

# Financial management practices and SME performance (2001–2023): a systematic mapping through bibliometric analysis

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## Abstract

Research on financial management practices and performance of small and medium enterprises has experienced significant growth, with an annual publication increase of 14.61% over the past two decades. This study presents a comprehensive bibliometric analysis of 247 peer reviewed publications indexed in the Web of Science database, spanning the period from 2001 to 2023. The objective is to map publication trends, identify influential research constituents, examine collaboration networks, and highlight future research opportunities in the domains of financial management practices and small and medium enterprise performance. Through co-occurrence and co-citation analyses, the study identifies major research clusters centred on performance measurement, financial reporting, innovation, and sustainability. Notably, there is an increasing integration of non-financial dimensions such as corporate social responsibility and environmental sustainability into traditional financial performance metrics. Spain, Malaysia, and China emerge as key contributors to scholarly output and collaboration. Future research directions include the development of industry specific financial management practices frameworks, a deeper exploration of financial technology applications, and bridging the gap between academic theory and the practice of small and medium enterprises. This review contributes to a clearer understanding of the evolving intellectual landscape and provides a valuable reference point for scholars, policymakers, and practitioners supporting small and medium enterprises.

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## 1. Introduction

Around the world, it has been documented that small and medium enterprises (SMEs) are the backbone of many economies by driving growth, sparking new ideas, and providing jobs for millions [Organisation for Economic Co-operation and Development (OECD), 2024]. But to handle tricky markets and keep going strong, they need solid financial health above all else (Lema & Ndyetabula, 2018; Manzoor et al., 2021). That is where financial management practices (FMPs) come in as a game changer. These practices give SMEs the know how to make wise financial decisions, use resources effectively, and avoid risks (Zada et al., 2021). Practices such as budgeting, reporting finances, managing cash flow, planning major investments, and handling day to day working capital, are key to making smart choices and staying long term (Mang'ana et al., 2023; Zada et al., 2021). Essentially, FMPs serve as a compass in turbulent financial waters. Banking and drawing on the resource-based view which was proposed by Barney (1991), these unique skills or practices are seen to enable SMEs to stand out and stay ahead, particularly when resources are scarce (Tharmini & Lakshan, 2021). Therefore, getting FMPs right enables SMEs to invest confidently, withstand economic fluctuations, and grow steadily (Mang'ana et al., 2023, 2024a).

A growing body of literature has reflected an increased scholarly interest in this domain (Ali & Isak, 2019; Otoo, 2024), despite that the field continues to evolve rapidly, the situation seems to be creating a persistent need for research that aligns with the dynamic nature of FMPs, the adaptive capacity of SMEs, and shifting global market conditions. Operationalising the core concepts, FMPs includes the strategic and tactical methodologies organisations employ to optimize the allocation and control of financial resources (Wolmarans & Meintjes, 2015), and SME performance, constitutes constructs that are reflecting the efficacy and efficiency with which strategic objectives are attained (Butt et al., 2010). Contemporary scholars have been advocating for a more holistic view with an expanded perspective that integrates non-financial indicators, including organisational innovation, market positioning, and corporate social responsibility engagements, as critical components of SMEs success while traditional appraisal frameworks have prioritised mainly financial metrics such as profitability and liquidity (Hernández-Linares et al., 2021; Otoo, 2024).

Empirical research studies on FMPs and SMEs performance have established a positive correlation between the adoption of sound FMPs and enhanced financial performance (Ali & Isak, 2019; Mang'ana et al., 2023; 2024b; Otoo, 2024; Waweru, 2014). Musah et al. (2018) in their study show that SMEs that are implementing structured budgeting and financial planning consistently are likely to achieve superior profitability and more effective cash flow management. Notable similar findings from proper working capital management in optimising resource allocation and reducing financial exposure. The influence of FMPs extends to the critical area of external financing. Research by Lubawa et al. (2018) further shows that obstacles such as insufficient financial track records and heightened risk perceptions constrain SMEs' access to capital.

Practices such as working capital management, capital budgeting, financing, financial planning and control are considered essential for financial stability and growth (Chisiri & Manzini, 2021; Sensini, 2020; Tharmini & Lakshan, 2021). Despite extensive literature on FMPs for SMEs, a clear understanding of their impact on performance remains elusive. Much research depends on statistical techniques to analyse the link between specific practices and performance outcomes. However, recent studies have gone beyond the balance sheet to explore a broader range of factors affecting SME performance. This calls for an alternative approach to understanding the complex relationship between FMPs and SME success (Kiyabo & Isaga, 2019; Otoo, 2024; Popa et al., 2017).

Unlike traditional narrative reviews, bibliometric methods such as performance analysis, co-occurrence, and co-citation mapping offer visual and quantitative insights into how a research field develops and evolves over time, providing researchers with a powerful tool to understand the progression of a field, identify influential contributors, and uncover emerging themes. In this context, this study leverages the strengths of the Web of Science (WoS), a large database of scholarly publications, to analyse a substantial collection of research articles from 2001 to 2023. Using an approach that includes co-occurrence and co-citation analysis, the study aims to address the following key research questions (RQs).

**RQ1.** How have publications and citations in FMPs and SME performance evolved over the study period?

**RQ2.** Who are the most influential authors, documents, sources, institutions, and countries shaping the conversation in this field?

**RQ3.** What are the key thematic clusters and specific knowledge gaps revealed through bibliometric analysis?

The analysis of publication and citation trends will reveal the level of research interest in this field and potentially identify periods of significant growth or shifts in focus within the research community (Donthu et al., 2021). Additionally, by pinpointing influential authors, documents, sources, institutions, and countries, the study will shed light on intellectual leadership and potential areas for international collaboration. Finally, by identifying emerging themes and knowledge gaps, the study will light promising avenues for future research endeavours, paving the way for a deeper understanding of how FMPs influence SME performance and contribute to the development of effective strategies for long-term SME success.

## 2. Methodology

The present study adopts a bibliometric framework to map and synthesize existing research on FMPs and their influence on SME performance. Bibliometric analysis applies quantitative techniques to publication metadata, enabling a transparent and reproducible review of the literature.

