

**Review Article**

# **Exploration and Exploitation Strategies in SMEs: Insights from a Bibliometric Study on Organizational Ambidexterity**

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## **ABSTRACT**

**Aims:** This study aims to investigate the trends, key contributors, thematic clusters, and research gaps in organizational ambidexterity, with a specific focus on Small and Medium Enterprises (SMEs). The objective is to provide actionable insights into how SMEs can effectively balance exploration and exploitation strategies to achieve competitive advantage and strategic sustainability.

**Study design:** A bibliometric analysis of peer-reviewed articles indexed in the Scopus database.

**Place and Duration of Study:** Data were collected from Scopus-indexed publications spanning 2014 to 2024.

**Methodology** The study employed bibliometric techniques using VOSviewer for visualizing thematic clusters and collaboration networks. The search criteria were limited to English-language journal articles within the subject areas of business, management, and accounting. Data analysis included keyword co-occurrence mapping, citation analysis, and co-authorship network exploration to uncover patterns and emerging research themes.

**Results:** The analysis identified a significant increase in research on organizational ambidexterity, particularly after 2018, peaking in 2024. The United States, the United Kingdom, and China were the leading contributors to this domain. Thematic clusters revealed three key areas of focus: (1) the impact of ambidexterity on firm performance and managerial applications, (2) strategic processes and theoretical frameworks, and (3) methodological and practical contributions. Despite these advancements, notable gaps were found, including the limited exploration of dynamic capabilities and the application of ambidexterity in SMEs within diverse organizational and market contexts.

**Conclusion:** Organizational ambidexterity is increasingly recognized as a critical capability for SMEs to adapt to dynamic business environments. This study emphasizes the need for comprehensive frameworks that integrate exploration, exploitation, and dynamic capabilities. Future research should address the underexplored areas to support SMEs in leveraging ambidexterity for enhanced adaptability, resilience, and innovation.

*Keywords: Organizational Ambidexterity, Ambidextrous Organization, Exploration and Exploitation, SME, Small and Medium-sized Enterprise*

## **1. INTRODUCTION**

An organization's ability to balance the exploration of new opportunities and the exploitation of existing resources has become increasingly critical in today's competitive business landscape (1,2). This capability, known as organizational ambidexterity, is particularly relevant

for Small and Medium Enterprises (SMEs), which often face resource constraints while striving to compete in dynamic business environments (3). SMEs play a vital role in the global economy, contributing significantly to employment and innovation (4). However, they are frequently vulnerable to market changes and competitive pressures, necessitating the adoption of flexible adaptation strategies (5).

SMEs, which represent the majority of business entities worldwide, face unique challenges in maintaining growth and sustainability. Unlike large corporations, SMEs often operate with limited human resources, capital, and technology. Nevertheless, their inherent flexibility provides opportunities to implement organizational ambidexterity. This approach enables SMEs to: (1) Adapt to Market Changes : The ability to explore new markets and innovate products allows SMEs to remain competitive in a globally dynamic environment; (2) Optimize Operations : Exploitation helps SMEs efficiently utilize existing resources, reduce operational costs, and improve profit margins; (3) Enhance Resilience to Crises : In situations like the COVID-19 pandemic, SMEs employing ambidexterity principles demonstrated greater resilience by balancing short-term strategies with long-term innovation investments.

(6) highlights that organizational learning capabilities and networking play a crucial role in supporting ambidexterity among SMEs. This finding is particularly relevant as SMEs often rely heavily on strategic partnerships and market learning to compensate for their resource limitations. Ambidexterity enables SMEs to better manage innovation, a critical factor for survival in rapidly changing business environments. (7) revealed that family businesses, most of which fall under the SME category, can leverage founder engagement to create harmony between innovation exploration and efficiency exploitation. This research emphasizes how traditional values can be integrated with innovative strategies to support long-term growth. Additionally, (8) demonstrate that digital technologies, including automation services and robotics, play a pivotal role in supporting SME innovation while enhancing operational efficiency. These technologies enable SMEs to access new markets, reduce costs, and accelerate their adaptation to changing consumer demands.

Strategic sustainability is one of the key outcomes of implementing ambidexterity in SMEs. (9) developed an integrative framework that underscores the importance of strategic venturing for SMEs to explore new opportunities while maintaining operational stability. In this context, SMEs adopting an ambidextrous approach can achieve sustainable competitive advantages.

