

Mapping the Field of Change Management – A Bibliometric Analysis Using Vosviewer

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Abstract. *Considering the difficult and dynamic environment that businesses operate currently, this is one of the most important strategic components of achieving organizational success. Change management leads to competitive advantages. Change management is among the subjects that are explored most frequently from an organizational standpoint. Through bibliometric analysis based on data taken from the Web of Science database and VOSviewer software, the paper aims to present an overall insight on this topic and observe the common opinion by academic environment. This paper revealed that 180 unique articles were published in Web of Science in a short period (2020-2024). It also aims to identify the main topics that assembled the studies on change management, determine the most significant clusters and a research trend in this area. Change is unavoidable, and business leaders need to understand the elements influencing it in order to effectively manage a change process.*

Keywords: change management, COVID-19, VOSviewer software, bibliometric analysis, Web of Science database.

Introduction

To ensure that changes lead to favorable outcomes, it is critical to anticipate changes, act to bring about changes, and lead the change process. That fact is specifically taken into account by the organization's change management (Năstase et al., 2012).

The COVID-19 pandemic amply illustrated the fact that many firms faced internal issues rather than external ones. There were times when their leaders and managers were unable to make the choices necessary for the organizations to grow steadily and healthily.

For organizations, change is essential in their efforts to adjust to the intensifying competition and swiftly evolving market conditions. Thus, academic research on the subject of change and change management has gained significant popularity.

The timing of the change's implementation and the people involved are crucial. This is a process that people should be part in. They ought to be taught how to read their own emotions

and how to view the company in the context of its surroundings. The manager, who is typically the agent of change, is responsible for this. Establishing a culture of change entails everyday work toward change rather than sporadic endeavors. Creating awareness and responsiveness to organizational change is required before creating a change plan (Năstase et al., 2012).

Using bibliometric analysis, which can analyze the scientific literature produced in a certain topic, can offer a close-up view of the field (Ozkaya, 2018).

By analyzing any kind of study in which there are connections among the studies and in the corpus of the studies evaluated, bibliometric approaches provide a fresh viewpoint on the subject of knowledge. The mapping of science from a macro approach reveals trends when compared to the systematic evaluation of the literature. This makes it possible to handle a broad range of studies and provide a graphic representation of a particular research subject (Zupic and Cater, 2015).

The primary objective of this research was to provide a comprehensive summary of the current body of knowledge regarding change management. This was achieved through the utilization of bibliometric indicators, including the quantity of publications and citations, the names and affiliations of contributing authors and institutions, and research on keywords. Additionally, the research aimed to determine how the interest of academics in connected subjects changed over time.

By highlighting the intellectual landscape of knowledge in change management literature, the current study offered a summary of the studies carried out in the field during COVID-19. This summary could be useful to researchers and practitioners alike.

Literature review

Understanding the concept of change management

The current environment, globalization, the advancement of information technology, and the unrestricted flow of resources provide challenges for managers and leaders in terms of effectively communicating and inspiring certain decisions and actions. A broader spectrum of stakeholders is particularly interested in how an organization's management comprehends and addresses its unique demands and interests (Năstase, 2010b).

According to Voehl and Harrington (2017), change management includes implementing new business procedures as well as changing an organization's culture and organizational structure.

John Kotter highlighted the significance of having a strong team, a clear vision, and a sense of urgency as the three main components of a successful change process. He claimed that most transformation attempts fail because managers are unaware that a change process involves several phases that take a significant amount of time (Kotter, 1996).

The body of research on change management includes a diverse range of studies on the topic, such as how change management affects business performance (May and Stahl, 2017; Fonseca and Domingues, 2017), how change fails (Burnes and Jackson, 2011), how to be ready for change (Kirrane et al., 2017), and how to overcome resistance to change (McGuinness and Cronin, 2016).

Without a doubt, one important topic that has drawn the attention of researchers is the impact of change management on organizational performance. For example, Fonseca and Domingues (2017) showed that there is a significant positive link between improved performance

and successful change management. May and Stahl (2017) came to a similar conclusion, saying that competitive advantage can be sustained through successful change management.

Change management and leadership

Though it's not an easy effort, creating new business directions can be done successfully while most people are working toward the same goals and have similar perspectives on how personal and organizational priorities relate to each other.

A strategic leader fosters innovation within the firm by encouraging individuals to bring forward fresh ideas and has a long-term outlook despite the plethora of environmental uncertainties (Năstase, 2010a).

When a leader is competent in the process of change, he is able to see beyond the confines of traditional settings and routine operations, resulting in the creation of a fluid organization where knowledge flows quickly and individuals actively network (Năstase, 2009).

Within traditional organizations, managers feel entitled to make choices without employee consultation or involvement because they believe they possess significantly more expertise than their subordinates (Bibu et al., 2011). Employee resistance to change is a valid perspective, rather than a driving force behind it.

Resistance to change

One of the subfields that is thoroughly examined in the literature on change management is resistance to change. For example, McGuinness and Cronin (2016) assert that smaller businesses and employees with higher levels of education showed less resistance to change.

In every process, resistance to change is unavoidable and can be interpreted as a behavioral or emotional response to a sense of helplessness and control. Employees are the most powerful source of resistance, actively working to thwart changes since they don't feel valued or included in the process of implementing them (Foster, 2010).

Organizational change initiatives are notable for having a poor success rate. Approximately 70% of change programs fail, according to solid evidence (Burnes and Jackson, 2011).

Methodology

To provide an overview of the studies on COVID-19's impact on change management, we assessed the results. The Web of Science core collection was used for the bibliometric analysis in this work since scholars have determined that it meets higher quality requirements than Scopus (Forliano et al., 2021). A summary of the research design is shown in Figure 1. The search for items to include in the evaluation was conducted between 2020 and 2024.