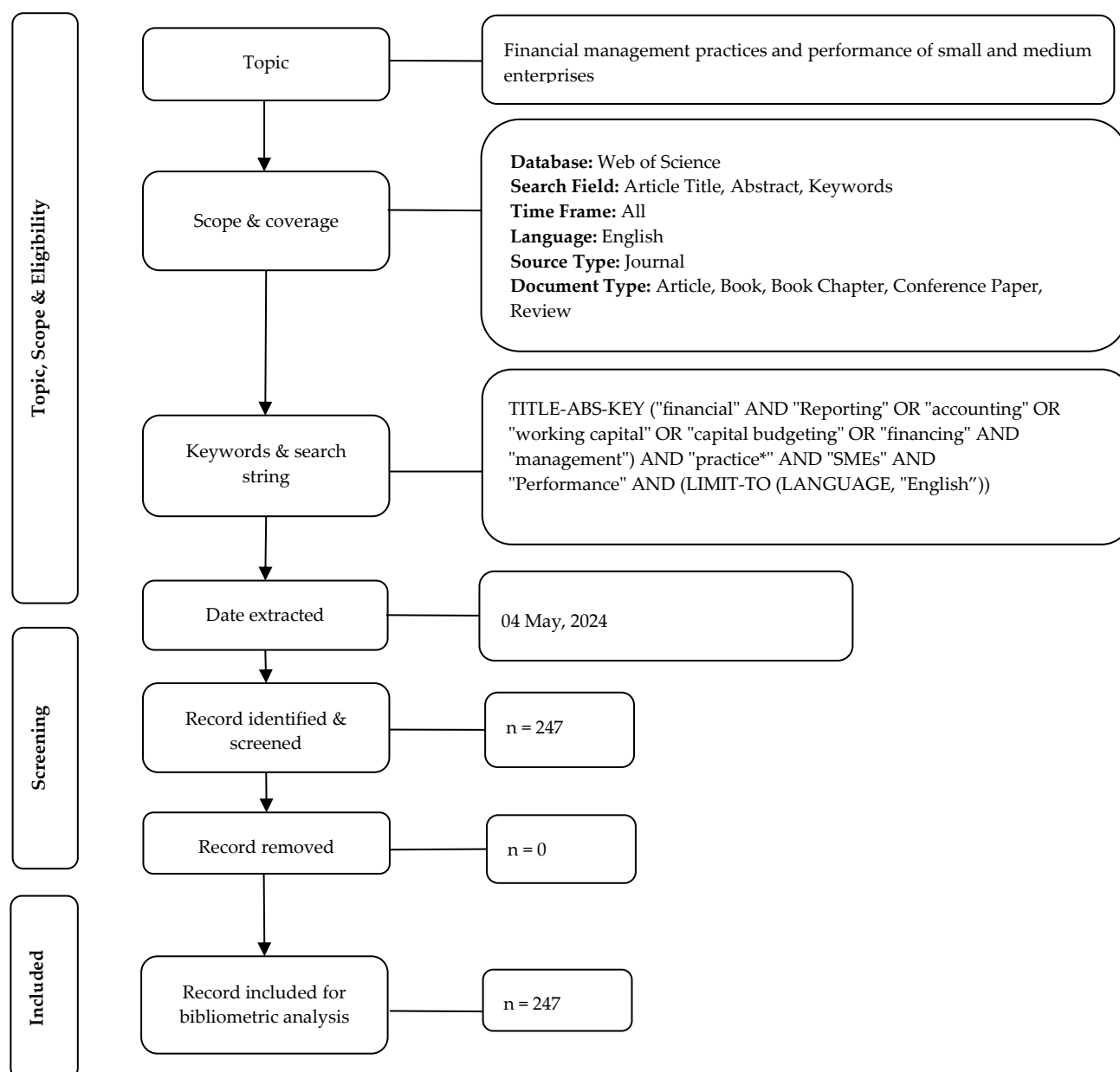
### 2.1 Data collection and extraction

Data were extracted in May, 2024, covering the period from 2001 to 2023. The WoS database, which is being maintained by Clarivate Analytics, was employed as the primary data source. WoS was sought as feasible data source due to its extensive coverage of multidisciplinary studies and widely regarded as a leading platform for bibliometric research in management and organisational studies thereby ensuring representativeness and accessibility. WoS provides comprehensive access to publications across diverse disciplines and formats (Fang et al., 2018; Govaerts et al., 2021). The search string was refined to ensure the retrieval of relevant publications.

Search String: TITLE-ABS-KEY ("financial" AND "reporting" OR "accounting" OR "working capital" OR "capital budgeting" OR "financing" AND "management") AND "practice\*" AND "SMEs" AND "Performance" AND (LIMIT-TO (LANGUAGE, "English")).

This search string integrates keywords associated with FMPs, SME identifiers, and performance indicators as it can be observed above. The initial screening focused on titles, with all document types subjected to detailed evaluation, yielding 252 records, and thereafter, subsequent filtering by language (English) resulted in a reduction of the dataset to 247 records, with search parameters refined iteratively based on output analysis (see Figure 1). The adoption of bibliometric methods is justified by their capacity to discern research trends, intellectual structures, thematic evolutions,

and collaborative patterns over time, offering a robust alternative to traditional narrative or meta analytic reviews for synthesising diverse literature on FMPs and SME performance (Donthu et al., 2021).



**Figure 1.** Flow diagram of the search strategy

**Source:** Figure by the author

## 2.2 Data analysis

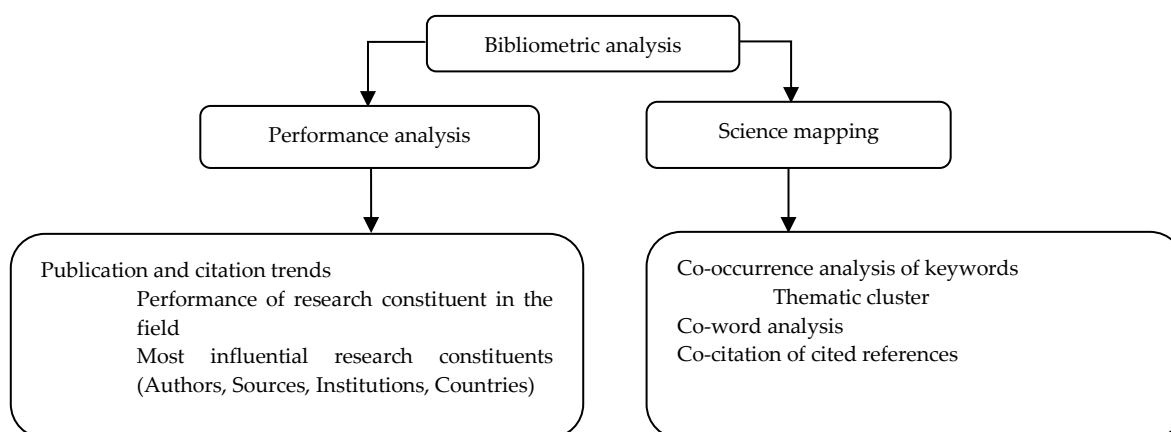
The analysis was conducted in two key stages (see Figure 2).

