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Article

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REVIEW ARTICLE

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Bibliometric study on organizational resilience: trends and future research agenda

David Mhlanga^{1*}  and Mufaro Dzingirai²

Abstract

In an increasingly volatile, uncertain, complex, and ambiguous (VUCA) world, the importance of organizational resilience has grown, yet the scholarly literature on this topic remains fragmented. To address this gap, our study conducted a bibliometric analysis of 469 articles from the Scopus database using VOSViewer software to systematically review and map trends, gaps, and significant contributions in the field. Our analysis revealed key themes such as resilience, crisis management, innovation, COVID-19, dynamic capabilities, sustainability, and change management, which are crucial to understanding organizational resilience. The findings highlight that the United Kingdom and the University of Oulu are significant contributors to this research area, with notable authors including Duchek E., Martinelli E., Santoro G., Williams T.A., and Youssef C.M. playing a pivotal role in advancing this field. By providing a comprehensive overview of institutional affiliations, countries, authors, journals, publications, and keyword co-occurrences, our study not only maps the landscape of organizational resilience research but also identifies critical areas for future inquiry. This contribution enhances both theoretical and practical understandings of organizational resilience, aiding practitioners in developing robust strategies to navigate the challenges of the VUCA world.

Keywords Organizational resilience, Dynamic capabilities, Crisis Management, Leadership, Performance decline

Introduction

Globally, the concept of organizational resilience has gained traction in the discourse related to strategic management since the world has witnessed various socioeconomic crises as well as health pandemics like the COVID-19 pandemic in recent years. The widespread crises have forced the companies to be on the brink of liquidation in recent years (Akpan et al., 2022; Akpinar & Ozer-Caylan, 2022; Chong & Duan, 2022; Dzingirai & Baporikar, 2022a; Eckey & Memmel, 2022; Hamsal et

al., 2022; Joseph et al., 2022; Shepherd & Williams, 2022; Van-Den Berg et al., 2022; Yang et al., 2021). Notably, it is the duty and responsibility of the upper echelons of organizations in industry and commerce to formulate and execute strategies that improve the agility of the organization during crises (Dhoopar et al., 2022; Dzingirai & Baporikar, 2022b; Joseph et al., 2022). Given the importance of organizational agility, it appears to be the most suitable time to examine the concept of organizational resilience in a turbulent and chaotic operating environment.

In light of the above, it has been put forward by various authors that organizational resilience is associated with the formulation and implementation of strategies that promote the revitalization of organizational performance from existential threats (Akpan et al., 2022; Chong & Duan, 2022). It is worth noting that organizational

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resilience is widely interrogated in the management fraternity especially from a strategic management perspective since the top executives are responsible for ensuring the strategic fit of the organization (Akpan et al., 2022; Battisti et al., 2019; Darkow, 2019; Dzingirai & Baporikar, 2022b; Herbane, 2019). Nonetheless, it is unfortunate to observe that there is no unequivocal definition of organizational resilience given that it has been previously interrogated from different disciplines such as law, education, entrepreneurship, finance, economics, and business management as well as human resources management (Akpinar & Ozer-Caylan, 2022; Dhoopar et al., 2022; Dzingirai & Ndava, 2022).

Notably, Limphaibool et al., (2022) defined organizational resilience as the firm's ability to recover from the negative consequences of change. In the same vein, Vogus and Sutcliffe (2007) described organizational resilience as the features of firms that can handle challenging circumstances by being agile and recovering rapidly as compared to other businesses. On the other hand, from a learning perspective, organizational resilience refers to "the ability to respond to challenges and adversity to grow and change from these experiences" (Kavoor-Misra, 2022 p. 2). Although organizational resilience has been linked to adaptability (Folke et al., 2010; Walker et al., 2004), other scholars expressed that adaptability is different from resilience (Limphaibool et al., 2022). In light of the above, the COVID-19-induced economic crisis severely threatened the viability of both small and big organizations across the globe (Chong & Duan, 2022; Hamsal et al., 2022; Shepherd & Williams, 2022; Yang et al., 2021). It is not surprising that many organizations reduced their production capacity to ensure organizational resilience during the crisis. In terms of the COVID-19-induced crisis, it has been witnessed that the disposable income of a plethora of customers dwindled which led to an exponential decline in demand for consumer and capital goods (Adeiza et al., 2023; Dzingirai et al., 2021; Socci et al., 2023). Notably, widespread employee layoffs and downsizing were the order of the day during and after the COVID-19 epoch. This strategy was adopted with the purpose of ensuring organizational resilience. Despite the execution of a retrenchment strategy, some companies went further into liquidation which can be mainly attributed to the competencies and capabilities of the strategic leaders of these failed companies (Liu & Liang, 2023; Mishi et al., 2023).

Going forward, it has been noted that even companies operating in the first world countries were not spared from the acute negative consequences of the economic crisis induced by the COVID-19 pandemic (Mhlanga, 2020, 2021, 2022, 2023). In this context, Eckey and Memmel (2022) observed that the COVID-19 crisis has negatively affected the performance of firms in different

sectors with differing degrees of severity in Germany. The results revealed that family-listed companies in Germany were associated with higher stock returns than non-family firms which supports that family organizations are more resilient than non-family firms in the face of economic crisis. In the case of the Chinese retail industry, Yang et al., (2021) document that the operations, resources, sound practices, supply chain and digital transformation, corporate social responsibility, and effective system management played a significant role in ensuring organizational resilience. More interestingly, Hamsal et al. (2022) managed to take a dynamic capabilities perspective of organizational resilience using the hotel industry in Indonesia as a case study. They observed that environmental turbulence significantly influences dynamic capabilities which led to the survival of hotel firms.

