Mapping Innovation and Resilience in MSMEs and Startups: A 12-Year Bibliometric Review

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Abstract. An organization's capacity to uphold its position within the industry presents a distinctive challenge, particularly for MSMEs and startups as opposed to large-scale enterprises. Recent years have witnessed a surge in interest in researching organizational resilience and its determining factors. The primary objective of this study is to scrutinize the progression of research concerning innovation and organizational resilience, examining patterns in publications, discourse topics, subject domains, and various other dimensions to offer insights for future research in this area. Employing bibliometric analysis, this study examined 130 articles from the Scopus database from 2012 to 2024. The data collected underwent scrutiny through descriptive analysis, evaluation of author impact and citation patterns, and content assessment utilizing VosViewer and Publish or Perish software. Findings from this study shed light on the research patterns regarding innovation and organizational resilience in MSMEs and startups, encompassing aspects such as publication advancement, citation trends, crucial concepts, keywords, and theoretical frameworks utilized by scholars, thereby furnishing recommendations for further research endeavors.
Keywords: Organizational Resilience, Innovation, Bibliometric

1 Introduction

In an era characterized by rapid technological advances, globalization, and dynamic markets, the sustainability and success of Micro, Small, and Medium Enterprises (MSMEs) and startups depend heavily on their ability to innovate and adapt to changing circumstances [1,2]. Innovation and organizational resilience have emerged as key determinants of competitiveness and sustainability in this environment.

MSMEs and start-up companies represent an important segment of the global economy as they contribute greatly to job creation, economic growth, and the diffusion of innovation [3]. Their agility and ability to adapt quickly to market changes make them important drivers of the economy and innovation. MSMEs face several challenges that can hinder innovation efforts and efforts to build resilience [4,5]. They often struggle with scarcity, which can hinder their ability to invest in research and development, adopt cutting-edge technology, or recruit the best talent [6]. Meanwhile, startups face a different challenge as they operate in a high-risk and ambiguous environment [7,8].

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Therefore, understanding how they innovate and build resilience is important for their respective success as well as driving job creation and overall economic development.

Organizational innovation covers a spectrum of activities ranging from product/service development, process improvement, and technology adoption to business model innovation [1,9]. Innovation in MSMEs and startups is often characterized by agility, thrift, and an entrepreneurial mindset, which differentiates it from larger firms. On the other hand, organizational resilience is related to the organization's capacity to anticipate, survive, recover, and adapt to adverse events or shocks [10,11]. For MSMEs and startups, resilience is not just about surviving in a turbulent environment but also about thriving and taking advantage of opportunities amidst adversity [12].

This study utilized bibliometric analysis to enhance comprehension of innovation and organizational resilience within the realm of MSMEs and startups. It presents significant implications for the advancement of theory, empirical investigations, and practical applications. This study offers value to the academic community and furnishes practical guidance for policymakers, entrepreneurs, and managers grappling with the intricacies of today's business landscape.Organizational innovation refers to the implementation of new ideas, processes, products, or business models in an organization to improve its performance, competitiveness, and sustainability [13]. Innovation is a holistic and integrative approach to facing change, encouraging creativity, and increasing sustainable growth for organizations [14,15]. Organizations that innovate often need to change structures, processes, and decision-making mechanisms [2,16]. Innovation has several dimensions or types. The first is product innovation, which involves the development and introduction of new or improved products or services [17,18]. The second is process innovation, which focuses on optimizing and reengineering internal processes, workflows, and operations [17,19]. The third type is technological innovation which includes the development, adoption, and integration of new technologies, tools, or systems [16]. The fourth type is business model innovation, which involves reconfiguring or reinventing an organization's value proposition, revenue model, distribution channels, or customer segments [20].

Organizational resilience refers to an organization's ability to anticipate, respond, adapt, and recover from disruptions, shocks, or difficulties while maintaining critical functions and operations [10]. This capability emphasizes the capacity to survive and thrive in the face of uncertainty, volatility, and complexity [12,21]. Resilient companies are better positioned to face competitive pressures, adapt to changing market dynamics, and take advantage of emerging opportunities [22]. By investing in resilience-building initiatives, organizations can improve their ability to withstand shocks, seize opportunities, and emerge stronger from adversity, thereby ensuring long-term sustainability and success [21,23]. According to [24], organizations that are willing to increase their adaptability and carry out continuous learning tend to be able to respond to changes in situations or threats in the environment. Failures that occur are considered a source of learning and opportunities for the organization's growth. This also makes resilient organizations better able to face crises, seize opportunities, and achieve competitive advantage in their industry.