1. **Performance Analysis:** This stage focused on characterising the overall publication trends within the dataset. Bibliometric metrics were employed to analyse publication volume, citation counts, authorship patterns, publication outlets (journals), and institutional affiliations (Donthu et al., 2021). These measures identified the most prolific authors, impactful journals, and prominent research institutions that contribute to FMPs and SME performance studies.

2. **Science Mapping:** This stage delved deeper into the intellectual structure and relationships within the research domain. Network analysis techniques, such as co-occurrence analysis and co-citation analysis (Donthu et al., 2021), were utilised. Co-occurrence analysis explored the frequent co-appearance of keywords within the publications, revealing the thematic foci and emerging trends within the field. Co-citation analysis examined the relationships between cited references across publications, uncovering the intellectual foundation and theoretical frameworks underpinning the research on FMPs and SME performance.

These stages in the analysis process directly align with the research objectives, where performance analysis addresses RQ1 and RQ2 by measuring productivity and influence, while science mapping supports RQ3 by identifying thematic clusters and knowledge gaps. Again, this alignment ensures consistency with the methodology that has been used.

The analysis and visualisation of bibliometric data relied on R software, a widely recognised open source platform for statistical computing and graphical representation (Donthu et al., 2021). Within this environment, Bibliometrix was selected for its specialised capabilities in bibliometric analysis. For science mapping and performance evaluation, Biblioshiny which is a web-based interface for Bibliometrix was employed, offering an accessible platform to leverage its advanced functionalities (Aria & Cuccurullo, 2017). The use of R and Bibliometrix enhances reproducibility and transparency, critical attributes in modern research synthesis. Alternative tools, such as VOSviewer, exist for similar purposes; however, the selection of R, Bibliometrix, and Biblioshiny was deemed optimal for this investigation.



**Figure 2.** Bibliometric analysis tools

Source: Figure by the author

### 3. Results and discussion

#### 3.1 Bibliometric analysis

The bibliometric analysis was aided by the biblioshiny, an R software package. This analysis explored research on FMPs and SME performance over a substantial period, spanning 2001 to 2023 (Table 1). The analysis examined a dataset of 247 documents published across 151 sources, with a notable annual growth rate of 14.61%. The average document age of 4.22 years indicates a relatively recent and evolving research landscape. Furthermore, the high average citation count of 18.02 per document suggests a significant impact of this research within the field. The analysis investigated 643 keywords identified by the software and 865 author designated keywords, providing a comprehensive overview of the key terminology and themes in this research area.

The analysis was divided into performance analysis and science mapping. The study first conducted a performance analysis to describe the publication and citation trends (RQ1) and further identify the most influential documents, sources, authors, institutions, and countries in the field of FMPs and SME performance (RQ2). Later, the science mapping technique was applied to map the relationship between research constituents through the use of authors' keywords, co-occurrence analysis, and cited reference co-citation analysis to explore main research topic, network collaboration and emerging future research opportunities.

**Table 1.** Overview of main information

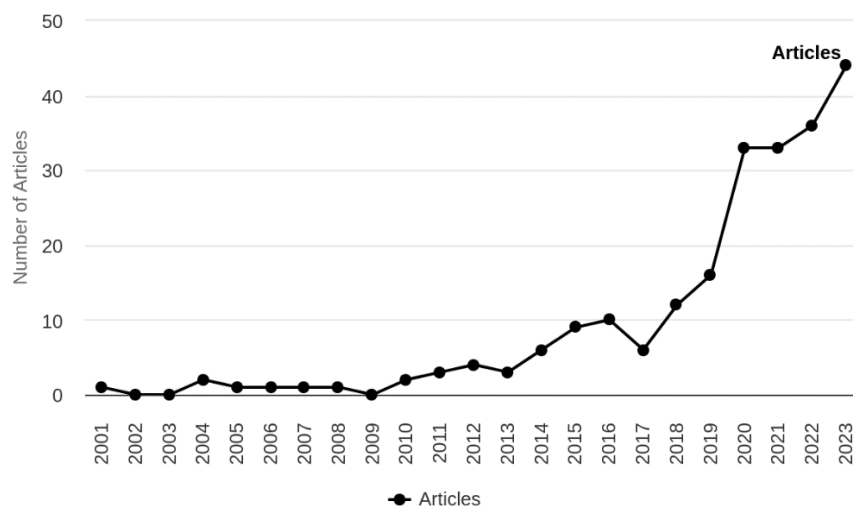
Description	Results
<i>Main information about data</i>	
Timespan	2001-2023
Sources (journals, books, etc)	151
Documents	247
Annual growth rate %	14.61
Document average age	4.22
Average citations per doc	18.02
References	16076
<i>Document contents</i>	
Keywords plus (ID)	643

Description	Results
Author's keywords (DE)	865
<i>Authors</i>	
Authors	716
Authors of single-authored docs	12
<i>Authors collaboration</i>	
Single-authored docs	13
Co-authors per doc	3.22
International co-authorships %	38.06
<i>Document types</i>	
Article	185
Article; early access	14
Proceedings paper	34
Review	12
Review; early access	2