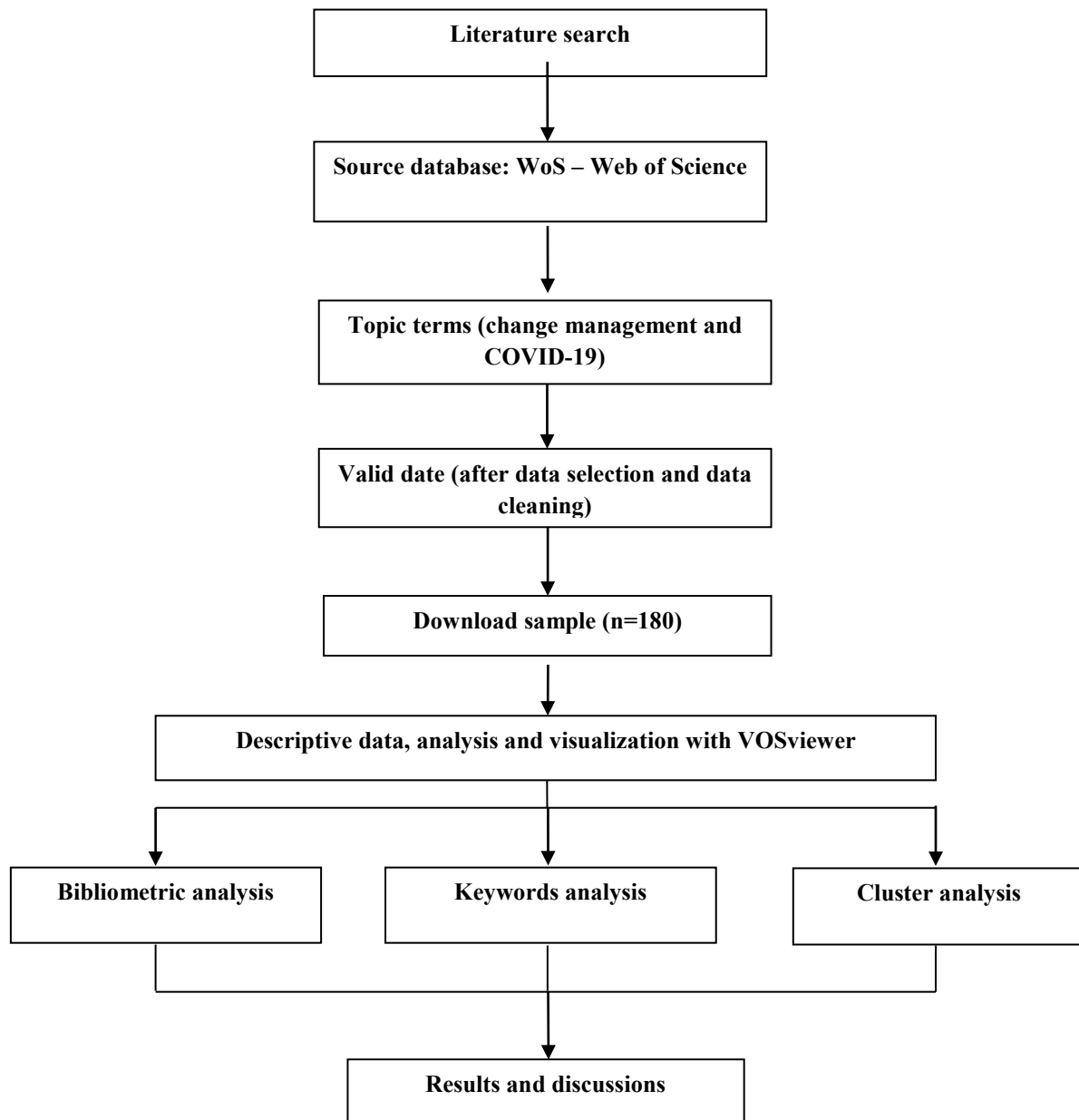


Figure 1. Research fremawork of the impact of COVID-19 and future trends in change management

Source: Authors' own research results.

Firstly, we developed a keyword search in the Web of Science database. The search approach utilized a variety of keywords related to the COVID-19 pandemic ("COVID-19" OR "COVID19" OR "pandemic") and ("change management"). The database search gave 210 articles as a result.

Additionally, a rigorous peer-review process and originality evaluation are the usual grounds for including only journal articles in the scientific filtration stage (Kumar et al., 2021). We preserve book chapters and proceedings papers as well. After completing a WOS search, 188 articles were returned.

The third step was linguistic screening. Only the stage two English-published papers were retained. Finally, two articles (2006, 2013) that were published prior to 2020 were deleted. For the remainder of 180 publications that made it through the screening process, bibliometric analyses were prepared.

The following are the main research questions: Which topics represent the majority of the literature on change management? How does COVID-19 affect change management? What are the anticipated developments in change management? In order to provide an overall evaluation of the field of change management, this study aims to identify the major topics that comprise the research and provides answers to these questions.

Results and discussions

This analysis was carried out a bibliometric analysis of the impact of COVID-19 and future trends on change management. We acquired 180 articles in this study. For the bibliometric study, we utilized the VOSviewer software.

A software tool called VOSviewer is used to create, display, and analyze network data maps (Visser et al., 2021). In order to create new maps, the 180 publications that Web of Science produced were exported (in a plain text file with all the records and referenced references). A Thesaurus file was used to tidy up the date. A data summary was produced using descriptive statistics and bibliometric indicators, including the cooperation index, assessments of sources, authors, citations, keywords, and keywords-plus.