2 Research Method

This study conducts a bibliometric analysis of innovation and organizational resilience in MSMEs and startups using citation analysis and co-occurrence mapping through VosViewer and Publish or Perish. Two distinct search strings were developed to comprehensively cover the topics of innovation and organizational resilience. The first search string focused on innovation, using keywords such as "innovation", "open innovation". "ambidextrous innovation", and "innovation ambidexterity". The second search string targeted organizational resilience, using keywords including "organizational resilience", "firm resilience", "MSMEs resilience", "SMEs resilience", and "startup resilience". An initial search was conducted in the Scopus database on March 23rd, 2024, utilizing these search strings, which yielded 210 documents on the topic. Several criteria were applied to refine the selection. Only journal articles were considered, and the articles were selected specifically from the subject areas of "Business, Management, and Accounting", "Social Sciences", and "Economics, Econometrics, and Finance", resulting in 133 documents. Non-English articles were excluded, bringing the final number of documents for analysis to 130 documents. The selected documents were analyzed using VosViewer and Publish or Perish (PoP).

3 Results and Discussion

3.1 Descriptive Analysis

We analyzed 130 articles to investigate publication patterns of innovation and organizational resilience in MSMEs and startups. Articles are examined based on publication year, geographical location, authorship, and institutional affiliations. Based on the data, it is known that the exploration of innovation and organizational resilience in MSMEs and startups commenced in 2011, gaining significant attention around 2018-2019. The trajectory of publications in this domain shows a consistent annual rise, peaking in 2023 with 39 articles, followed by 24 articles in 2024 and 19 articles each in 2021 and 2022. Before 2020, the publication did not exceed nine articles per year, with an average of merely 2.2 publications from 2011 to 2019. Nevertheless, post-2021, the number surged, surpassing 10 publications annually. The further climb in 2023 to 39 articles can be attributed to the Covid-19 pandemic, which necessitates substantial business transformations.

Table 1. Journal with the highest contributions

No.	Journal	Publisher	Number of Publication
1.	Sustainability (Switzerland)	MDPI	14
2.	Journal of Business Research	Elsevier	4
3.	International Journal of Entrepreneurial Behavior and Research	Emerald Publishing Ltd.	3
4.	Journal of the Knowledge Economy	Springer Nature	3
5.	Service Industries Journal	Taylor & Francis	3

Table 1 illustrates the top five journals specializing in articles related to innovation and organizational resilience in MSMEs and startups. The data presented in Table 1 reveals that the primary contributor is the journal Sustainability (Switzerland) by

MDPI, which has published 14 articles. Additionally, there are numerous other journals that also play a role in disseminating articles on innovation and organizational resilience in MSMEs and startups.

Table 2. Institution with the highest contributions

No.	University/Institutions	Amount
1.	Arizona State University	3
2.	Università Ca' Foscari Venezia	3
3.	Makerere University Business School	3
4.	University of Cape Town	2
5.	Friedrich-Alexander-Universität Erlangen-Nürnberg	2

Table 2 illustrates the academic institutions that predominantly examined the subject matter of innovation and organizational resilience in MSMEs as well as startups from 2011 to 2024, with a focus on the institutional affiliation of the primary author. Arizona State University, Università Ca' Foscari Venezia, and Makerere University Business School occupy the top three positions in terms of contributions to the advancement of this particular research area, each having published a total of 3 scholarly articles.

Table 3. Publication based on country/territory

No.	Country/Territory	Amount
1.	China	3
2.	United States	3
3.	Italy	3
4.	United Kingdom	2
5.	Indonesia	2

Table 3 presents a list of countries that have displayed the most significant quantity of publications over the duration of this study. During 2011 to 2024, these leading five nations have generated a total of 13 publications focusing on innovation and organizational resilience in MSMEs and startups.