In the context of Africa, it appears that organizational resilience is a promising area of study from a strategic management perspective given the fragility of many African economies. The fragile economies are constraining the growth of African businesses as substantiated by the fact that many manufacturing firms are operating in survival mode. Interestingly, Akpan et al. (2022) investigated the association between dynamic capabilities and firm resilience of Nigerian manufacturing firms and they found that dynamic capabilities of manufacturing firms positively influenced organization resilience. This means that firms must quickly adjust to a rapidly changing operating environment by utilizing their dynamic capabilities and competencies. Surprisingly, no study was conducted in Zimbabwe when it comes to organizational resilience despite the existence of resilient firms. It must be noted that few resilient manufacturing firms managed to bounce back in the constrained Zimbabwean economy.

In light of the above discussion on organizational resilience in both developed and developing economies, it is observable that COVID-19 has intensified the interests of scholars, policymakers, and researchers in organizational resilience in the domain of strategic management. Worryingly, both theoretical and empirical literature concerning organizational resilience is scattered and fragmented largely because there is a lack of a standard definition of organizational resilience. Despite the fragmentary nature of organizational resilience mainstream literature, there is an urgent call for stock-taking of the current body of knowledge when it comes to organizational resilience. Consequently, this study aims to bridge these literature gaps by conducting a bibliometric study on organizational resilience. This paper is organized as follows: the second section presents the research methodology associated with this bibliometric study on organizational resilience. In this section, the pressing issues related to search strategy, sample subjects, and inclusion

or exclusion criteria are thoroughly discussed. The third section of this paper captures in detail the bibliometric analysis results. Precisely, the results based on bibliographic couplings of research institutions, countries, publications, journals, co-occurrence of keywords, and authors are presented. The final section captures the key implications and limitations of the study as well as directions for further research.

Theoretical foundations of organizational resilience

The Dynamic Capabilities Framework, introduced by Teece, Pisano, and Shuen in 1997, is a crucial tool for understanding how organizations adapt to rapidly changing environments, such as during the COVID-19 pandemic. Altintas (2020) emphasizes the importance of developing a dynamic capability for resilience, which enables organizations to manage disruptive events and implement operational responses. Nair et al. (2013) and Makkonen et al. (2014) both highlight the role of dynamic capabilities, such as enterprise risk management, in responding to crises and enhancing firm performance. Kurtz and Varvakis (2016) and Day and Schoemaker (2016) further explore the role of dynamic capabilities in maintaining competitiveness and adapting to fast-changing markets. Pisano (2016) emphasize the need for firms to identify and select capabilities that lead to competitive advantage, with the latter also linking dynamic capabilities to entrepreneurship. Provides a comprehensive overview of the dynamic capabilities approach, emphasizing the importance of balancing learning from the past with the need to respond to change. This theory supports the exploration of dynamic capabilities that facilitate organizational adaptation and survival during crises, aiming to identify specific strategies that enhance resilience.

Complexity Theory, as applied to organizations, emphasizes their non-linear, adaptive nature, and the importance of interactions within and outside the organization. This view is particularly relevant during crises, where the ability to adapt and innovate is crucial. The theory also suggests that organizations should strive to remain in a state of “bounded instability” to maximize creativity and innovation. Complexity Theory has been used to understand and address various organizational challenges, such as mergers and acquisitions, information systems failures, and the alignment problem (Land 2007). In the context of South African tertiary institutions, the theory has been applied to improve organizational practices and leadership styles (Nhlapo 2007). The inclusion of Complexity Theory enriches the study by explaining how organizations not only respond to crises but also learn and evolve in unpredictable ways, thereby contributing to a deeper understanding of resilience mechanisms in business ecosystems.

Organizational Learning Theory, as proposed by Argyris and Schön in 1978, is a crucial tool for organizations facing disruptions, as it enables them to adapt and improve their processes. This theory emphasizes the importance of both single-loop learning (adjustments to existing frameworks) and double-loop learning (rethinking the framework itself) in enhancing resilience (You 2021). The concept of a learning organization, which embraces learning activities such as unlearning, experimentation, exploration, and action learning, is central to this theory (Popescu 2009). In the face of critical situations, a new model of organizational learning that includes “Creative Learning” has been proposed (Nakayama 2018). However, there is a need for a more mature theory frame and exploration of different perspectives on organizational learning (Wei 2005). The theory also informs our understanding of change, with parallels drawn between change and organizational learning (Ivey 2003). The implementation of organizational learning concepts, including overcoming individual and organizational defenses, remains a challenge (Cannon 2014). For example, firms rethinking their entire supply chain strategy after disruptions to prevent future vulnerabilities demonstrate the application of double-loop learning. This theory is crucial for understanding how continuous learning and adaptation underpin organizational resilience, aligning with the study’s objectives to investigate how lessons learned from past crises inform current practices and strategies, ultimately fostering an environment of resilience and sustained capability development. By integrating these theories, the paper provides a comprehensive framework that not only supports the understanding of how organizations develop resilience but also offers practical insights for managers in developing responsive and flexible organizational structures, thereby enhancing strategic management practices for resilience.

Research methodology

This study is underpinned by bibliometric analysis methodology. According to Donthu et al. (2021), bibliometric analysis is hailed in the academic community as the rigorous and robust *modus operandi* for investigating and examining large volumes of scientific data to answer a well-framed research question. It is unsurprised to deduce that bibliometric analysis allows researchers to unearth the trends of a specific field of study while unpacking the emerging and promising areas of study. Nonetheless, it is noteworthy that the utilization of bibliometric analysis is in the infancy stage and is underdeveloped in the context of business research (Donthu et al., 2021; Munim et al., 2020). Although bibliometric analysis is in the infancy stage of business research, its increase in adoption is witnessed (Donthu et al., 2020; Khan et

al., 2021). The emerging trend in the adoption of bibliometric analysis in the context of business research can be linked to the availability of large scientific databases like Web of Science and Scopus; the advancement of bibliometric software such as VOSviewer; its ability to capture large volumes of bibliographic data; its objective nature in terms of performance and science mapping; it allows scholars to spot literature gaps; and it allows tracing of the evolution of the subject. Given its objective scientific analysis of available literature, the bibliometric analysis allows scholars to analyze the number of citations, total link strength of countries, number of publications, and the number of occurrences of keywords (Donthu et al., 2021; Verma & Gustafsson, 2020). More interestingly, the bibliometric analysis allows three major analyses to be done, namely, performance analysis, science mapping, and network analysis. Firstly, performance analysis captures quantitative aspects like publication-related metrics, citation-related metrics, and citation-and publication-related metrics. Secondly, science mapping deals with robust citation analysis, co-citation analysis, bibliographic coupling, co-word analysis, and co-authorship analysis. Thirdly, network analysis focuses on network metrics, clustering, and visualization. In this study, all three aspects of bibliometric analysis were incorporated in an attempt to effectively address the research aim.