**Source:** Table by the author

### 3.2 Publication and citation trends

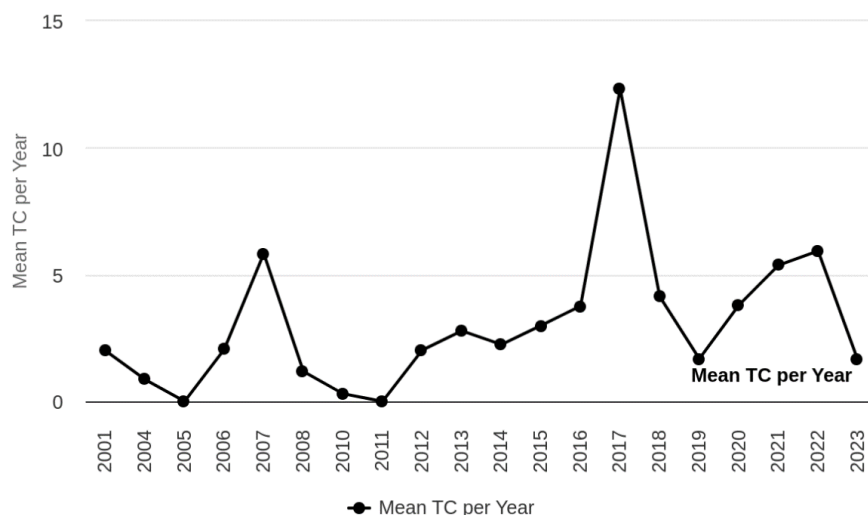
The data (Figure 3, Figure 4, and Table 2) below reflects how research in FMPs and SME performance has evolved over time. Starting from just one publication in 2001, interest gradually grew, with more documents published each year. Notably, there was a big rise in publications around 2020 and 2021, with 33 documents each year. Particularly, from 2015 onwards, there is a consistent upward trend in both the number of publications and mean total citations per year. The year 2023 witnessed a continuation of the trend observed in previous years, with 44 documents published. This peak suggests a period of heightened research activity and impact within the field. However, it's essential to note that while publication counts continued to fluctuate, citation rates exhibit a slight decline in the following years, dropping to 1.6 in 2023. This growth corresponds to rising academic and practical interest in improving SME resilience and financial governance post-COVID-19, aligning the data with broader global dynamics. Alongside this increase in publications and the fluctuating number of citations per year, the trend is showing that more people were paying attention to this research. This suggests that the topic of FMPs and SME performance is becoming more important in the academic world, and researchers are keen to explore it further.



**Figure 3.** Annual scientific publication trend

**Source:** Figure by the author





**Figure 4.** Average citation trend

Source: Figure by the author

Furthermore, the analysis reveals a fluctuating trend in annual citation rates (Table 2). In 2001, a notable average of 48 citations per article was observed, indicating early recognition and interest in the research domain. However, 2005 saw no citations for the lone article published, reflecting a period of reduced impact. The subsequent years demonstrated varying levels of productivity and citation impact, with peaks and troughs evident. For instance, 2007 stood out with a remarkable average of 105 citations per article, suggesting heightened recognition and engagement in the field. Conversely, 2019 experienced a dip in citation rates, with an average of only 10.06 citations per article. Notably, while 2020 saw an increase in the number of articles published, the average citation rate remained moderate at 19.00 citations per article.

**Table 2.** Annual total citations per year (2001-2023)

Year	MeanTCperArt	N	MeanTCperYear	CitableYears
2001	48.00	1	2.00	24
2004	18.00	2	0.86	21
2005	0.00	1	0.00	20
2006	39.00	1	2.05	19
2007	105.00	1	5.83	18
2008	20.00	1	1.18	17
2010	4.50	2	0.30	15
2011	0.00	3	0.00	14
2012	26.25	4	2.02	13
2013	33.33	3	2.78	12
2014	24.67	6	2.24	11
2015	29.89	9	2.99	10
2016	33.80	10	3.76	9
2017	98.67	6	12.33	8
2018	28.92	12	4.13	7
2019	10.06	16	1.68	6
2020	19.00	33	3.80	5
2021	21.48	33	5.37	4
2022	17.78	36	5.93	3
2023	3.27	44	1.64	2

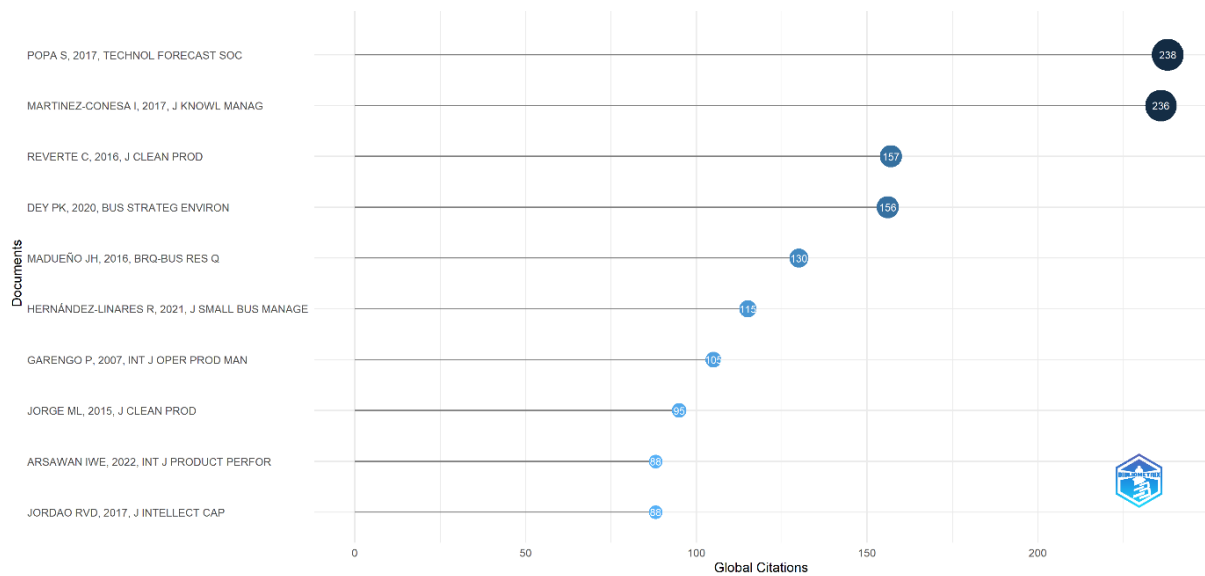
Notes: N=number of publications, MeanTCart=average total citations per article, MeanTCperYear=average total citations per year

Source: Table by the author

### 3.3 Most influential documents in FMPs and SMEs performance research

Research on the performance of SMEs and the practices central to FMPs has been significantly advanced by several influential documents, as evidenced by their substantial citation counts (Table 3, Figure 5). Notably, Popa et al. , (2017) empirically analyse the antecedents, moderators, and outcomes of innovation climate and open innovation in SMEs,

earning 238 citations and providing valuable insights into the mechanisms shaping innovation processes. This study not only stresses the importance of innovation climate but also highlights how effective FMPs can facilitate and optimize the outcomes of innovation initiatives within SMEs, thus directly impacting their overall performance.