Analysis of the study search results

The search for “change management” in Web of Science database, using the filters showed at methodology part of this study, returned 180 articles between 2020 and 2024. We can see over 50 articles in every year (without 2020), suggesting an increasing interest on this topic in the future (Fig. 2).

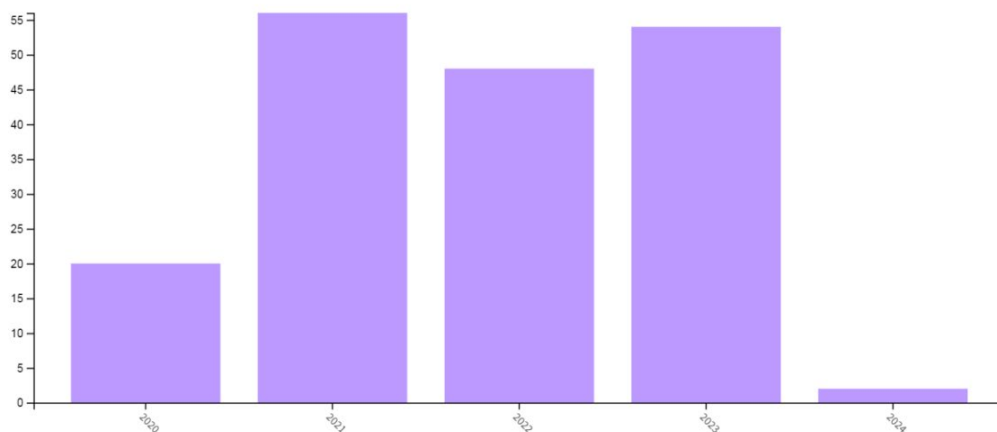


Figure 2. Documents by year (2020-2024)

Source: Web of Science

The topic's multidisciplinary nature, change management has led to a total of 73 Web of Science categories, covered by the resulted articles (Fig.3). In first hand, we have Management with 36 documents, followed by Business, Education Research and Health Care Services, each of them with 15 articles. The following subject areas register significant results in terms of number

of articles: Environmental Sciences (12), Medicine General Internal (11) and Health Policy Services (10).



Figure 3. Web of Science categories of the research data

Source: Web of Science.

In considering affiliation, 160 entities are represented; the highest number of articles (Fig. 4) has been published under the auspices of: Harvard University (8 articles), Harvard Medical School (5 articles), McMaster University and University of London with 4 articles each.



Figure 4. Top 10 Affiliations

Source: Web of Science.

A total number of 791 authors have contributed to the 190 articles. Figure 5 provides those who published two articles integrating “change management”. Alshurideh M, Rawson JV, Turner J, Valeri M, Van Hoek R, Yue CA and Walden – each published 2 articles on this topic.

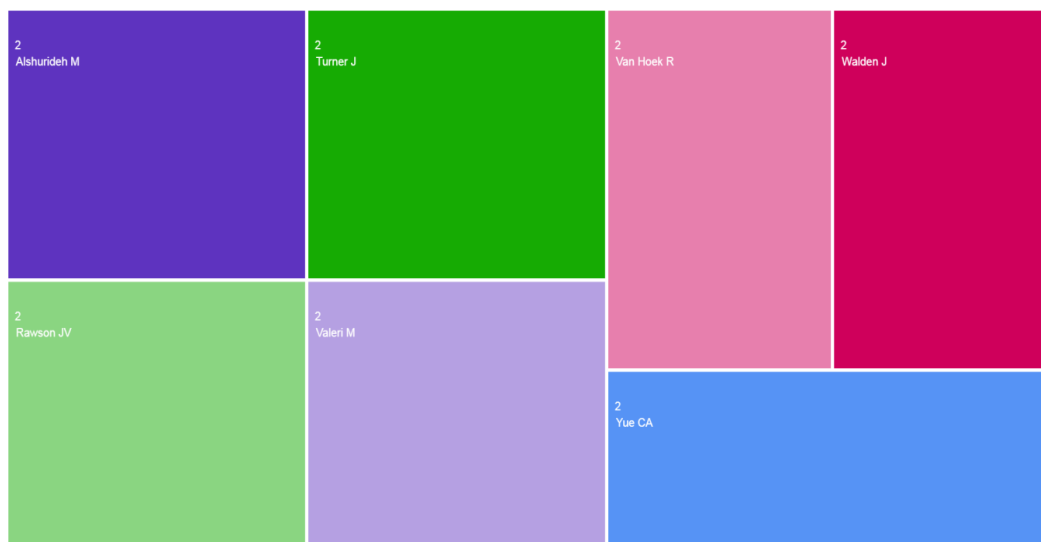


Figure 5. Top 10 Authors

Source: Web of Science.

The country criterion reveals 65 different countries. The best represented countries are (Fig. 6): USA with 44 results, England with 16 results, India with 13 results and Canada with 12 results.