In pursuit of methodological thoroughness, the step-by-step approach to bibliometric analysis was adopted as suggested by Donthu et al. (2021). The first step was to define the goal and boundary of the bibliometric study whereby the search strategy was crafted. The keyword connected to the search strategy was “organizational resilience”. The search strategy was as follows: “TITLE-ABS-KEY (organisational AND resilience) AND (EXCLUDE (PUBYEAR, 2023)) AND (EXCLUDE (DOCTYPE, “cp”) OR EXCLUDE (DOCTYPE, “ch”) OR EXCLUDE (DOCTYPE, “re”) OR EXCLUDE (DOCTYPE, “bk”) OR EXCLUDE (DOCTYPE, “no”) OR EXCLUDE (DOCTYPE, “ed”) OR EXCLUDE (DOCTYPE, “cr”) OR EXCLUDE (DOCTYPE, “le”) OR EXCLUDE (DOCTYPE, “tb”) OR EXCLUDE (DOCTYPE, “er”) OR EXCLUDE (DOCTYPE, “sh”) OR EXCLUDE (DOCTYPE, “dp”) OR EXCLUDE (DOCTYPE, “Undefined”)) AND (EXCLUDE (SUBJAREA, “MEDI”) OR EXCLUDE (SUBJAREA, “ENGI”) OR EXCLUDE (SUBJAREA, “ENVI”) OR EXCLUDE (SUBJAREA, “COMP”) OR EXCLUDE (SUBJAREA, “PSYC”) OR EXCLUDE (SUBJAREA, “DECI”) OR EXCLUDE (SUBJAREA, “NURS”) OR EXCLUDE (SUBJAREA, “ENER”) OR EXCLUDE (SUBJAREA, “ARTS”) OR EXCLUDE (SUBJAREA, “EART”) OR EXCLUDE (SUBJAREA, “AGRI”) OR EXCLUDE (SUBJAREA, “MATH”) OR EXCLUDE (SUBJAREA, “HEAL”) OR EXCLUDE (SUBJAREA, “CENG”) OR EXCLUDE (SUBJAREA,

“BIOC”) OR EXCLUDE (SUBJAREA, “MATE”) OR EXCLUDE (SUBJAREA, “MULT”) OR EXCLUDE (SUBJAREA, “NEUR”) OR EXCLUDE (SUBJAREA, “PHAR”) OR EXCLUDE (SUBJAREA, “IMMU”) OR EXCLUDE (SUBJAREA, “CHEM”) OR EXCLUDE (SUBJAREA, “VETE”) OR EXCLUDE (SUBJAREA, “DENT”)) AND (EXCLUDE (LANGUAGE, “Spanish”) OR EXCLUDE (LANGUAGE, “French”) OR EXCLUDE (LANGUAGE, “German”) OR EXCLUDE (LANGUAGE, “Portuguese”) OR EXCLUDE (LANGUAGE, “Chinese”) OR EXCLUDE (LANGUAGE, “Russian”) OR EXCLUDE (LANGUAGE, “Persian”) OR EXCLUDE (LANGUAGE, “Korean”) OR EXCLUDE (LANGUAGE, “Dutch”) OR EXCLUDE (LANGUAGE, “Italian”) OR EXCLUDE (LANGUAGE, “Greek”) OR EXCLUDE (LANGUAGE, “Turkish”) OR EXCLUDE (LANGUAGE, “Bosnian”) OR EXCLUDE (LANGUAGE, “Croatian”) OR EXCLUDE (LANGUAGE, “Czech”) OR EXCLUDE (LANGUAGE, “Japanese”) OR EXCLUDE (LANGUAGE, “catalan”))”.

The second step was to choose the techniques for bibliometric analysis whereby a combination of bibliographic coupling, co-citation analysis, and occurrence of keywords was selected in this study. Going forward, the third step was to collect data for bibliometric analysis on organizational resilience whereby the search strategy was applied. Notably, the first search generated 4 984 documents from 1982 to 2023. In this regard, the document type was as follows: 3431 articles, 621 conference papers, 344 book chapters, 338 reviews, 69 books, 55 notes, 43 conference reviews, 48 editorials, 21 letters, and 5 retracted. In terms of language, 4 849 English, 37 Spanish, 25 French, 22 German, 18 Portuguese, 17 Chinese, 14 Russian, 8 Persian, 5 Korean, and 3 Dutch. By applying the search strategy captured in Step 1 above, the final sample size was 469 articles whereby the inclusion criteria were limited to articles only, time (1982 to 2022), subject (Business, Management and Accounting; and Economics, Econometrics and Finance), and English language only. The collected data was extracted from Scopus which is the largest scientific database. To ensure thoroughness when it comes to the research methodology, the Preferred Reporting Items of Systematic Reviews and Meta-Analyses (PRISMA) methodological flowchart is reported in Fig. 1.

The fourth step was related to the data collection for bibliometric analysis as well as reporting the research findings. Notably, performance analysis and science mapping were done. More interestingly, the insightful discussions were presented in a manner that engages directly with pertinent trends which inform the agenda for future research. Moreover, tables and bibliometric visualization figures were used to inform the analytical and descriptive discussion. The thematic clusters were also used to interpret the results of the bibliometric analysis.