**Figure 5.** Most cited documents

Source: Figure by the author

**Table 3.** Most influential documents

Title	Authors	Total citations
• Antecedents, moderators, and outcomes of innovation climate and open innovation: An empirical study in SMEs.	Popa et al. (2017)	238
• On the path towards open innovation: assessing the role of knowledge management capability and environmental dynamism in SMEs.	Martinez-Conesa et al. (2017)	236
• The influence of corporate social responsibility practices on organizational performance: evidence from Eco-Responsible Spanish firms.	Reverte et al. (2016)	157
• Circular economy to enhance sustainability of small and medium-sized enterprises.	Dey et al. (2020)	156
• Relationship between corporate social responsibility and competitive performance in Spanish SMEs: Empirical evidence from a stakeholders' perspective.	Madueño et al. (2016)	130
• Dynamic capabilities and SME performance: The moderating effect of market orientation.	Hernández-Linares et al. (2021)	115
• Towards a contingency approach to performance measurement: an empirical study in Scottish SMEs.	Garengo and Bititci (2007)	105
• Competitiveness and environmental performance in Spanish small and medium enterprises: is there a direct link?	Jorge et al. (2015)	95
• Leveraging knowledge sharing and innovation culture into SMEs sustainable competitive advantage.	Arsawan et al. (2022)	88
• Knowledge management and intellectual capital in networks of small- and medium-sized enterprises.	Jordão and Novas (2017)	88

Source: Table by the author

The analysis shows that, Martinez-Conesa et al. (2017) contributed to 236 citations by exploring the role of knowledge management capability and environmental dynamism in fostering open innovation, shedding light on the integrative dynamics of innovation in SMEs, which are closely intertwined with their FMPs within the field and therefore this implies that FMPs form part of the enabling environment for innovation to take root and thrive in SMEs development. Moreover, Reverte et al. (2016) examine the influence of corporate social responsibility practices on

organisational performance, accumulating 157 citations and emphasising the mediating role of innovation in enhancing performance outcomes. Their findings suggest that integrating responsible FMPs can not only improve organisational reputation but also drive innovation, ultimately contributing to better overall performance in SMEs.

In addition to innovation, as it has been observed, sustainability also emerged as a key area intersecting with FMPs, Dey et al. (2020) examined the potential of the circular economy to enhance sustainability in SMEs, and their work accrued 156 citations, addressing critical issues and strategies for its implementation. Although the main focus of the study is on circular economy principles, the findings imply and call for the necessity for SMEs to adopt forward-looking financial practices such as life cycle budgeting or cost saving investments that align with sustainability goals within the context, since their research stresses on the importance of integrating sustainable FMPs into SMEs' operations, aligning with circular economy principles to drive long term financial stability and resilience. Furthermore, in Spanish SMEs, Madueño et al. (2016) and Jorge et al., (2015) investigated the relationship between corporate social responsibility, competitiveness, and environmental performance with 130 and 95 citations respectively, offering empirical evidence and theoretical insights into the complex dynamics shaping organisational performance. Their findings suggest avenues for SMEs to integrate sustainable financial practices into their operations to enhance the competitiveness by emphasising the interconnectedness of social responsibility initiatives, environmental performance and FMPs.

### 3.4 Most influential sources in FMPs and SMEs performance research

To identify the most authoritative publication outlets within the field, a source impact analysis was conducted using key bibliometric indicators. These include the h-index (a measure of productivity and citation impact), g-index (which gives more weight to highly cited papers), m-index (which normalizes the h-index by the number of years since the first publication), total citations, and the number of publications. This directly addresses RQ2, which seeks to establish which journals and sources have shaped the discourse in this domain.