Research trends indicate that ambidexterity has become a central focus in management literature, particularly since 2020. Metadata from Scopus reveals a significant increase in publications on ambidexterity over the past few years, with more than 300 articles published since the beginning of this decade. This surge reflects the urgency of understanding and implementing ambidexterity, especially among SMEs, which must navigate uncertain global conditions, such as the COVID-19 pandemic. This topic is critical because SMEs form the backbone of the global economy, providing over 50% of employment in many countries. However, they also face significant challenges in sustaining their businesses. By understanding and adopting ambidexterity principles, SMEs can: (1) Enhance their competitiveness in global markets; (2) Contribute to inclusive economic growth; and (3) Strengthen their resilience to global crises, such as pandemics or economic recessions.

As part of this study, bibliometric analysis will be employed to identify trends, collaborations, and key themes in ambidexterity research. Using VOSviewer and Scopus data, this research aims to provide profound insights into how SMEs can adopt ambidexterity to achieve their strategic sustainability objectives.

## 2. METHODOLOGY

This study employs bibliometric analysis as the chosen research methodology to explore the trends, patterns, and contributions within the field of organizational ambidexterity. The methodology is structured in four key stages: defining objectives and scope, selecting bibliometric techniques, collecting data, and conducting the analysis (10). The aim is to provide a comprehensive understanding of the research landscape on organizational ambidexterity by identifying key themes, influential authors, and emerging trends.

The data for this study were sourced from Scopus, a highly reputable and comprehensive database known for its rigorous indexing criteria. Scopus includes peer-reviewed journals, conference proceedings, and high-quality academic publications, ensuring the reliability of the bibliometric data. Relevant documents were identified using keywords as presented in table 1.

**Table 1. Search string used in literature research**

Search String
( TITLE-ABS-KEY ( ambidextrous AND organization ) OR TITLE-ABS-KEY ( organizational AND ambidexterity ) ) AND PUBYEAR > 2013 AND PUBYEAR < 2025 AND ( LIMIT-TO ( EXACTKEYWORD , "Organizational Ambidexterity" ) OR LIMIT-TO ( EXACTKEYWORD , "Exploration And Exploitation" ) OR LIMIT-TO ( EXACTKEYWORD , "Organisational Ambidexterity" ) OR LIMIT-TO ( EXACTKEYWORD , "Ambidextrous Organizations" ) OR LIMIT-TO ( EXACTKEYWORD , "Ambidextrous Organization" ) OR LIMIT-TO ( EXACTKEYWORD , "SMEs" ) OR LIMIT-TO ( EXACTKEYWORD , "Small And Medium-sized Enterprise" ) OR LIMIT-TO ( EXACTKEYWORD , "SME" ) ) AND ( LIMIT-TO ( SUBJAREA , "BUSI" ) ) AND ( LIMIT-TO ( DOCTYPE , "ar" ) ) AND ( LIMIT-TO ( PUBSTAGE , "final" ) ) AND ( LIMIT-TO ( SRCTYPE , "j" ) ) AND ( LIMIT-TO ( LANGUAGE , "English" ) )

The search was confined to documents published within 2014 to 2024, restricted to English-language articles to ensure consistency, subject area limits to business, management, and accounting, and source type limits to journal. Metadata such as authors, titles, publication years, keywords, citations, and affiliations were extracted for analysis.

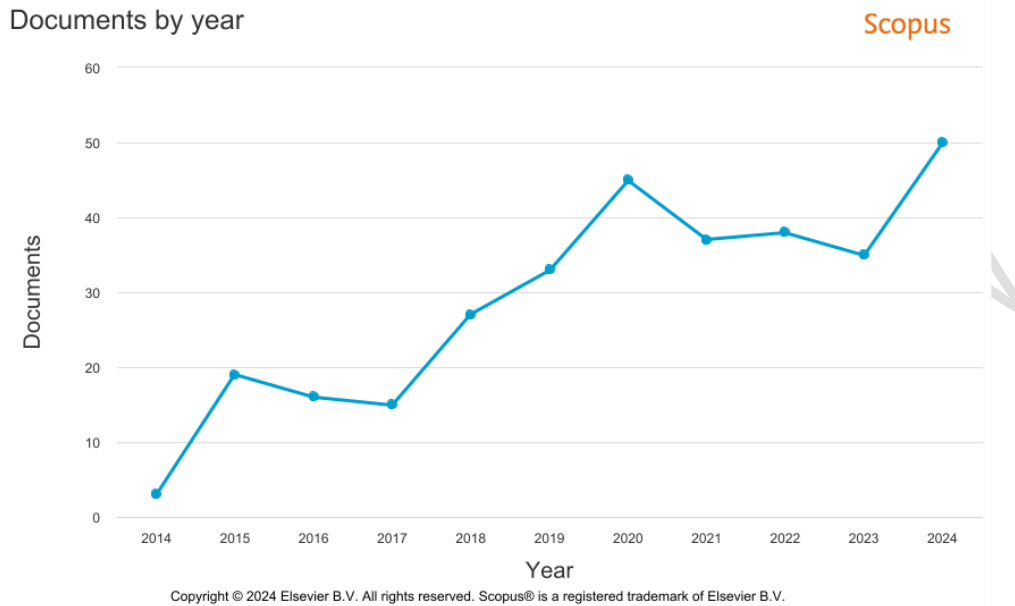
The study uses VOSviewer as a primary tool for analyzing and visualizing bibliometric data (11). We employed techniques like keyword co-occurrence mapping, citation analysis, and co-authorship network analysis to uncover thematic clusters and collaboration patterns in the literature.