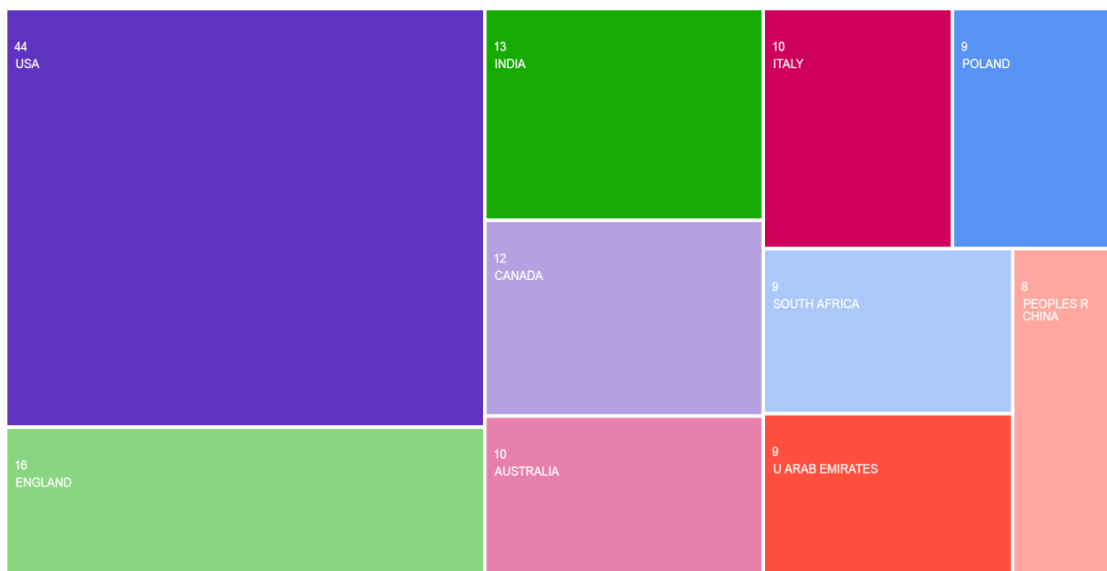


Figure 6. Top 10 Country

Source: Web of Science.

In considering publishers, 53 entities are represented; the highest number of articles (Fig. 7) has been published under the auspices of: MDPI with 24 results, Emerald Group Publishing with 21 results, Springer Nature with 18 results and Elsevier with 13 results.



Figure 7. Top 10 Publishers

Source: Web of Science.

The research areas criterion reveals 50 different areas. The best represented research areas are (Fig. 8): Business Economics with 47 results, Education Educational Research and Health Care Sciences Services with 20 results and Computer Science with 14 results.

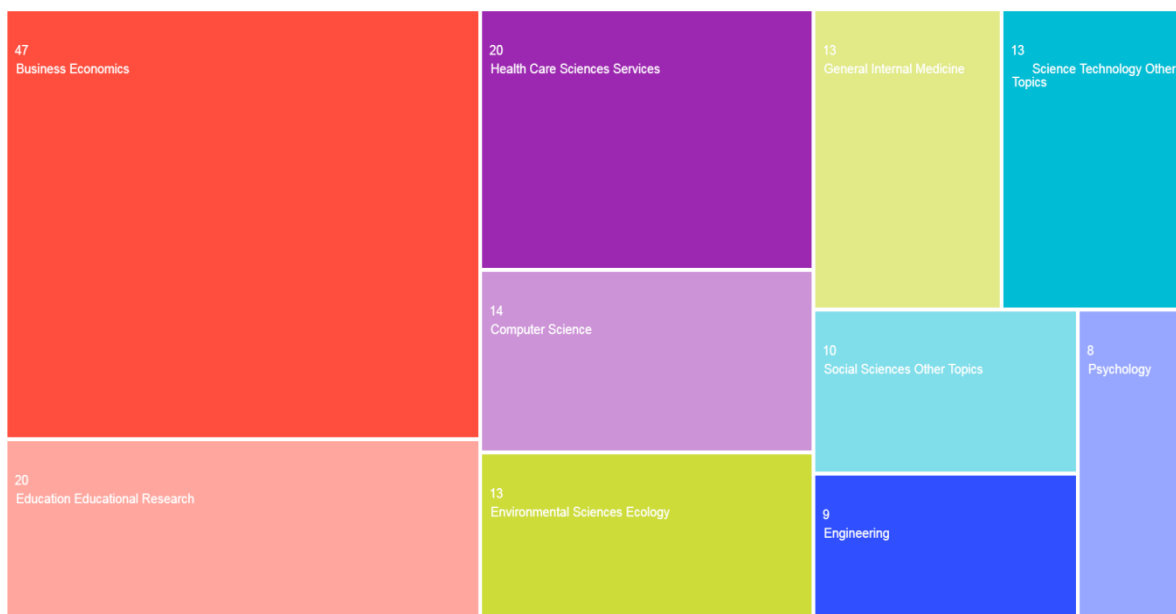


Figure 8. Top 10 Research areas

Source: Web of Science.

Bibliometric analysis using VOSviewer software

The study of co-occurrence of author keywords was preferred over the analysis of co-occurrence of all keywords because it was thought that author keywords better reflected the writers' viewpoints on the research issues.

The map was created in VOSviewer software, setting a threshold of 3 occurrences of a keyword. Of the 694 keywords, 28 met the threshold, for each one of them, the total strength of the co-occurrence links with other keywords was calculated and the number of keywords selected remains 28. The Fig. 9 shows the analysis of co-occurrence of author keyword.

Besides change management (with 82 occurrences and 106 total link strength), the author keywords with the most powerful total link strength are: COVID-19 (with 70 occurrences and 83 total link strength), pandemic (with 16 occurrences and 32 total link strength), digital transformation (with 12 occurrences and 19 total link strength) and change (with 5 occurrences and 14 total link strength).

Six clusters may be noticed (Figure 9) to have emerged, considering a resolution of 1 and a minimum cluster size of 2 items. The clusters are around the following keywords: digital transformation (cluster 1 – red), leadership (cluster 2 – green), change management (cluster 3 – blue), human resource management (cluster 4 – yellow), COVID-19 (cluster 5 – purple) and crisis (cluster 6 – light blue).