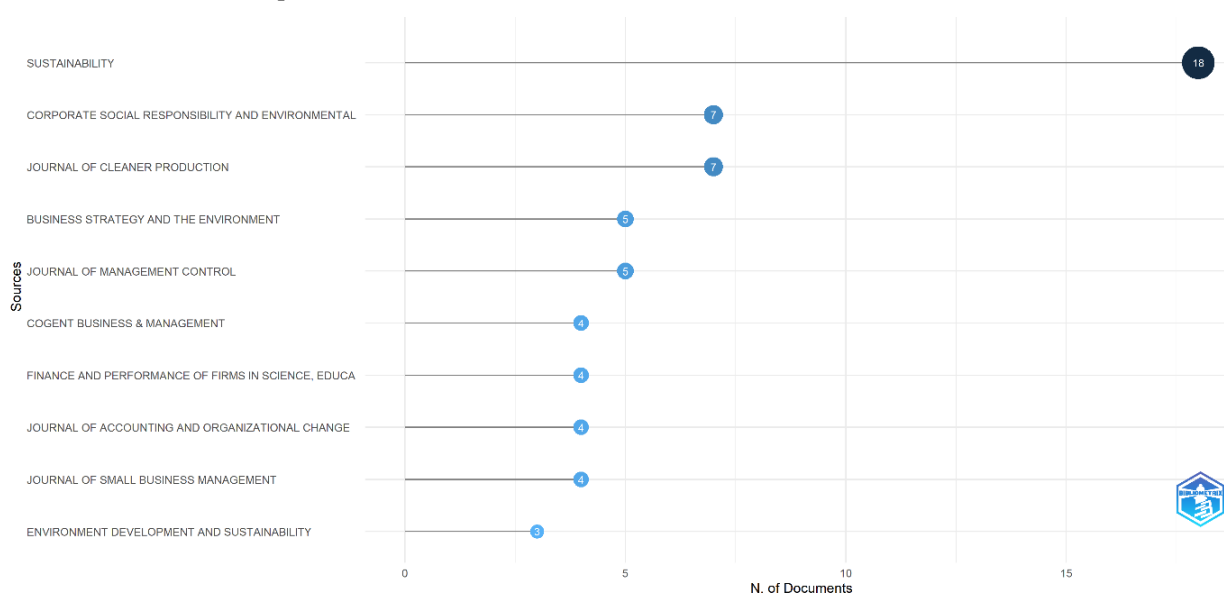


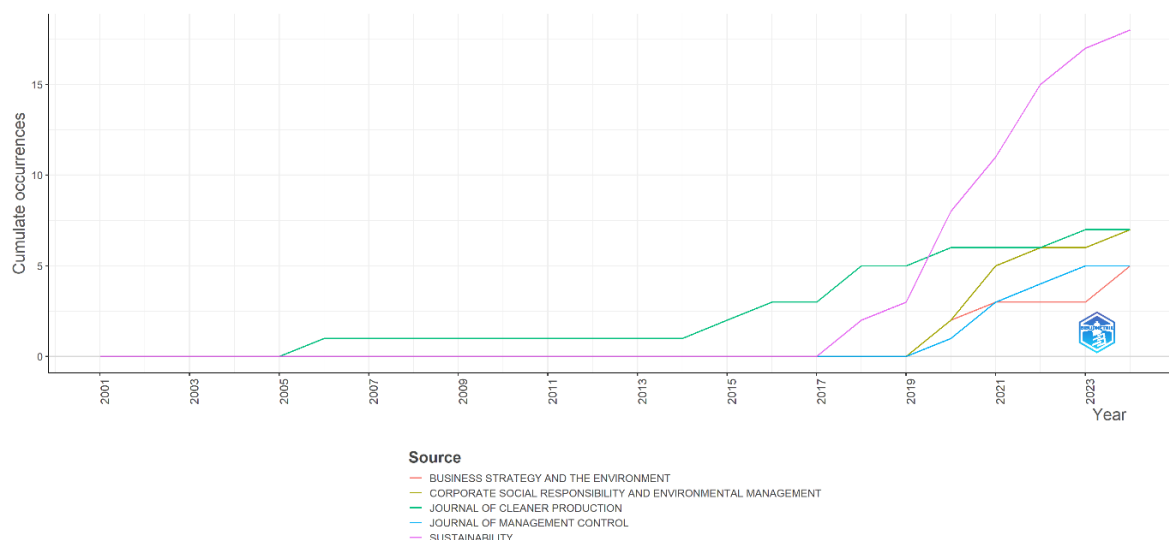
Figure 6. Most influential sources

Source: Figure by the author

The analysis reveals a diversified landscape with a predominant focus on sustainability related topics (Figure 6). *Sustainability* emerges as the most influential journal, with 18 articles, accounting for the largest share of the total articles analysed. Other prominent journals such as *Corporate Social Responsibility and Environmental Management* and *Journal of Cleaner Production* each contribute 7 articles, while *Business Strategy and the Environment* and *Journal of Management Control* each contribute 5 articles. Journals like *Cogent Business & Management* and *Finance and Performance of Firms in Science, Education, and Practice* each contribute 4 articles, while *Journal of Accounting and Organizational Change* and *Journal of Small Business Management* each contribute 4 articles. The inclusion of journals focusing on accounting and organisational change highlights the significance of financial and structural aspects in analysing the performance dynamics of FMPs and SMEs. These findings highlight the depth and breadth of efforts in research that has been dedicated towards understanding and enhancing the performance of SMEs and FMPs, while also signalling potential areas for further exploration and integration, such as the role of sustainability, strategic management, and organisational dynamics in driving business success. Furthermore, Figure 7 presents the analysis of documents published per year by source type. It reveals that the *Journal of Management Control*, *Sustainability*, *Business Strategy and Environment*, *Corporate*



*Social Responsibility and Environmental Management*, and *Journal of Cleaner Production* are prominent journals in the field of FMPs and SMEs. The appearance of multidisciplinary journals reflects the expanding scope of research related to FMPs, incorporating innovation management, corporate governance, and strategic finance perspectives.



**Figure 7.** Sources growth cumulative occurrence

Source: Figure by the author

### 3.5 Most influential institutions, authors, and countries in FMPs and SMEs performance research

Universities have been the most consistent platforms to promote and support research (Table 4). The University of Murcia emerges as the leading institution, with a total of 16 publications, indicating a substantial research focus and expertise in FMPs and SMEs performance, followed by *Universidad de Extremadura* and *Universidad Politecnica de Cartagena*, contributing 11 articles combined. This concentration of research output among specific institutions suggests a potential clustering of expertise and resources in particular geographic regions, shaping the trajectory of research in this field. These universities have contributed extensively to topics such as open innovation, corporate social responsibility, and integrated performance metrics thus broadening the traditional focus on finance to include strategic and social dimensions.

**Table 4.** Most relevant affiliations

Affiliation	Articles
University of Murcia	16
Universidad De Extremadura	11
Universidad Politecnica De Cartagena	6
Melbourne Genomics Health Alliance	5
Universidad Politecnica De Cartagena	5
Universiti Teknologi Mara	5
King Faisal University	4
Solent University	4

Source: Table by the author

Among individual authors, Gallardo-Vázquez D. and Santos-Jaén J.M. stand out as the most prolific contributors, with 5 articles each. Their consistent publication output emphasises their substantial impact on the scholarly discourse surrounding FMPs and SMEs performance. Additionally, García-Pérez-de-Lema D., Jorge M.L., and Madueño J.H. make significant contributions, with each author having authored 4 articles. These authors play a crucial role in advancing knowledge and understanding within the field, shaping research agendas and driving innovation (Table 5).

**Table 5.** Most influential authors

Authors	Articles	Articles fractionalised
Gallardo-Vázquez, D.	5	1.75
Santos-Jaén, J.M.	5	1.37
García-Pérez-De-Lema, D.	4	1.50
Jorge, M.L.	4	1.08
Madueño, J.H.	4	1.08
Martínez-Martínez, D.	4	1.00
Nguyen, N.P.	4	2.00
Adomako, S.	3	1.50
Auzair, S.M.	3	0.92
Chien, F.S.	3	0.70