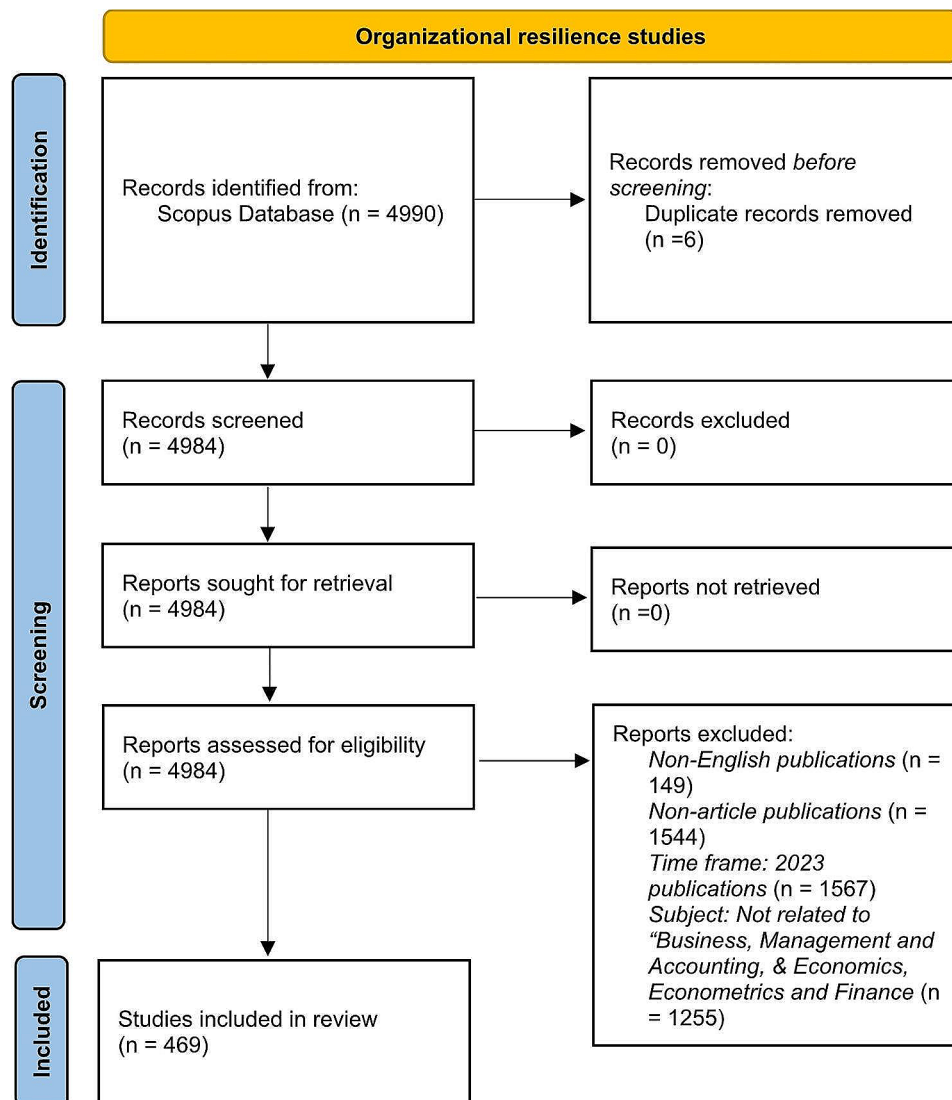


Fig. 1 PRISMA methodological flowchart. Source: author's analysis

Bibliometric analysis and results

The results from the bibliometric analysis with the assistance of VOSviewer software are presented and discussed as illustrated in the following sub-parts:

Bibliographic coupling of countries

For a country to be considered in this analysis, it was expected to have the lowest number of publications of 5 documents. Of the 87 countries, 32 managed to meet the predetermined minimum threshold of 5 publications. From the 32 successful countries, the total link strength of the bibliographic coupling for each country was calculated. Notably, the countries with the highest total link strengths were selected. In terms of the top 10 countries, the United Kingdom stands out as number one with 89 publications, 2168 citations, and 23,517 total link strength. For the remaining top nine countries that

were grouped in descending order, the first number in the brackets represents the number of publications, the following one represents the number of citations, and the last one represents the total link strength. As such, these countries are as follows: United States (104; 4899; 22,163), Australia (46; 1011; 13,298), Germany (25; 462; 10,862), India (31; 301; 10,569), Canada (27; 1064; 9949); Italy (23; 519; 9405), China (23; 287; 8822), France (25; 575; 7455), and Turkey (11; 162; 6241). In light of the above-mentioned bibliometric analysis results, it is crystal clear and troublesome to observe that African economies are not appearing in the top 10 even though these economies are more vulnerable to crises that affect the organizational resilience capacity. However, South Africa was the last (number 32) on the list of countries that met the minimum threshold with 5 publications, 11 citations,