## 3. RESULTS AND DISCUSSION

### 3.1 The Research Trend in SME Organizational Ambidexterity

As shown in the figure, research on organizational ambidexterity has experienced a significant upward trajectory, particularly after 2018. The sharp increase in 2019 indicates heightened academic interest in the field, likely driven by the need for adaptive and dual strategies in response to global disruptions and technological advancements. Despite a slight dip during 2020, potentially influenced by the COVID-19 pandemic, the publication count stabilized in subsequent years and surged again in 2024. This pattern underscores the sustained

relevance of ambidexterity as a key organizational capability in dynamic and uncertain environments.



**Figure 1. The Research Trend in SME Organizational Ambidexterity**  
Source : Scopus.com (November 2024)

The growing attention to organizational ambidexterity can be attributed to its critical role in balancing exploration and exploitation within organizations. This dual approach enables firms to innovate while maintaining operational efficiency, a necessity in competitive and volatile markets. The increase in research outputs is further supported by the emergence of related topics, such as ambidextrous leadership, organizational learning, and digital transformation, which have expanded the theoretical and practical understanding of ambidexterity. The continued momentum in publication highlights its importance in addressing contemporary challenges faced by both large enterprises and small and medium enterprises (SMEs).

### 3.2 Top journals in SMEs Organizational Ambidexterity

Figure 2 illustrates the contributions of five prominent journals that serve as key platforms for publications on organizational ambidexterity, based on Scopus data. These journals include Journal of Business Research, International Journal of Human Resource Management, Long Range Planning, Technological Forecasting and Social Change, and IEEE Transactions on Engineering Management. Each journal plays a distinct role in shaping the discourse and advancing knowledge in this field, as reflected in the temporal trends of their publication outputs.

Leading the chart is the IEEE Transactions on Engineering Management, which exhibits a significant increase in contributions, culminating in five documents published in 2024. This journal focuses on the intersection of engineering, management, and innovation, making it a relevant outlet for studies exploring the technical and managerial aspects of organizational ambidexterity, particularly in industries reliant on technological advancements.

## Documents per year by source

Scopus

Compare the document counts for up to 10 sources. Compare sources and view CiteScore, SJR, and SNIP data



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**Figure 2. Top Journals in SME Organizational Ambidexterity**  
Source : Scopus.com (November 2024)

Long Range Planning is another notable journal, showing a peak in publications in 2019. Known for its emphasis on strategic planning and organizational adaptability, this journal has been instrumental in advancing theoretical frameworks and practical insights on how organizations balance exploration and exploitation for long-term success.

Similarly, Technological Forecasting and Social Change also peaked in 2019, with its interdisciplinary focus on innovation, foresight, and societal implications, reflecting its alignment with ambidextrous strategies in rapidly changing environments.

The Journal of Business Research and the International Journal of Human Resource Management maintain a steady contribution to the literature. The former addresses broader management and business issues, offering insights into how ambidexterity impacts organizational performance. The latter delves into the human resource dimension, examining the role of leadership and employee behavior in fostering ambidextrous capabilities within organizations.

This analysis highlights the diverse academic platforms contributing to the development of knowledge on organizational ambidexterity. The trends underscore the importance of integrating perspectives from strategy, technology, human resources, and engineering to fully understand and leverage the concept. These journals not only disseminate foundational and applied research but also foster cross-disciplinary approaches, advancing both theory and practice in the field.