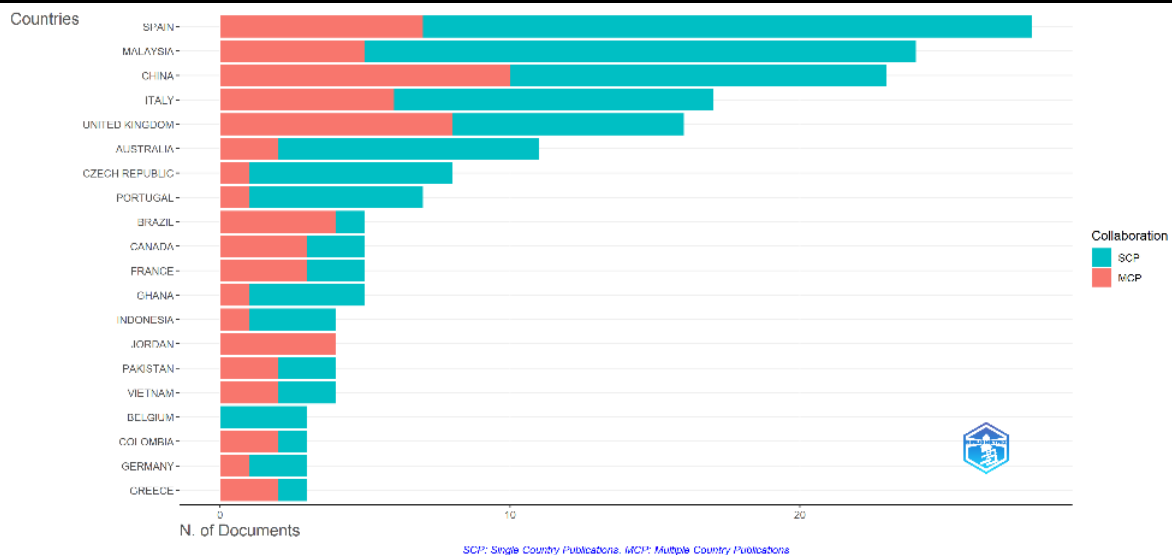
**Source:** Table by the author

Table 6 represents the list of most pertinent authors contributed by countries of corresponding writers, which means articles have been published in Single country publications (SCP) and Multiple Country Publications (MCP). The results of biblioshiny (Figure 8) indicate that Spain was the most cited country in terms of the number of articles with corresponding authors affiliated with institutions in the country, with 28 articles contributing. Malaysia and China closely follow with 24 and 23 articles, respectively, reflecting significant global participation in FMPs and SMEs performance research. Italy and the United Kingdom also make notable contributions with 17 and 16 articles, respectively. Notably, based on the graphical representation, we can observe that the overall trend productivity growth rate for publications by single country publications is higher. These statistics highlight the international nature of research collaboration and knowledge dissemination in this field, showcasing diverse perspectives and approaches across different regions. The presence of both developed and developing economies among top contributors highlights the global relevance of the FMP-SME performance relationship, while also encouraging more context sensitive comparative studies in future research.

**Table 6.** Most relevant countries by corresponding authors

Country	Articles	SCP	MCP
Spain	28	21	7
Malaysia	24	19	5
China	23	13	10
Italy	17	11	6
United Kingdom	16	8	8
Australia	11	9	2
Czech Republic	8	7	1
Portugal	7	6	1
Brazil	5	1	4
Canada	5	2	3

**Note(s):** SCP stands for single country publications, and MCP stands for multiple country publications**Source:** Table by the author



Note(s): SCP id for single country publications, and MCP stands for multiple country publications

**Figure 8.** Author's countries

Source: Figure by the author

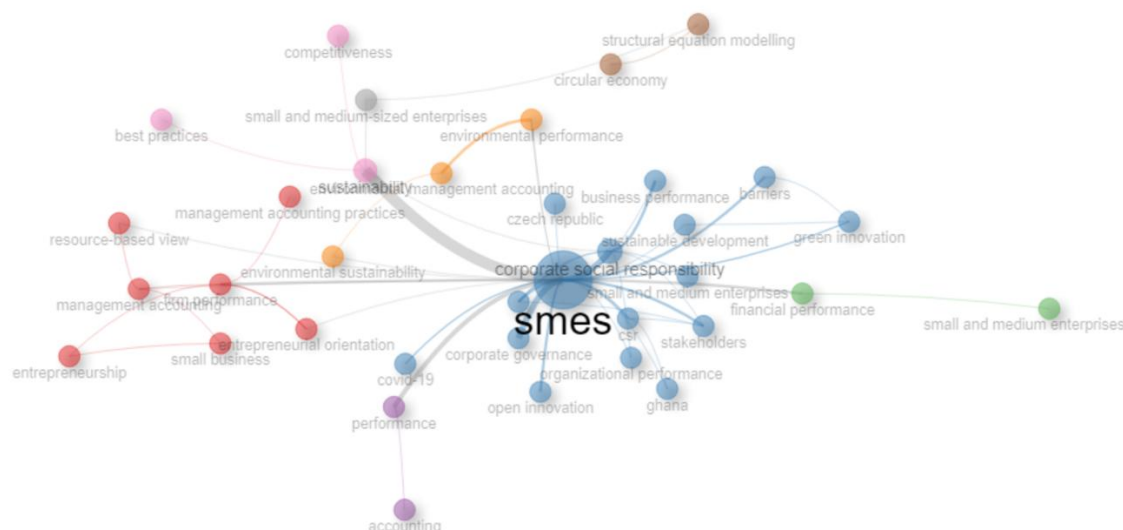
This analysis provides quantitative insights into the key players and dynamics shaping research within this domain, therefore offering opportunities for knowledge dissemination, collaboration and further exploration of research avenues. The prolific output of authors like Gallardo-Vázquez, D. and Santos-Jaén, J.M. stresses the importance of individual expertise and contribution to advancing knowledge and understanding in FMPs and SMEs performance research. Relative to corresponding authors countries, the prominence of countries such as China, Malaysia and Spain as leading countries further show the global nature and pattern of knowledge exchange and research collaboration in this field. This highlights the diverse perspectives and approaches to addressing research questions and challenges. The existence of the institutions dominating the field of research such as *the University of Murcia and Universidad de Extremadura* suggests and shows the concentration of expertise and resources in specific geographic regions, which potentially influences the direction and focus of research.

### 3.6 Co-occurrence analysis

Researchers and scholars more often seem to rely on keywords to identify the main themes, topics, and methods within a field (Huang et al., 2020). In this study, co-occurrence network analysis was used to observe how keywords cluster together in research on FMPs and SMEs, revealing the overall intellectual structure of the field. Co-occurrence describes and illustrates how frequently two or more keywords appear together in the same publication, and when visualised, this relationship forms a network map that shows the proximity of different research concepts (Huang et al., 2020).