3.2 Citation Analysis

The findings from the analysis conducted using the Publish or Perish software indicated that over the past 13 years, the total citations across 130 documents amounted to 2,105 citations. The mean number of citations annually stands at 161.92 instances, with an average of 16.19 citations per individual article or document. Table 4 delineates various academic journals and scholars with the highest volume on the topic.

Table 4. Journal with the highest citation number

Author and Publication Year	Journal	Total Citation	Citation Average
Sabahi & Parast (2020)	International Journal of Logistics Research and Application	165	41.25
Do et al. (2022)	Journal of Business Research	96	48
Santoro et al. (2020)	Journal of Business Research	88	22
Zhang et al. (2021)	Sustainability (Switzerland)	74	24.67
Senbeto & Hon (2020)	Service Industries Journal	72	18

3.3 Content and Co-Occurrence Analysis

From the entire document, co-occurrence analysis with VosViewer produces several keywords that appear most frequently in research. VosViewer analysis then produces nine clusters, shown in Figure 1 below.

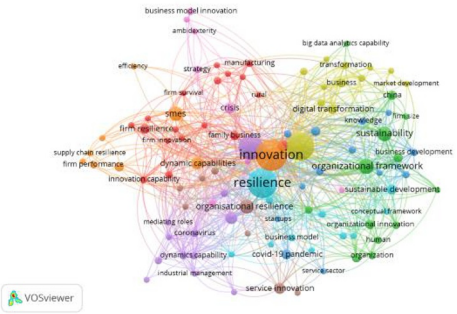

Fig. 1. Network Visualization

The first cluster discusses the financial ecosystem for SMEs, highlighting the importance of leveraging digital capabilities, driving organizational learning, and implementing transformational initiatives to increase resilience and maintain competitive advantage in the face of disruption. Topics in the second cluster focus on corporate strategy and globalization, especially in the context of dynamic capability and open innovation. Research in the third cluster reviews crisis adaptation and business model innovation in the context of the COVID-19 crisis. It highlights the vulnerabilities faced by organizations, particularly family businesses and companies located in rural areas, underscoring the need for strategic agility and resilience.

The fourth cluster centers on leadership and organizational change, highlighting the importance of adopting a strategic approach to organizational change, developing a strong framework, and involving employees in the change process for resilience. In the fifth cluster, the focus is on business resilience and sustainability. The research considers the role of company size in influencing business resilience, underscoring the need for agile strategies and adaptive responses to market dynamics. The sixth cluster focuses on disruption management and resilience strategies, emphasizing the role of organizational behavior and uncertainty analysis in shaping resilience strategies and driving sustainable development goals. Furthermore, research in the seventh cluster discusses dynamic capabilities and entrepreneurial orientation, especially in the context of supply chain disruption and resilience. This cluster underscores the importance of innovation-driven strategies and agile supply chain practices in responding to market challenges and maintaining competitive advantage.

Then, the eighth cluster revolves around crisis management and innovation capabilities, highlighting the role of technological change and environmental dynamism in shaping organizational resilience. This cluster underscores the need for companies to invest in innovation-driven strategies, embrace technological developments, and foster a culture of resilience to thrive in a dynamic environment. Finally, the ninth cluster discusses the relationship between digital capabilities and organizational resilience, especially for SMEs.

4 Conclusions

Through a comprehensive analysis of 130 articles taken from the Scopus database, this research highlights the evolving landscape of innovation and organizational resilience in the context of SMEs and startups. The analysis includes descriptive, author influence, citation, and content analysis, which provides insight into publication trends, author contributions, citation patterns, and topics widely discussed in the literature. We highlight the interrelated nature of innovation and resilience in driving organizational success and sustainability. Key themes such as digital transformation, strategic change, and supply chain resilience are emerging as focal points for future research, reflecting the importance for organizations to adapt, innovate, and build resilience in an ever-changing business landscape.

Going forward, existing research could include exploring digital technology integration, utilizing innovation management practices, and developing collaborative resilience strategies tailored to the needs of SMEs and startups. In addition, there is a need to examine further the role of dynamic capabilities, technological innovation, and strategic change initiatives in fostering organizational resilience and competitiveness. Overall, this research contributes to advancing the scientific understanding of innovation and organizational resilience, offering valuable insights and directions for future research in this area with practical implications for policymakers, practitioners, and entrepreneurs.

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