### 3.3 Geographical distribution of Organizational Ambidexterity

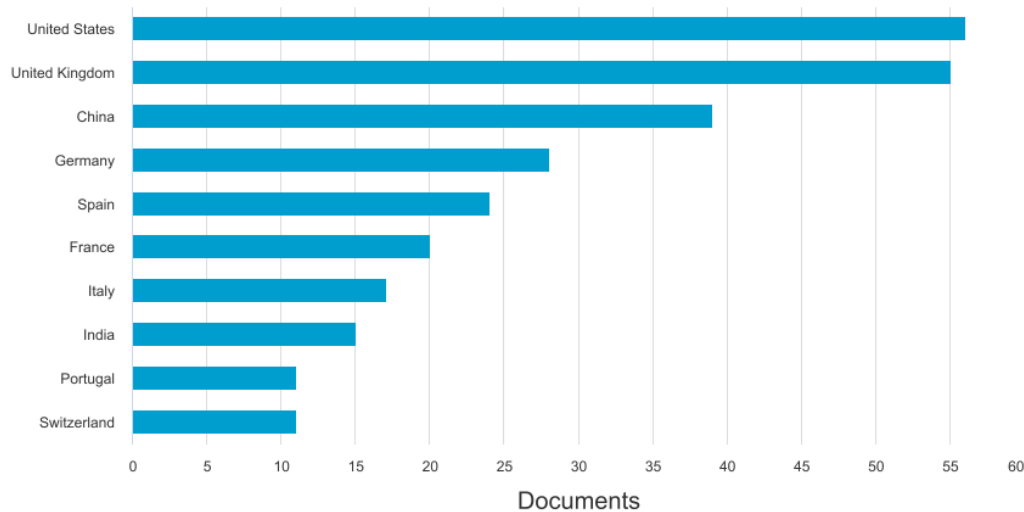
Figure 3 illustrates the geographical distribution of publications on organizational ambidexterity, highlighting the contributions from various countries based on data extracted

from Scopus. This analysis sheds light on the global research landscape, showcasing the prominence of certain regions in advancing the discourse on ambidexterity.

### Documents by country or territory

Scopus

Compare the document counts for up to 15 countries/territories.



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**Figure 3. Mapping the Global Landscape**  
Source : Scopus.com (November 2024)

Leading the list is the United States, with the highest number of documents (approximately 55). The significant contribution from the U.S. can be attributed to its robust academic infrastructure, widespread interest in innovation, and advanced organizational studies. Research in the U.S. often focuses on strategic frameworks for balancing exploration and exploitation in dynamic industries, particularly in technology, manufacturing, and services.

The United Kingdom closely follows, reflecting its strong emphasis on organizational adaptability and leadership studies. Research from the U.K. frequently explores the interplay between organizational culture, leadership styles, and ambidextrous capabilities, with a growing interest in applying these concepts to SMEs.

China ranks third, showcasing its increasing academic output in management and innovation studies. Chinese researchers often examine ambidexterity within rapidly developing industries and government-supported innovation hubs, emphasizing its application in state-owned enterprises and high-growth SMEs.

European countries like Germany, Spain, France, and Italy also feature prominently, reflecting their academic focus on organizational innovation and sustainability. Germany, for instance, emphasizes the role of engineering and technological advancements in supporting ambidextrous strategies. Spain and France often explore the socio-cultural factors influencing organizational ambidexterity, while Italy highlights its relevance in family-owned businesses and SMEs.

India emerges as a notable contributor from Asia, reflecting the growing interest in ambidextrous strategies for SMEs operating in emerging markets. Indian researchers often investigate how ambidexterity can drive growth and innovation in resource-constrained environments.

Lastly, countries like Portugal and Switzerland showcase smaller but significant contributions. Research from Portugal frequently examines the intersection of ambidexterity and entrepreneurship, while Switzerland focuses on high-tech industries and innovation management.

This geographical distribution underscores the global significance of organizational ambidexterity, with diverse approaches shaped by regional economic structures, cultural contexts, and industrial focuses. The data reveals a concentration of research in developed economies, emphasizing the need for broader contributions from emerging markets to enrich the global understanding of ambidexterity.

### **3.4 Leading Institutions and Authors in Organizational Ambidexterity Research**

The distribution of research publications by affiliation, as depicted in the Figure 4, highlights the top institutions contributing to the field of organizational ambidexterity. The leading institution is Universitat de València (12–18) , with the highest number of publications, reflecting its strong focus on management and organizational studies. This institution has significantly advanced theoretical and practical insights into ambidexterity, particularly in the context of innovation and strategic management.

