organizational knowledge sharing is difficult due to the different natures of organizations. The individual factor directly influences the degree of acceptance of external knowledge. The factors that impact knowledge management, such as demands, costs, technologies, and risks, must be considered in order to promote innovation. The most effective and efficient application of knowledge management should be through a hybrid model in which various principles and practices can be incorporated into existing open-access IT platforms (e.g., LINE, Facebook, among others). Managing the factors of inter-organizational knowledge management and different applications in the hybrid model will generate the expected specific innovation performance in line with organizational growth strategies (Tsai, 2016). Another hybrid model proposed by Tsai (2016) incorporates newsgroups, knowledge forums, knowledge asset management, and knowledge application processes as a hybrid means of sharing organizational knowledge along two axes, explicit and implicit, and individual and collective. This kind of implementation significantly increased the use of the corporate website after introducing social and advanced advertising elements as well as campaigns to increase the company’s visibility. Other authors have pointed out that implementing organizational knowledge management provides a broad understanding of absorptive capacity, how they operate and interact, and provides an integrated and detailed view of the entire process, resulting in greater collective learning and improved service quality (Sharma *et al.*, 2012; Freitas Filho *et al.*, 2016; Dulipovici & Robey, 2013; Skok *et al.*, 2013). For Sharma *et al.* (2012), there are countless obstacles to absorptive capacity and resistance to change regarding process dimensions. Most empirical studies do not carefully address important processes that influence the viability of absorptive capacity. Thus, the prior knowledge of top management was particularly important in developing organizational absorptive capacity. Hence, it is necessary to develop processes that enable individuals in the organization to access, combine, and utilize knowledge.

According to Dulipovici and Robey (2013), strategic alignment remains a desired goal that affects (or should affect) the implementation of new initiatives. Indeed, the team’s engagement may be negatively affected by different factors, including interactions between users with new systems in their routines, the lack of interaction, commitment among those involved, and understanding of the tool, low motivation for use, and excessive number of tools for the same functions. For Skok *et al.* (2013), there is resistance to standardization in information-related areas and not exactly to knowledge management factors. Thus, there is a need for upper management support, user involvement, comprehensive training, and super-users at each location. The knowledge management strategy must include the mobile workforce and not just be limited to in-office access to knowledge repositories. In this regard, Tsai (2016) stated the need to integrate knowledge management into the business process and choose a suitable technology infrastructure for knowledge management to achieve financial benefits. Furthermore, the findings of Kim *et al.* (2014) concerning Korean organizations must be interpreted with caution, given that the cultural difference and deeper understanding of organizational knowledge pathways through the lens of the social network may enable more context-specific knowledge management strategies (e.g., those appropriate for a specific functional unit, management level, or industry type) to be identified and implemented. Chen *et al.* (2013) referenced Nonaka’s SECI model and indicated that knowledge is generally internalized through practice and sharing via socialization. While the forces for and against knowledge transfer are felt at the individual level, knowledge combination occurs at the organizational level through respondents’ use of explicit organizational knowledge supported by individual staff migration from program to program. Externalization of tacit to explicit knowledge occurs through conversion mechanisms, including individuals mapping their ideas into a common language with other professionals. Gatti Junior and Yu (2017) related the

knowledge transformations described by Nonaka and Takeuchi (2008) in the SECI model (socialization, externalization, combination, and internalization) in each phase of new product development (pre-development, development, and post-development). This was predicted by Rozenfeld *et al.* (2006) in their unified model of the product development process; they concluded the need to provide infrastructure and technology in an integrated way to support the flow of knowledge and the creation of innovation-oriented culture. In a case study of a Chinese company, Zhang and Zhang (2018) evidenced

management. According to Rose *et al.* (2014), knowledge-generating workers bring their expertise to develop products and services. This requires flexible work environments to allow ideas to be presented, evaluated, and put into practice. The only way to confidently decide whether a new idea can be easily implemented is by conducting a full impact analysis to assess capability gaps. Implementing a knowledge management model can be time-consuming, complex, and expensive. Therefore, stepwise impact analyses and decision points ensure that problems are quickly identified and solved. Sapuarachchi (2021) raised concerns regarding the influence of cultural distance on inter-

Table 2. Companies activity

Authors	Company activity
Rose, J. F., Hawryszkiewicz, I., & Kang, K. (2014).	Logistics
Sharma, S., Daniel, E., & Gray, C. (2012)	Consulting
Tsai, A. (2013)	
Dulipovici, A., & Robey, D. (2013)	
Skok, W., Clarke, K., & Krishnappa, S. (2013)	
Tsai, A. (2016)	
Tsai, A. (2016)	
Chen, J., McQueen, R. J., & Sun, Y. T. (2013)	
Gatti Junior, W., & Yu, A. (2017)	
Kim, Y., Hau, Y. S., Song, S., & Ghim, G. (2014)	
Freitas F. L. F., Bertoncini I., Varvakis G., & Santos N. (2016).	Public services
Velásquez, A., Manuel, R., Lara, M., & Vanessa, J. (2021)	
Fergusson, S. & Blackman, D. (2017)	
Handzic, M. (2011)	
Lièvre, P. & Tang, J. (2015)	
Zhang, W. & Zhang, W. (2018)	Industry
Sapuarachchi, D. B. (2021)	