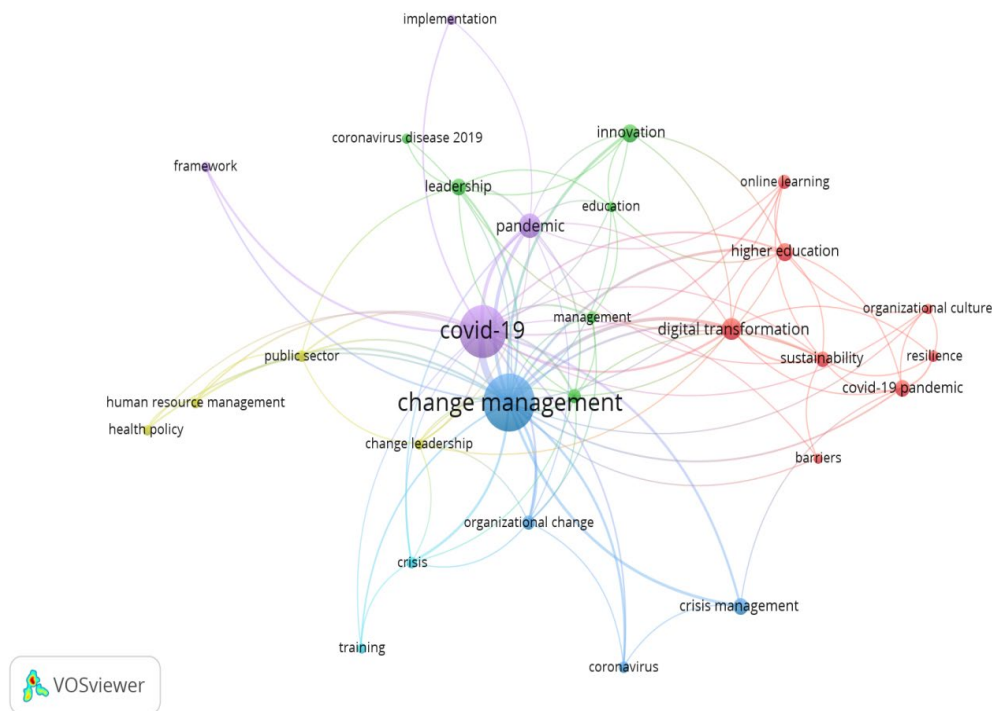


Figure 9. Analysis of co-occurrence of author keyword

Source: Authors' own research results.

The citation by Documents analysis was based on a threshold of 1 citation per document and it was met by 180 documents. The VOSviewer software evaluated the total strength of the citation linkages with other sources. The largest group of connected items led to 5 (showed in Fig. 10).

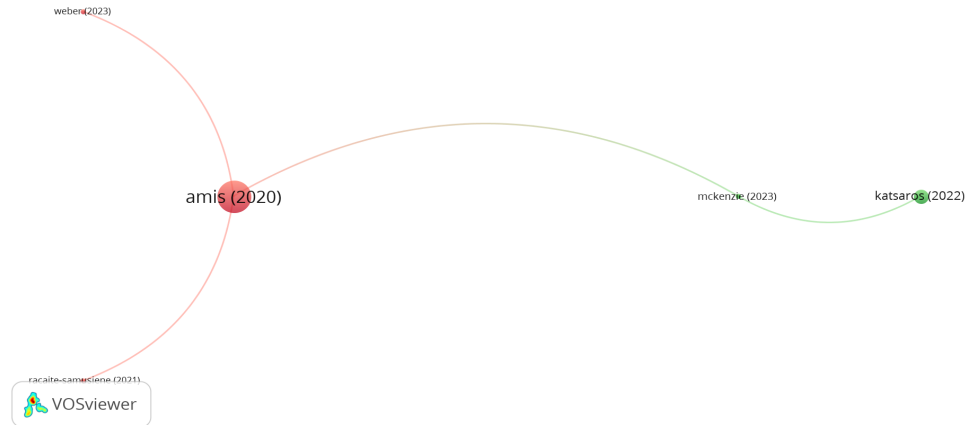


Figure 10. The citation by documents analysis

Source: Authors' own research results.

The citation by author analysis considered a threshold of 1 document per author and 5 citations per author; it was met by 257 authors. The VOSviewer software evaluated the total strength of the citation linkages with other sources. For the 257 selected authors, the largest group of connected items consisted of 9 authors (Fig. 11).

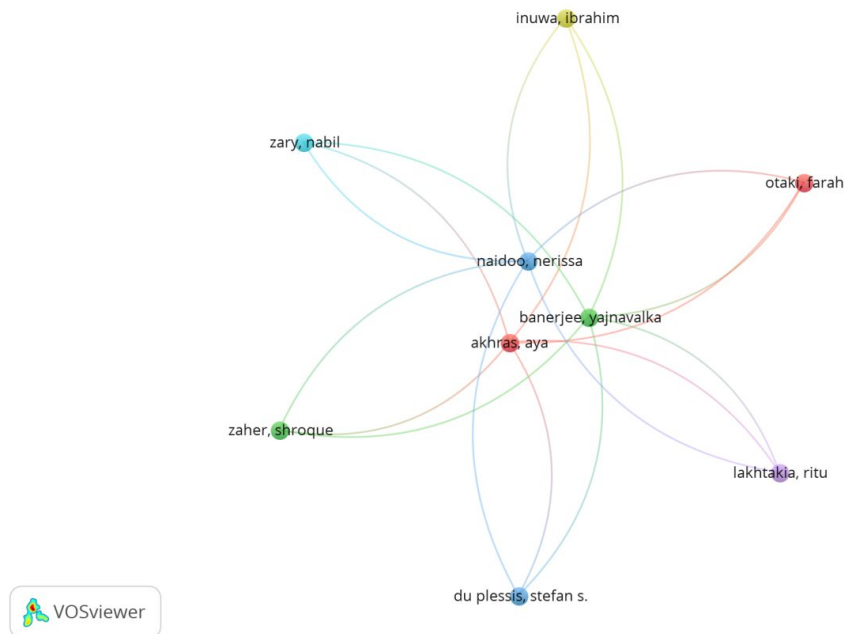


Figure 11. The citation by author analysis

Source: Authors' own research results.