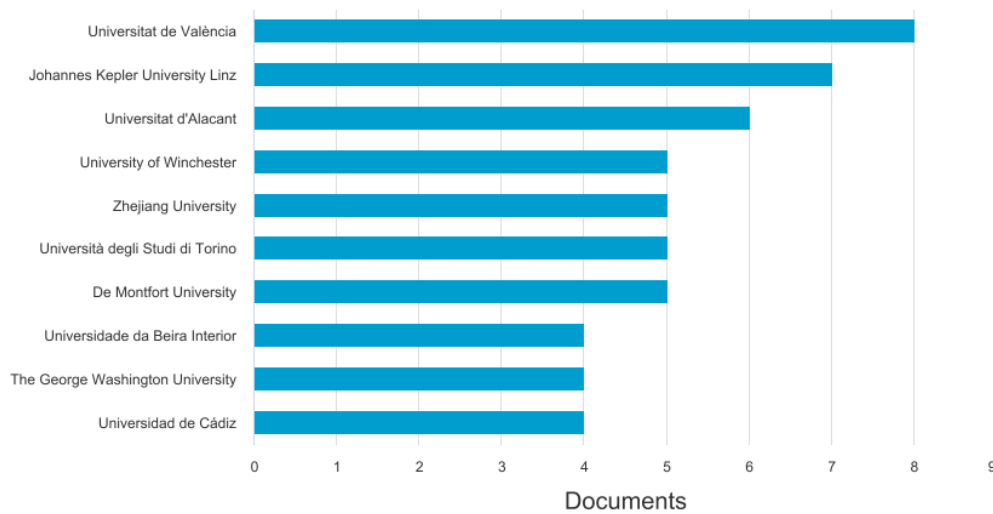
Johannes Kepler University Linz (5,19–24) follows closely, demonstrating its expertise in leadership and organizational adaptability. The university's publications often focus on the dual challenges of balancing exploration and exploitation within organizational frameworks. Similarly, Universitat d'Alacant (25–30) ranks among the top contributors, emphasizing the integration of organizational ambidexterity into entrepreneurial practices and SME development.

Other notable contributors include University of Winchester (31–35) , known for its work on ambidextrous leadership, and Zhejiang University (36–40), which explores ambidexterity within the context of technological and industrial innovation. European institutions such as Università degli Studi di Torino (41–45) and De Montfort University (4,31,34,38,46) also play prominent roles, with a focus on the intersection of ambidexterity and sustainability.

## Documents by affiliation

Scopus

Compare the document counts for up to 15 affiliations.



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### Figure 4. Charting Prominent Affiliations

Source : Scopus.com (November 2024)

Figure 5 provides an overview of the most prolific authors in the domain of organizational ambidexterity. Leading the list is Stokes, P., who has authored six publications (4,31,34,38,46,47). Stokes' work often explores the strategic dimensions of ambidexterity, particularly in aligning organizational structures with market dynamics. Claver-Cortés, E. and Fernández-Pérez de la Lastra, S. are among the next most prolific authors, contributing significantly to the understanding of ambidexterity in family-owned businesses and SMEs (27–30,48–51). Their research emphasizes the role of leadership and cultural factors in fostering organizational adaptability.

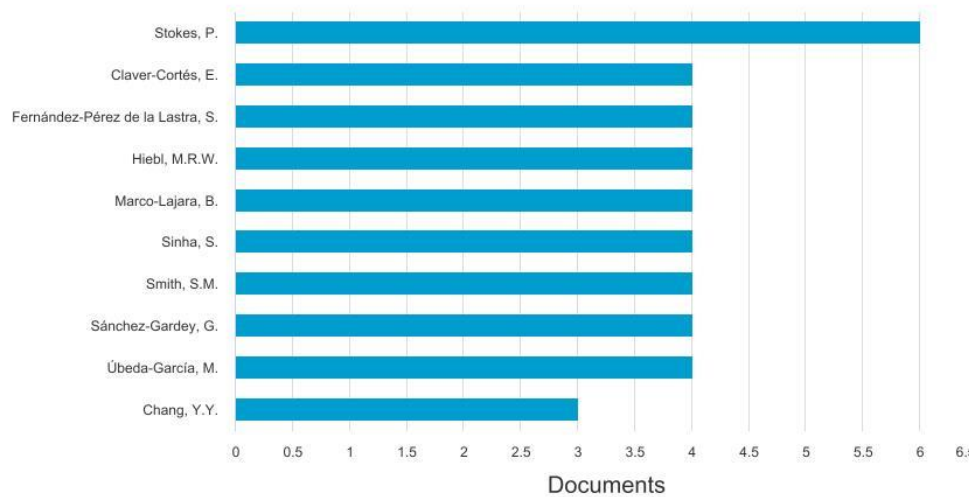
Hiebl, M.R.W. has a notable focus on financial management and its intersection with ambidexterity (20–22,24), while Marco-Lajara, B. investigates the relationship between ambidexterity and firm performance in various industrial contexts (27–30). Other contributors, such as Sinha, S. and Smith, S.M., delve into the human resource and technological aspects of ambidexterity, highlighting its relevance in digital transformation (31,33,46,47,52–55).