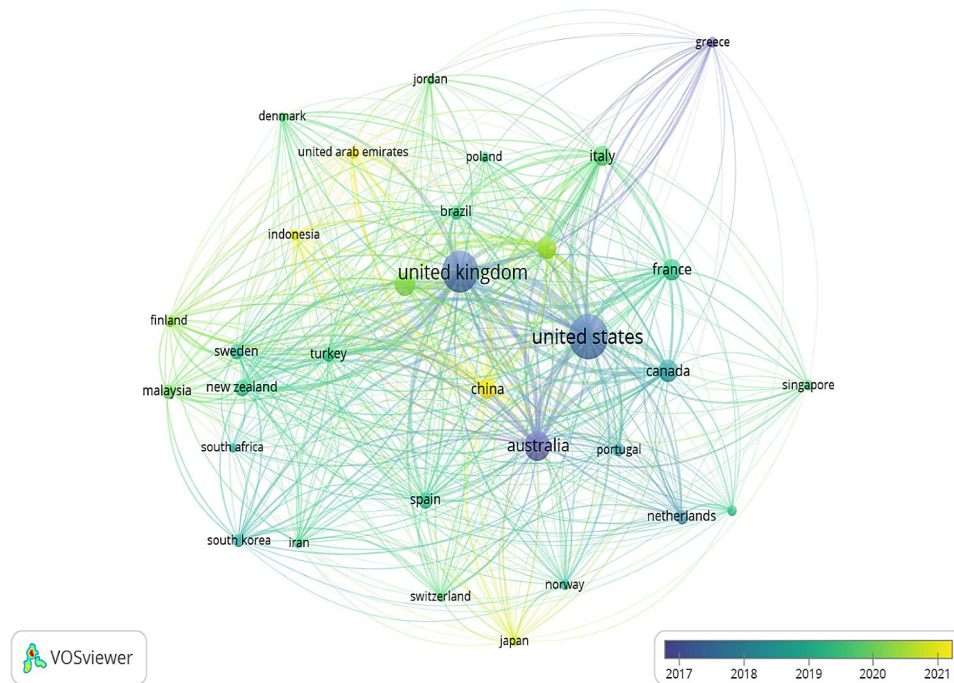


Fig. 2 Overlay visualization of countries. Source: author's analysis

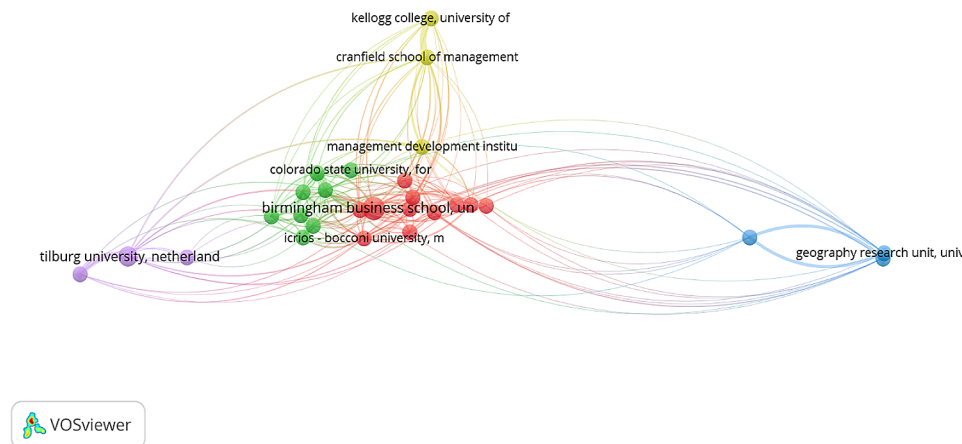


Fig. 3 Network visualization of research organizations. Source: author's analysis

and 986 total link strength. The overlay visualization of the successful 32 countries is presented in Fig. 2.

As illustrated in Fig. 2 above, 5 clusters emerged from the bibliometric analysis as indicated by 5 different colours. This implies that the research works carried out in the same cluster were citing each other frequently as compared to cross-cluster citations. These 5 clusters are presented in descending order as follows: *Cluster 1 with ten countries* (Finland, Iran, Malaysia, New Zealand, South Africa, South Korea, Spain, Sweden, Switzerland, and Turkey), *Cluster 2 with nine countries* (Australia, Belgium, Canada, France, Germany, Netherlands, Portugal, Singapore, and United States), *Cluster 3 with five countries* (Brazil, Denmark, Greece, Italy, and United

Kingdom), *cluster 4 with four countries* (China, Japan, Norway, and Poland), and *Cluster 5 with four countries* (India, Indonesia, Jordan, and United Emirates).

Bibliographic coupling of research organizations

In terms of bibliographic coupling of research organizations, an institution with a minimum number of 2 documents was considered to be eligible. Of the 976 institutions, 29 were eligible for bibliometric analysis. From 39 institutions, the total strength of the bibliographic coupling links with other institutions was computed and then the institutions with the highest total link strength were selected. The results are presented in Fig. 3.

Table 1 Top 10 research publications

Document	Citations	Total link strength
Duchek et al. (2020)	197	171
	68	129
	61	120
Williams T.A. (2017)	471	115
Youssef and Luthans (2007)	852	115
	90	112
Mamouni Limnios E.A. (2014)	120	111
	81	95
	59	92
Herbane (2019)	91	82

The top 10 research institutions in descending order were the University of Oulu, Linnaeus University Sweden, Istanbul University Turkey, Tilburg University Netherlands, Cranfield University England, University of Birmingham England, University of Antwerp Belgium, University of Warwick England, University of Oxford England, and Aston University, England.

Bibliographic coupling of research publications

It is worth mentioning that the publications that were associated with a minimum number of 50 citations were considered to be eligible for this study. Of the 480 documents, 51 were eligible. For each of the selected 51 documents, the total strength of the bibliographic coupling links was meticulously calculated and then followed by the selection of the documents associated with the greatest total link strengths. In this regard, the top 10 in descending order of the publications are presented in Table 1.

As shown in Table 1 above, the article by Duchek et al. (2020) is at the top of the list as it is associated with 197 citations and total link strength of 171. Although the publication by Youssef and Luthans (2007) has the highest number of citations (852), it is placed in the 5th position in descending order.

In terms of citations, the publication by Youssef and Luthans (2007) is the most cited document with 852 citations as indicated in Table 1. In this respect, it is worth mentioning that Youssef and Luthans (2007) examined the positive organizational behaviour at the workplace of 135 Midwestern organizations with a special focus on the influence of resilience, hope, and optimism. They found that workers' positive psychological resource capacities affect work-related employee outcomes. Specifically, they found that employee resilience and organizational performance are correlated. This implies that during hard times the organization must enhance employees' resilience with the main purpose of augmenting work-related outcomes. In short, organizational resilience is achieved through employee resilience. This study is so interesting in the sense that it managed

to capture a human relations perspective of organizational resilience. The second publication was done by which is associated with 471 citations. examined how firms respond to adversity with a special focus on crisis management. They identified the unique lines of work on crisis management and then developed a distinctive integrative framework that was based on key terms of both resilience and crisis. More emphasis was placed on adjusting, capabilities for durability, responding to key disturbances, organizing, and feedback loops. It was also observed that complexity, time, mindfulness, and leadership were the major links to the dynamics association of crisis and resilience.