Co-occurrence map of all keywords was created considering a minimum of 5 occurrences of a term. Of 983 terms, 32 met the threshold. For each one of them, the total strength of the co-occurrence links with other keywords was calculated and the number of keywords selected remains 32 (Fig. 12).

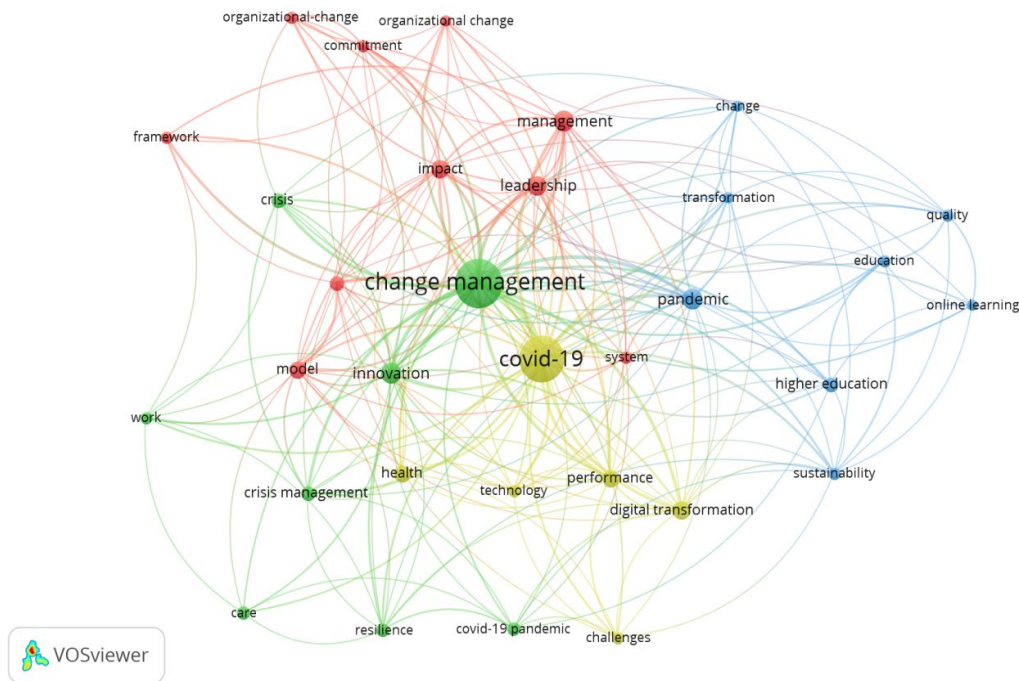


Figure 12. Analysis of co-occurrence of all keywords

Source: Authors' own research results.

The co-occurrence of all keywords, assuming a minimum cluster size of 5 items reveals 4 clusters – emerged around the following keywords: leadership, management and impact (Fig. 13), change management and innovation (Fig. 14), pandemic, sustainability and higher education (Fig. 15), COVID-19, digital transformation and challenges (Fig. 16). These clusters provide a more comprehensive view on the topic of change management and future trends on this subject.

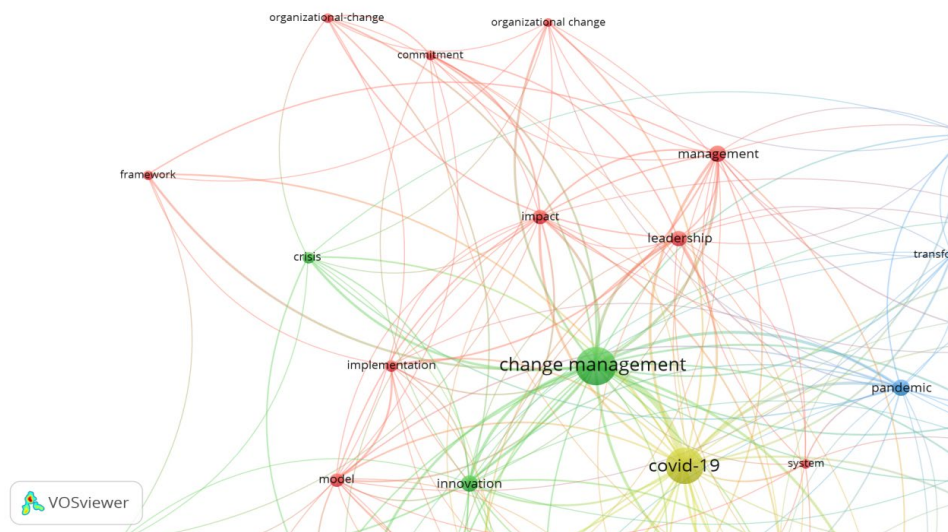


Figure 13. Cluster 1 (red) - leadership, management and impact

Source: Authors' own research results.

Other relevant terms of cluster 1 are organizational change, commitment, implementation, model and framework.