Authors such as Sánchez-Gardey, G., Úbeda-García, M., and Chang, Y.Y. further enrich the literature by exploring the practical implications of ambidextrous strategies across different organizational sizes and cultural contexts (27–30,48,48,49,49,56–58). The contributions from these leading institutions and authors demonstrate a global and multidisciplinary approach to advancing the field of organizational ambidexterity.

## Documents by author

Scopus

Compare the document counts for up to 15 authors.



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**Figure 5. Top Authors**  
Source : Scopus.com (November 2024)

### 3.5 Exploring Clusters of Themes in Organizational Ambidexterity: Analysis and Research Gaps

The visualization above, generated using VOSviewer, illustrates the thematic clusters in the field of organizational ambidexterity. Each cluster represents interconnected themes, providing a comprehensive framework to understand the multidimensional nature of this research area. Below is an analysis of the clusters and potential research gaps:

#### Cluster 1: Performance Outcomes and Managerial Implications (Red Cluster)

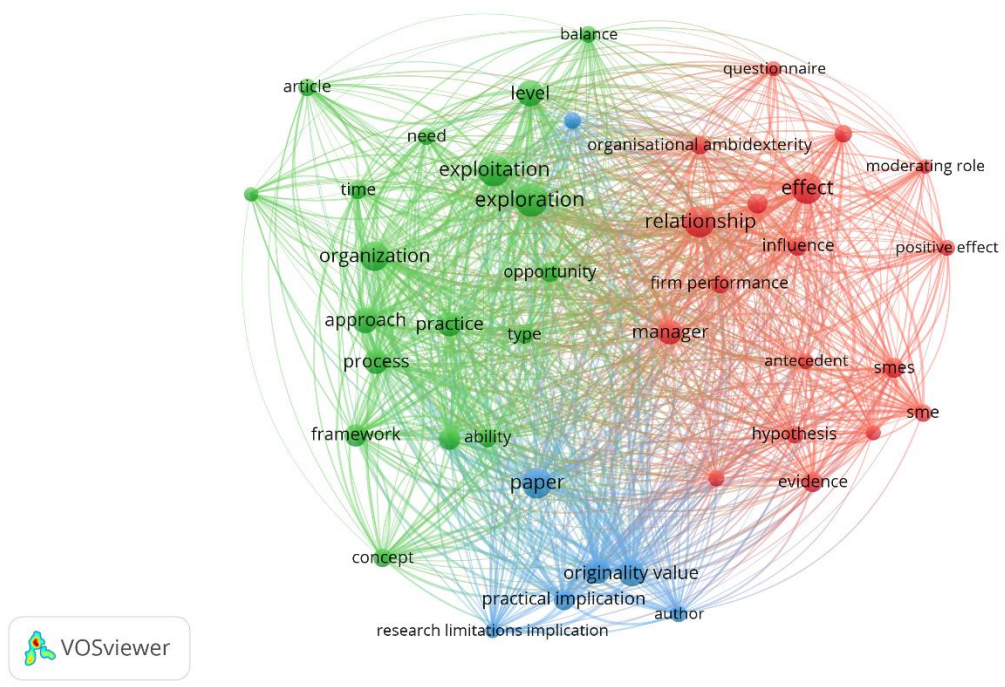
The red cluster emphasizes the impact of ambidexterity on firm performance and its managerial implications. Key terms include relationship, effect, firm performance, manager, and influence. This cluster highlights empirical studies exploring how ambidextrous strategies influence organizational outcomes, with a strong focus on SMEs. Terms like mediating role, moderating role, and positive effect indicate that many studies examine the interplay of antecedents, mediators, and moderators in the relationship between ambidexterity and performance. This cluster aligns with practical applications, offering insights into how managers can implement ambidextrous strategies to improve competitive advantage.

#### Cluster 2: Strategic Processes and Theoretical Frameworks (Green Cluster)

This cluster focuses on the core processes and theoretical aspects of organizational ambidexterity. Dominated by terms like ambidextrous organization, exploration, exploitation, framework, and organization, this group encapsulates foundational concepts. The recurring themes highlight the balance organizations must achieve between exploration (pursuing innovation and new opportunities) and exploitation (optimizing existing resources and capabilities). The strong connections between terms such as process, time, and approach suggest an ongoing interest in the dynamic mechanisms enabling organizations to manage this duality.