Going forward, the third document in descending order in terms of citations was published by Duchek et al. (2020) and associated with 197 citations as captured in Table 1. Notably, Duchek et al. (2020) explored the role played by diversity when it comes to organizational resilience. They observed that the link between diversity and organizational resilience remains under-researched. They developed a theoretical framework by linking these two constructs and propositions were formulated. Interestingly, they advised managers to develop resilience capabilities in an attempt to manage unexpected disruptions and maintain extremely high performance in the industry. The fourth document in descending order as measured by citations was produced by Mamouni Limnios et al. (2014) as cemented by 120 citations which are reported in Table 1. In this regard, Mamouni Limnios et al. (2014) examined the organizational resilience architecture framework and introduced an organizational typology. They recommended future research be conducted to test and validate the resilience architecture framework.

As indicated in the methodology, the study utilized VOSviewer software to conduct a comprehensive bibliometric analysis of articles sourced from the Scopus database. This approach allowed us to evaluate the articles based on citation counts and link strength, thereby determining their influence and relevance to the field of organizational resilience. In our analysis, articles were ranked not only by the number of citations but also by their link strength, which reflects the depth of influence and interconnectedness with other works in the discipline. For example, although the publication by Youssef and Luthans (2007) has the highest number of citations, it is ranked fifth because other articles had higher total link strength, indicating stronger ties within the network of publications. This methodology ensures that our bibliometric assessment accurately reflects the most impactful and central articles in the field, providing a robust basis for identifying key trends and influential research.

Bibliographic coupling of journals

After capturing the bibliographic coupling of research publications, the researcher went further to interrogate the bibliographic coupling of journals to ascertain the trendiest journals when it comes to organizational resilience. The bibliometric results of journals are reported in Fig. 3. For a journal to be successfully considered to be part of this bibliographic coupling analysis, it was expected to have a minimum of five publications. Of the 218 sources, 22 met the predetermined selection criterion. In terms of these 22 sources, the total strength was calculated and then the sources associated with the greatest links were selected.

More interestingly, it is worth noting that the “*International Journal of Organisational Analysis*” was on the top ten list of trendiest journals when it comes to publications of articles concerning organizational resilience. In this regard, it was associated with 18 documents, 139 citations, and 1739 total strength. With the remaining nine top journals in descending order, the quantity of documents is the first number, the second number is the number of citations, and the last number is the total link strength. As such, they are arranged in descending orders in the following manner: *International Journal of Human Resource Management* (14; 427; 1401), *Journal of Business Research* (11; 140; 1173), *International Journal of Entrepreneurship Behaviour and Research* (7; 215; 1157), *Journal of Management and Organisation* (8; 197; 1008), *International Journal of Productivity and Performance Management* (6; 18; 874), *Industrial Marketing Management* (7; 236; 871), *Supply Chain Management* (7; 519; 815), *European Management Journal* (6; 308; 778), and *Journal of Change Management* (6; 155; 630).

In terms of Fig. 3, different colours represent different clusters. As such, three clusters emerged from the bibliographic coupling of journals. *Cluster 1 with eight journals* (*European Management Journal*, *International Journal of Entrepreneurship Behaviour and Research*, *International Journal of Managing Projects in Business*, *Journal of Change Management*, *Journal of Management*, *Journal of Management and Organisation*, *Journal of Management Inquiry*, and *Organisational Studies*). *Cluster 2 with seven journals* (*Internal Journal of Contemporary Hospitality Management*, *International Journal of Hospitality Management*, *International Journal of Human Resource Management*, *International Journal of Organisational Analysis*, *International Journal of Productivity and Performance Management*, *Journal of Organisational Effectiveness*, and *Leadership and Organisational Development Journal*) *Cluster 3 with seven journals* (*Benchmarking*, *Industrial Marketing Management*, *Journal of Business Research*, *Journal of Knowledge Management*, *Journal of Strategy and Management*, *Measuring Business Success*, and *Supply Chain Management*).

Bibliographic coupling of authors

After presenting the results concerning the bibliographic coupling of journals, the researcher deemed it necessary to report the bibliometric results of the coupling of authors. For the authors to be considered in this analysis, the researcher was expected to have at least 3 publications. Of the 1142 authors, 13 managed to meet the predetermined criterion. For each of the 13 successful authors, the total link strength was computed and then the authors with the highest total link strength were selected. In this respect, Shepherd d.a and Williams t.a were on the top five list with 3 documents, 558 citations, and 738 total link strength as shown in Table 2.

Even though Luthans f. has the highest number of citations (1479) as indicated in Table 2, the author was placed in the 11th position owing to a weak total link strength of 102. Notably, three clusters emerged from the analysis that is *cluster 1 with nine authors* (Budhwar p.; De Clercq d.; Duarte Alonso a.; Luthans f.; Prayag g.; Rofcanin y.; Srivastava s.; Stokes p.; Sullivan-Taylor b.), *cluster 2 with two authors* (Carayannis e.g.; Grigoroudis e.), and *Cluster 3 with two authors* (Shepherd d.a.; Williams t.a). This ranking method emphasizes not just the quantity of citations but also the significance of the connections within the network of research. Additionally, the emergence of three distinct clusters was based on shared thematic focuses among the grouped authors, which demonstrates varying concentrations of research within the field of organizational resilience. This methodological clarity aims to address any discrepancies perceived in the initial analysis and offers a transparent view of how pivotal works and authors shape the research landscape in organizational resilience.