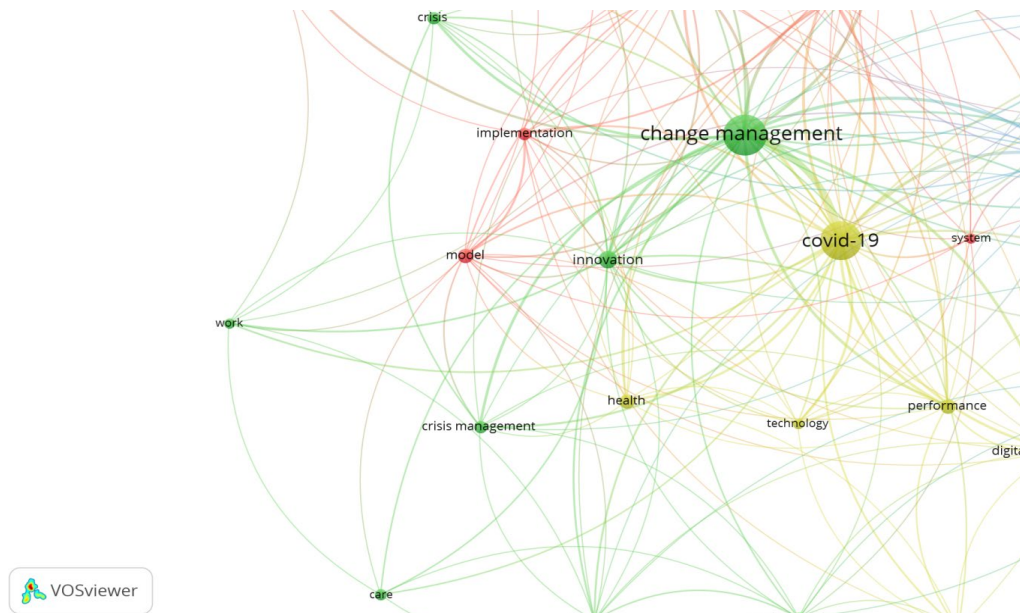


Figure 14. Cluster 2 (green) - change management and innovation

Source: Authors' own research results.

Other relevant terms of cluster 2 are crisis management, resilience, care, work and crisis.

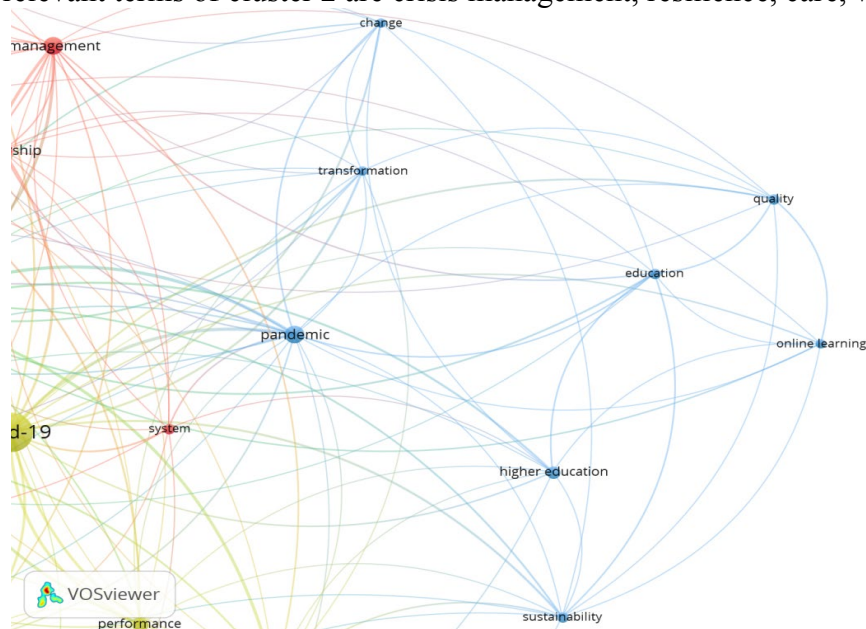


Figure 15. Cluster 3 (blue) - pandemic, sustainability and higher education

Source: Authors' own research results.

Other relevant terms of cluster 3 are transformation, change, quality, education and online learning.

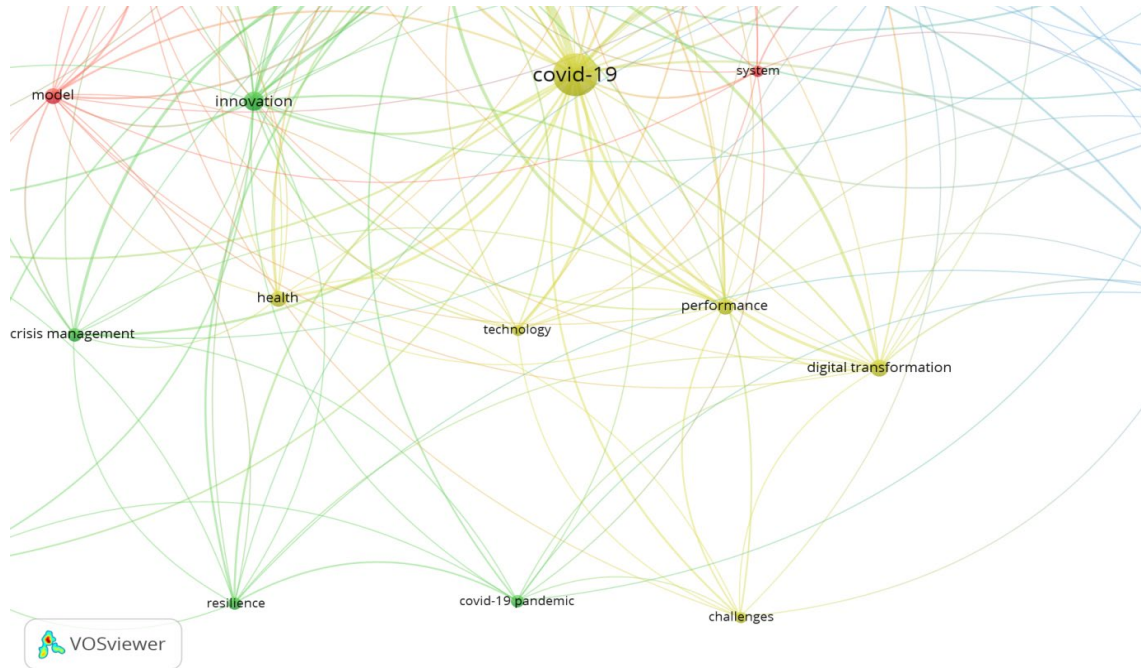


Figure 16. Cluster 4 (yellow) - COVID-19 and digital transformation

Source: Authors' own research results.