#### Cluster 3: Methodological and Practical Contributions (Blue Cluster)

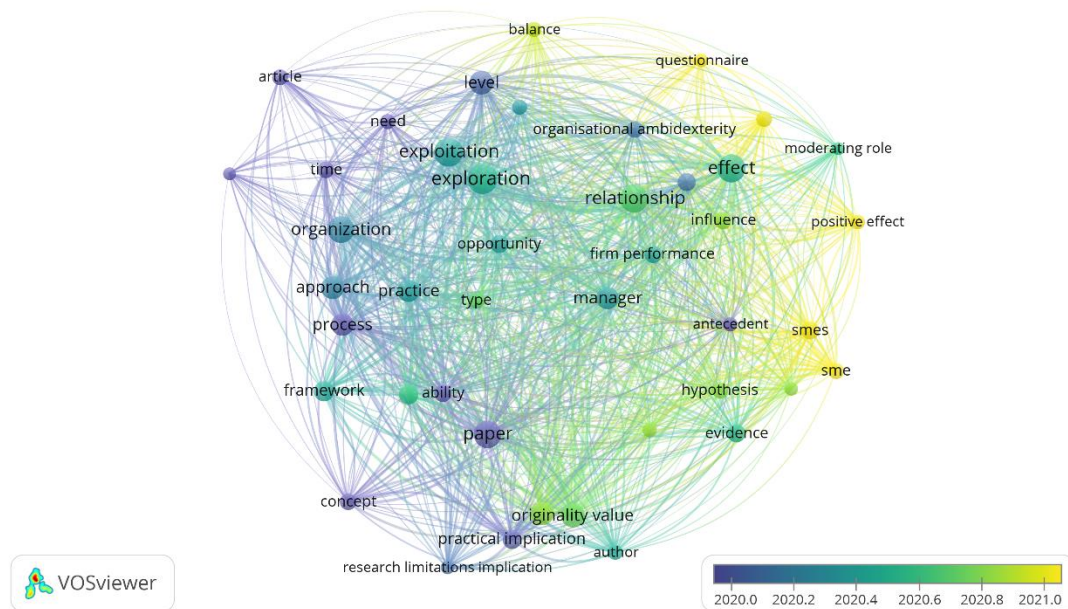
This cluster delves into the methodological and practical contributions of ambidexterity research. Terms such as originality value, practical implication, research limitations, and author suggest an emphasis on advancing the field's conceptual clarity and applicability. This group highlights the importance of actionable insights and methodological rigor in addressing real-world challenges, particularly in dynamic and resource-constrained environments.



**Figure 6. Clusters of Themes in Organizational Ambidexterity**  
Sources : Vosviewer (2024)

### 3.6 Interconnections and Emerging Trends

The interconnected nature of the clusters indicates the multidisciplinary nature of organizational ambidexterity research. The linkages between exploration, firm performance, and dynamic capability underscore the integration of strategic processes with organizational outcomes. Similarly, the connections among framework, concept, and practical implication highlight the theoretical and applied dimensions of the field.



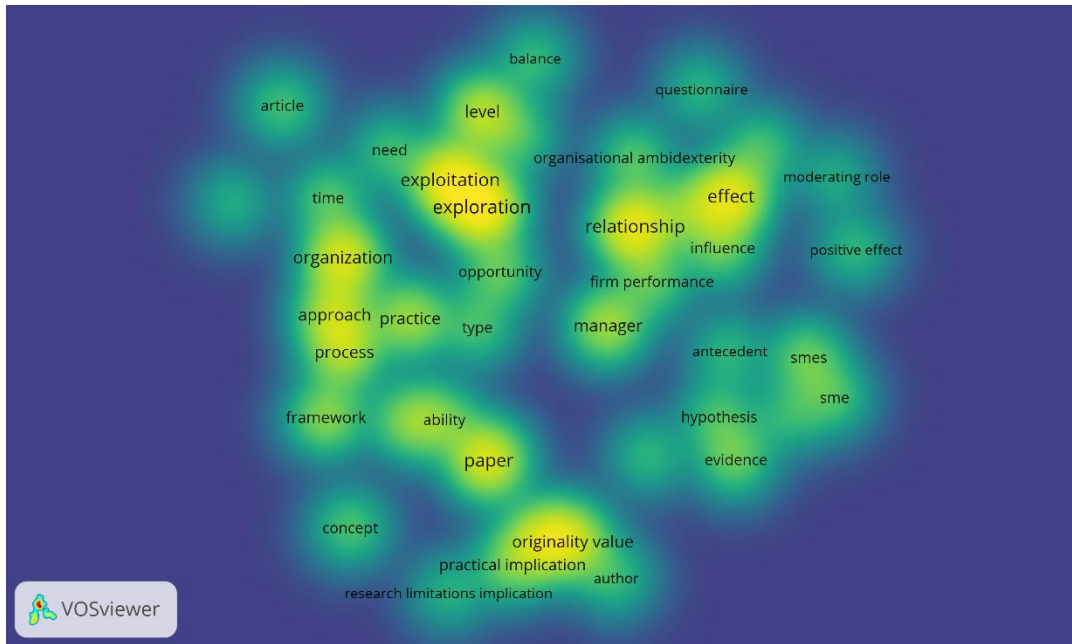
**Figure 7. Temporal Trends in Organizational Ambidexterity**  
Sources : Vosviewer (2024)