Bibliographic coupling of co-occurrence

The full counting system of the keywords was adopted in this study and then the minimum occurrence of keywords was pegged at 10. In this respect, of the 1640

Table 2 Coupling of authors in descending order

Author	Documents	Citations	Total link strength
Shepherd d.a	3	558	738
Williams t.a	3	558	738
Carayannis e.g.	3	175	342
Grigoroudis e.	3	175	342
Rofcanin y.	3	31	222
Budhwar p.	3	23	214
Sullivan-taylor b.	4	197	204
Stokes p.	3	78	200
Prayag g.	4	198	144
De clercq d.	3	66	140
Luthans f.	3	1479	102
Srivastava s.	3	33	87
Duarte Alonso a.	3	16	75

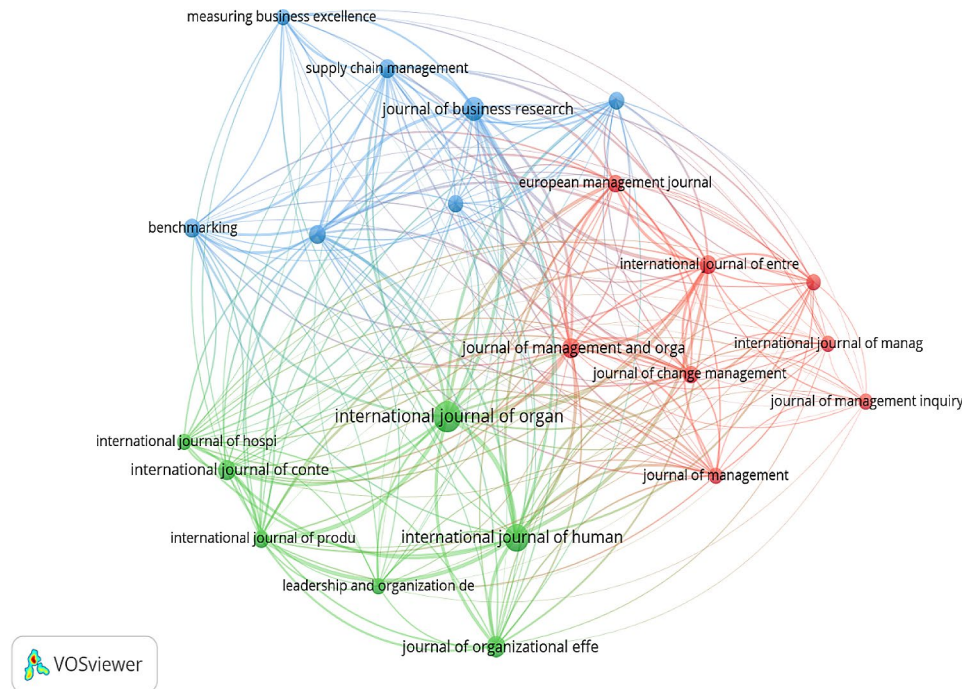


Fig. 4 Network visualization of journals. Source: author's analysis

keywords, 17 met the minimum predetermined limit of 10. The keywords with the greatest total strength were selected. Figure 4 captures the network visualization of the co-occurrence of keywords concerning organizational resilience literature. In this regard, resilience was number one on the top ten list of most frequent keywords as it was associated with 148 occurrences and 87 total link strength. In terms of the remaining nine most frequent keywords, the first number is the number of occurrences and the last figure is the quantity of the total link strength. As such, COVID-19 (47; 52), organizational resilience (63; 29), crisis (16; 22), pandemic (10; 22), optimism (11; 20), self-efficacy (10; 17), innovation (17; 14), entrepreneurship (11; 13), and leadership (13; 13) (Fig. 5).

Given the fact that all 17 keywords are presented in Fig. 4, the size of the circle represents the frequency of occurrence of the keyword. It is worth observing that the different colours captured in Fig. 4 represent different clusters. Accordingly, *cluster 1 with seven keywords* (change management, dynamic capabilities, entrepreneurship, innovation, leadership, organizational resilience, and pandemic), *cluster 2 with four keywords* (COVID-19, crisis, crisis management, and organizational resilience), *cluster 3 with three keywords* (optimism, resilience, and self-efficacy), *cluster 4 with two keywords* (risk management, and supply chain management), and *cluster 5 with one keyword* (sustainability).

Research implications

This bibliometric study on organisational resilience enriches the existing literature, which is fragmentary because this subject has been explored from a variety of viewpoints, including law, education, entrepreneurship, finance, economic, and business management, as well as human resources management. Consequently, the literature on organisational resilience is currently incomplete. This theoretical contribution of the current study is verified by the stock-taking of the mainstream literature on organisational resilience from a bibliometric perspective. This stock-taking was done in the wake of a multitude of global crises. Even more intriguing is the fact that the bibliometric data that have been reported in this study have shown that there are scientific gaps that need to be filled to properly define the agenda for research. Equally as important are the ideas that can guide practice that are related to the findings of this bibliometric study on organisational resilience. In this context, strategic managers and management professionals may undoubtedly benefit from the results of this study in the sense that they can enhance their grasp of organisational resilience capabilities and skills when dealing with crises emerging from a VUCA world. This is because they can gain a better understanding of organisational resilience capabilities and competencies when dealing with crises stemming from a VUCA world. The findings of the bibliometric analysis addressing organisational resilience could be utilised by policymakers in the process of establishing