Other relevant terms of cluster 4 are challenges, technology and health.

Discussions

Whether we are talking about individuals or organizations, having a solid understanding of how to handle change is crucial because it is the most common and ubiquitous phenomenon in today's world. There is no indication that the rate of change will slow down anytime soon. Instead, it is continuing to accelerate (Năstase et al., 2013).

The purpose of this study was to give a broad review of the body of knowledge regarding change management. In our investigation, a number of bibliometric indicators were included. Overall, the results showed that there are more publications and citations about change management.

In recent times, numerous fields within businesses have carried out bibliometric research; however, in the particular situation of change management as a subject of study, there has only been one bibliometric analysis, carried out by Giraud and Autissier (2013). The Journal of Organizational Change Management is examined since it consistently publishes articles on the topic, but it should be noted that most of the articles are limited to organizational change management. In order to investigate papers that deal with this problem, the writers analyze citations and co-citations. Consequently, the process of change in organizations was the primary topic covered, as indicated by the identification of 40 key papers published in the journal between 1995 and 2011.

A more recent study by Díaz-Iglesias et al. (2019) gathered its data from a single source (Web of Science), with a focus on business and management characteristics.

Four outstanding theme areas exist. A line of ongoing future research is recommended for the model because of its high impact rates and volume of documents. The way the subject has

This paper aims to provide a more comprehensive, organized, and current perspective of the literature on change management, the impact of COVID-19 on change management literature, and an analysis of the key themes that comprise the field of study in light of the limitations of the Giraud and Austissier (2013) and Díaz-Iglesias et al. (2019) studies. Even if change management models haven't advanced significantly in recent years, there is still interest in exploring new change management-related themes.

Source: Authors' own research results.

Coping with change means adapting with learning! Whether we discuss a proactive or reactive attitude, what we really mean is that organizational settings need to be adjusted, and people's behaviors and the policies that control particular professional encounters need to be changed correspondingly (Năstase, 2009).

The modern environment has disrupted the linear evolution of organizations, replacing it with a highly predictable trend that gives leadership ample opportunity to respond. Rather, we help navigate tumultuous periods where organizations and individuals are subject to strong demand to change due to fast-moving causes from both the inside and outside of the business (Năstase, 2009).

Regarding certain organizational changes, we observe that they opt to rename the departments without considering the produced process's content or how well it aligns with current and future social and economic realities. Actually, many organizations face resource constraints, and these limitations would only get worse.

Conclusion

It's critical to understand the COVID-19 pandemic's effects on companies from a change management perspective. This is because organizations need to build proactive strategies to deal with future difficulties of this kind.

The effects of the COVID-19 pandemic have been the subject of numerous academic studies in a number of fields. In addition, certain important research subtopics are becoming more prominent despite the growing diversity of the study areas. These subjects cover the effects of COVID-19 on innovation, structure, and the economy.

Controlling change inside the organization and allowing it to flexibly adapt to ongoing changes are both included in change management. The analysis and evaluation of the current situation and the options, or the ability to effect change, are fundamentally the goals of the change process.

Following the analysis of the ideas outlined by Năstase et al. (2012), we separate the following essential arguments that contribute to an exhaustive understanding of the concept of change management.

According to Năstase et al. (2012), a program's success or failure can be attributed to a variety of factors, including the human element of change. This is because people are the ones who implement changes in companies, which are fundamentally open social systems. Participants in this process ought to be involved. The manager, who is typically the agent of change, should carry out this.

Organizational changes aim to adapt the organization to the development demands of society as a whole. They involve responses to internal and/or external challenges. Nevertheless, the organization has to acknowledge that it will not be able to achieve the desired outcomes if those involved do not have a proper understand of the issue. Employee resistance to the change is inevitable (Năstase et al., 2012).

Change management necessitates that businesses integrate both revolutionary and incremental change, which makes it an uneasy balancing act. Assuring that the objectives are met in a way that strikes a balance between the need for change and stability, as well as ensuring that the organization can continue to be competitive over the medium and long term, is the ultimate goal. This is based on the idea of "dynamic stability" (Năstase, 2010b).

This paper revealed that 180 unique articles were published in Web of Science in a short period (2020-2024). The results highlight the most active authors and subfields of research on the effect of COVID-19 and future trends on change management, highlighting the areas where the majority of the body of knowledge has emerged so far.

With regard to contributions, this article is among the first to map the body of literature analyzing the main elements and emerging themes of COVID-19 and change management. Also, the framework's potential for growth may provide professionals and academics with a productive means of investigating and objectively validating the role of change management in crisis situations.

Inevitably, change occurs, and company executives must recognize and comprehend the reasons behind it in order to effectively manage a change process. Because of the unstable environment in which the majorities of organizations operate today, change is now essential. To guarantee the prosperity of their establishments, managers must recognize the opportunities and risks posed by the surroundings and to be ready for any changes.

Needless to say, our study has certain limitations. The first issue is that the search may have overlooked some research because of the terms entered. We acknowledge that the papers we were able to obtain from Web of Science and that were only written in English are the only ones from which our results and conclusion may be drawn. To supplement our findings, more study including data from other sources and in different languages is needed.

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