Source: Authors' data (2022)

that the transfer, assimilation, and sharing of knowledge between companies in a resource-based industry chain positively influenced organizational knowledge creation. In the context of public administration, leadership may be the most important aspect of successful knowledge management. The main contribution of Handzic (2011) is the discovery of complex interactions between knowledge enablers and processes that influence knowledge stocks. For Fergusson and Blackman (2017), improving organizational knowledge management can promote innovation in the public sector by capturing the knowledge produced and through the everyday practices of the organization members. Additionally, Fergusson and Blackman (2017) reported that there is also a limitation in scope and generalizability in the sense that this fruitful interaction between strategic direction and practice cannot be replicated in any organization. They indicated that combining the managerial and practical elements led the analyzed organization to success. The results found by Handzic (2011) are based on European public administration and may not reflect other geographical, economic, and cultural contexts. The variables were perceptual and measurement items for the actual phenomena. Hence, there is a need to include objective data, improve measurements, and deepen research for a more detailed analysis of contextual influences and consequences of knowledge management. The use of the SECI model has also contributed to the public health sector through the study of Lièvre and Tang (2015), whose results suggested ways for managers to overcome knowledge transfer barriers in multicultural contexts by relying on the socialization process. Successfully managing the issue of knowledge transfer in a multicultural context through the SECI model, which focuses on the interaction between tacit and explicit knowledge, opens a rich avenue of reflection. Velásquez *et al.* (2021) analyzed two universities and stressed the importance of developing preliminary research stage to assess the maturity of knowledge management in the organization. These assessments allow us to recognize the knowledge management network with the actual interactions and obtain a better interaction between the human, structural, and relational capital to achieve improvements in the institution. Andreu and Sieber (2005) pointed out difficulties in internal organizational knowledge transfer, including time and cost constraints, the time required for learning for individuals in the organization, employee unwillingness to share their support and comments on their learning, and specialized knowledge that generally exists tacitly, which represents a challenge for promoting knowledge

organizational knowledge transfer, indicating that inter-organizational knowledge transfer happens in similar contexts. For Junior and Yu (2017), generalizations are restricted by the particular focus given to the automobile industry; innovation in partnership with other companies could reverse the order of knowledge construction in its ontological dimensions, with emphasis, perhaps, on inter-organizational knowledge, which initially develops in the early stages of the project. A critical point that deserves further attention among the obstacles to implementing knowledge management is evaluating the organization's culture and the environments aimed at organizational learning. The more the knowledge-sharing culture is consolidated, the greater the value of organizational knowledge (Freitas Filho *et al.* 2016). The limited availability of individuals with relevant prior knowledge, especially in developing countries, and their experience will also reduce the conditions necessary to improve knowledge sharing techniques. Managers and upper management must accumulate knowledge and experience on knowledge management aspects before implementation and apply this knowledge to establish organizational knowledge processes, although constraints may vary between countries according to local customs, culture, and specific challenges such as lack of experienced IT personnel and limited financial resources.

Concluding Remarks: The present integrative review used well-known databases (Scopus, Scielo, and Web of Science) that indicated the main and most important publications regarding the theme of contributions to the challenges of organizational knowledge management. However, these databases are still restricted and limited to certain types of organizations, not allowing us to determine whether organizational knowledge methods can be generalized in their practical application, thereby requiring other contexts to be evaluated to obtain additional insights. The keys (i.e., strings) defined as the search strategy, despite generating 268 articles, may not result in studies that detail the implementation of certain knowledge management models. Although the selected studies indicated numerous contributions to implementing and adapting knowledge management in organizations (especially those of theoretical nature and case studies), further discussions on applying knowledge management models in practice are necessary, especially concerning replication and validation by new field studies and evaluating how organizational knowledge methods are and can be adapted to each case. The practical integration of IT platforms and knowledge

management principles and applications of a hybrid model deserve more attention and follow-up research regarding their industrial benefits as well as managerial advancements. In fact, the lack of an integrated hybrid model to incorporate various knowledge management practices, including for manufacturing, as there are independent organizational knowledge management principles and applications. In addition, current studies, in terms of analyzing the organizational knowledge network of the individual and the team, must be expanded to research at the inter-unit and interference levels through block modeling analysis of the knowledge network of knowledge management associated with parameters of digitization and innovation stages. Future research could expand on this aspect of the theory and focus more specifically on cross-group communication. Notably, a cross-group analysis is fully consistent with Moscovici's theoretical position and could be used in future research to strengthen conclusions about social representations of technologies designed to overcome group boundaries, especially concerning the robustness of boundary objects, in addition to conducting further studies to compare with other organizations. Further research is needed in developing countries, where small firms often face similar challenges as medium-sized firms and are therefore often treated as a homogeneous group in research. There are likely differences in how small firms can develop their absorptive capacity, and additional studies can explore how these firms develop the capacity needed without in-house knowledge. When discussing the possibility of generalizing the knowledge management model, it is pivotal for future research to evaluate scenarios with more than one organization within the same business context as they may provide new insights. Inter-organizational learning is also an important field for further studies. Given the above, additional data is required. Current research points to implementing hybrid knowledge management models, which can effectively accommodate various IT applications, categorize organizational knowledge, and provide automation for knowledge collection and retrieval during business processes for financial benefit. Lastly, it is possible to conclude that the results cannot be generalized without further research, and in the initial phase of planning and implementing knowledge management models, the culture and context of each organization should be observed. The benefits of knowledge management can hardly be achieved if the practical aspects are not integrated into an application model.

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