The overlay visualization reveals temporal trends in the field, with recent studies (yellow nodes) focusing on themes such as SMEs, dynamic capability, and moderating roles. This suggests a growing interest in the application of ambidexterity concepts within smaller enterprises and their adaptation to rapidly changing markets.

### 3.7 Exploring Key Insights from Density Visualization

The density visualization generated using Vosviewer provides a comprehensive insight into research concentration within the field of organizational ambidexterity. The visualization highlights that themes such as exploitation and exploration are at the center of academic focus, as indicated by the bright yellow areas representing high research intensity. These themes emphasize the literature's strong interest in the duality of strategies between leveraging existing resources and exploring new opportunities within organizations. Additionally, keywords such as relationship and effect signify a significant interest in understanding the interplay between variables and their impact on organizational performance. Other prominent areas, such as framework and concept, underscore the importance of developing theoretical models to better understand ambidexterity in organizational settings.

However, the visualization also reveals notable research gaps. Regions marked with green or blue shades, such as dynamic capability, ambidextrous organization, and hypothesis medium-sized enterprise, reflect underexplored areas in the literature. The context of small and medium enterprises (SMEs) also appears to be underrepresented, despite its potential to provide valuable insights into how ambidexterity operates in smaller organizational contexts. This indicates an opportunity for future research to delve deeper into these themes and expand the understanding of ambidexterity in diverse organizational settings.



**Figure 8. Key Themes in Organizational Ambidexterity Research**  
Sources : Vosviewer (2024)

The findings suggest several avenues for future research. Scholars are encouraged to explore underrepresented areas such as the role of dynamic capabilities in fostering ambidexterity and the applicability of ambidexterity in SMEs. Furthermore, developing a more comprehensive theoretical framework that integrates key dimensions such as exploitation, exploration, and dynamic capabilities could provide valuable guidance for both academic inquiry and practical application. Bridging these research gaps has the potential to make a significant contribution to the broader understanding of organizational ambidexterity and its role in enhancing organizational adaptability and innovation across various industries and organizational scales.

#### 4. CONCLUSION

The bibliometric analysis conducted in this study unveils the dynamic landscape of organizational ambidexterity research, particularly in the context of Small and Medium Enterprises (SMEs). This study provides profound insights into the trends, key contributors, affiliations, and thematic clusters in the field. In response to the growing need for adaptive strategies to address global challenges, organizational ambidexterity has emerged as a crucial capability for balancing the exploration of new opportunities (exploration) and the exploitation of existing resources (exploitation). Analysis of Scopus data highlights critical perspectives on the trajectory of organizational ambidexterity research, emphasizing its importance in enhancing organizational competitiveness, driving innovation, and fostering sustainable growth in dynamic business environments.

The research trends indicate a significant rise in publications on organizational ambidexterity since 2018, with a notable peak in 2024. This growth reflects an increased urgency to understand and implement ambidextrous strategies amid global disruptions and technological advancements. Geographically, the United States leads academic contributions, followed by the United Kingdom, China, and several European countries. Asian nations, such as India, are

also making substantial contributions, particularly in applying ambidexterity concepts to resource-constrained SMEs in emerging markets.

Using VOSviewer, three key thematic clusters were identified: (1) Performance Outcomes and Managerial Implications, which explores the impact of ambidexterity on firm performance, particularly within SMEs; (2) Strategic Processes and Theoretical Frameworks, focusing on the balance between exploration and exploitation; and (3) Methodological and Practical Contributions, emphasizing actionable insights and conceptual clarity. However, research gaps remain, particularly regarding the role of dynamic capabilities in supporting ambidexterity and its application in SMEs operating across diverse organizational and market contexts.

This study recommends developing a more comprehensive theoretical framework integrating exploration, exploitation, and dynamic capabilities to provide valuable guidance for both academic inquiry and practical application. Future research should focus on underexplored areas, such as the operationalization of ambidexterity in SMEs, to better understand how these organizations can leverage dual strategies for sustained competitiveness and innovation. These findings serve as a foundation for policymakers, practitioners, and academics to design adaptive strategies, enhance organizational resilience, and contribute to the broader discourse on sustainable business practices.

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