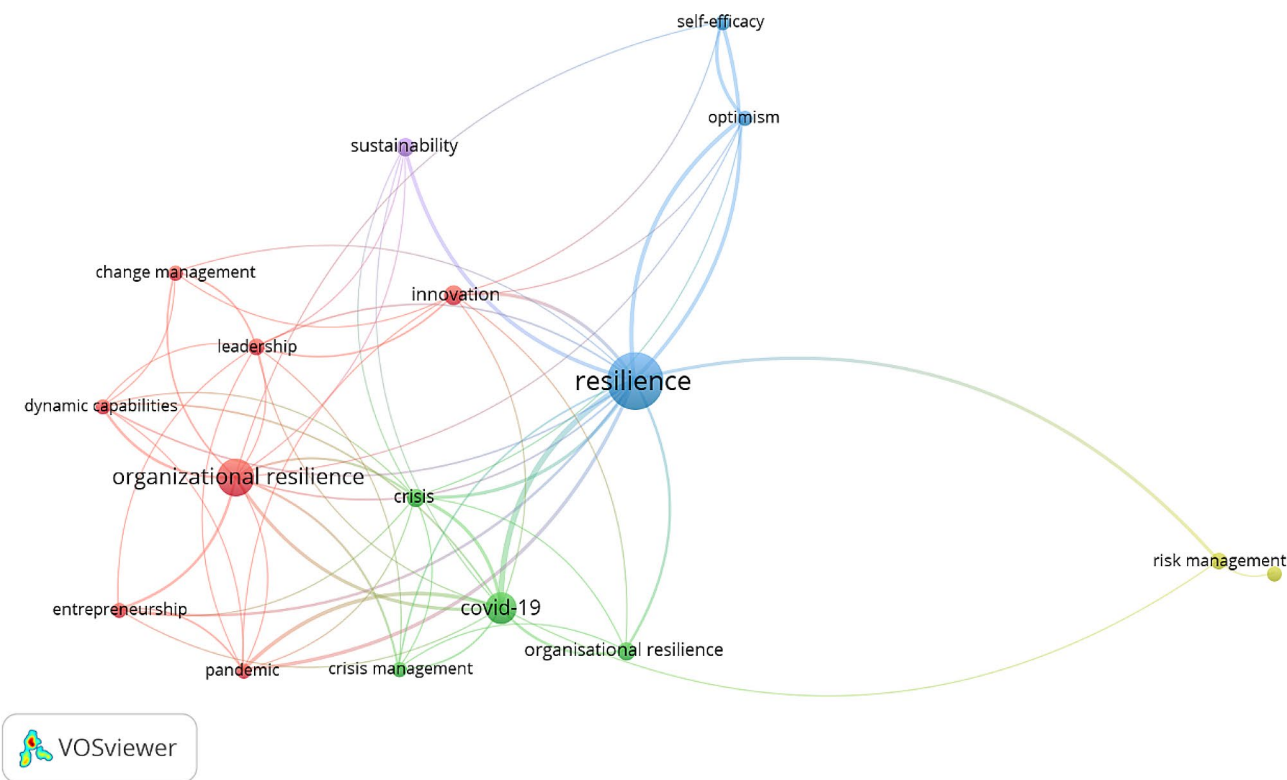


Fig. 5 Coupling of co-occurrence of keywords

Table 3 Link between research gaps and research agenda

Literature Gap	Future Research Direction
Organizational resilience is under-explored in Africa.	Empirical studies on organizational resilience within the African context.
Research work between risk management and organizational resilience is limited.	Research on the link between risk management and organizational resilience is welcomed.
Supply chain resilience is under-researched.	There is an urgent need for research focused on supply chain resilience across the globe.
Limited studies on organizational resilience in the context of non-governmental organizations (NGOs)	Empirical studies in the NGO sector on organizational resilience are recommended so as to broaden our understanding of organizational resilience.
Linkage between change management and organizational resilience is under-explored.	Research studies that connect change management and organizational resilience in various sectors of the economy are also welcomed.
Lack of clear theories underpinning organizational resilience research.	Future researchers should focus more on developing theories that can be used as lenses to view organizational resilience.
Scarcity of comparative studies on organizational resilience.	There is an urgent call for conducting comparative studies on organizational resilience so as to identify the contextual factors that can influence the success of organizational resilience attempts.

Source: author’s analysis

business policies that assist companies that are experiencing financial difficulties.

Areas for further organizational resilience research

It has been observed that there is a plethora of research gaps in the existing body of knowledge pertaining to organizational resilience. As such, the researcher proffered some of the scientific gaps that can be utilized by future organizational resilience researchers. These research gaps are reported in Table 3 below:

As illustrated in Table 3, it is clear that seven emerging scientific gaps can give direction for future research work in the context of organizational resilience. It is worth mentioning that organizational resilience is increasingly gaining momentum in the strategic management field in the face of a plethora of economic crises that are witnessed globally. In light of Table 3, it was observed that very little is known about organizational resilience in the context of Africa even though there is an increasing trend in the number of financially distressed and liquidated companies. Therefore, future research work on organizational resilience from African countries is encouraged.

Conclusion

This study, through a distinctive bibliometric approach, extends the fragmented body of literature on organizational resilience by mapping key trends and identifying

critical research gaps. Our analysis, employing the bibliometric visualization with VOSviewer, has uncovered significant themes such as resilience, crisis management, innovation, and dynamic capabilities that are increasingly pertinent in managing the volatile, uncertain, complex, and ambiguous (VUCA) conditions that organizations today face. Notably, the emergence of the United Kingdom as a leading contributor in this field underscores the global interest and the diverse institutional engagement in enhancing organizational resilience. Our findings not only contribute to the academic discourse by providing a structured overview of the field but also guide practitioners in strategizing more effectively during crises. Furthermore, the study sets a future research agenda by highlighting under-explored areas such as the impact of organizational resilience in developing economies, the interplay between risk management and resilience, and the need for more empirical studies on supply chain resilience. This is crucial for developing tailored strategies that enhance resilience in different organizational contexts.

In summary, the research enriches strategic management practices by illustrating how resilience acts as a pivotal factor in sustaining organizational operations against disruptions, thereby adding substantial value to both theory and practice. We conclude by advocating for more comprehensive, theory-driven research that addresses the identified gaps, thus paving the way for robust strategies that enhance organizational resilience.

Abbreviations

VOS	Visualization of Similarities
VUCA	Volatile, Uncertain, Complex, and Ambiguous

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Competing interests

The authors declare no competing interests.

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