### 3.7 Central themes and emerging areas in FMPs and SMEs performance

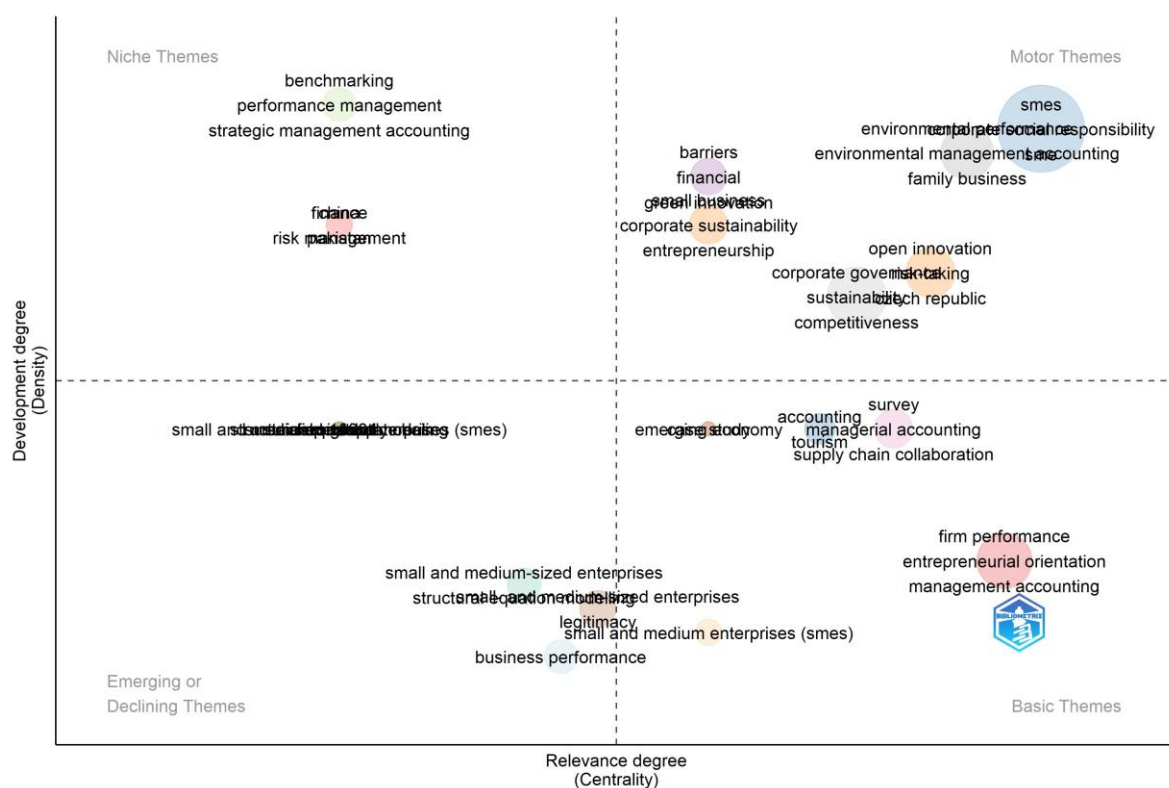
A co-occurrence analysis of author keywords in Figure 9 reveals a network of interconnected concepts related to the performance of FMPs and SMEs. Several sustainability related terms cluster around the centre, including "environmental performance," "environmental management accounting," "corporate social responsibility," and "green innovation." At the centre is "SME performance," emphasising the main research focus. This central position indicates a strong emphasis on environmentally responsible practices alongside financial performance in the research on FMPs and SMEs. Branching outward from this core, these terms frequently appear together, relate to performance measurement and accounting practices. "Financial performance," "business performance," "organisational performance," and "accounting practices" emphasising the importance of financial metrics and accounting in effective FMPs for SMEs. The network also shows links between "open innovation" and "entrepreneurial orientation" with SME performance, suggesting a potential research area on how open innovation practices affect SME performance. Additionally, the presence of "resource-based view," "stakeholders," and "best practices" points to a broader range of research interests within FMPs and SMEs, including stakeholder theory and best practice identification.



**Figure 9.** Co-occurrence network of authors' keywords

Source: Figure by the author

The thematic analysis of the co-occurrence network, as shown in Figure 10, enhanced the analysis by visually illustrating the relationships between different research themes. It also identified distinct quadrants. The “emerging” quadrant shows “structural equation modeling (SEM)” as a potential future research methodological direction that is expected to provide a powerful tool to explore causal relationships between variables. Again, the analysis shows that, the “niche” quadrant highlights specific areas, such as “strategic management accounting” and “risk management,” suggesting possible applications within the broader field. Lastly, the “motor” quadrant contains well established research areas such as “barriers or challenges to SMEs,” “open innovation,” and “environmental management accounting practices,” reflecting core topics within FMPs and SMEs.



**Figure 10.** Thematic map analysis

Source: Figure by the author

The analysis of keywords used in research articles reveals promising future paths for understanding how SMEs can succeed. The connection between sustainability and FMPs raises questions about assessing environmental impact and the financial feasibility of green practices for SMEs. Open innovation's connection to performance suggests research into

effective open innovation models for SMEs and how FMPs can foster knowledge sharing for collaboration. Performance measurement could benefit from industry-specific metrics and the integration of non-financial measures for a more holistic view. Stakeholder engagement could be explored by designing FMPs that integrate stakeholder needs and align with social responsibility practices. Finally, leveraging SEM would be instrumental in testing the causal relationships between these emerging themes and SME performance, offering a deeper understanding of the complex interplay within this evolving research field (Figure 10).

### 3.8. Co-word analysis

The analysis of keywords from Bibliometrix supports the findings from the co-occurrence analysis. A focus on sustainability emerges with terms like “sustainability,” “environmental performance,” and “corporate social responsibility” highlighting a shift towards broader success measures. Furthermore, “financing,” “capital budgeting,” and industry specific examples suggest continued concerns about access to capital for SMEs. The presence of “management accounting,” “open innovation,” and “SMEs” indicates a growing interest in integrating FMPs with broader management strategies and fostering innovation for SME growth. Finally, the presence of keyword “survey” indicates a growing use of empirical research methods to assess FMP practices and “intellectual capital” suggests a potential interest in exploring the intangible assets and knowledge resources that contribute to SME performance, alongside traditional financial metrics (Figure 11).



**Figure 11.** Most frequent authors keywords based on the word cloud analysis

Source: Figure by the author

### 3.9 Co-citation analysis

Co-citation analysis which is a science mapping technique was carried out with the assumption that articles cited together frequently will have similar themes and therefore leading to the discovery of the thematic cluster in the research field based on the cited publications (Donthu et al., 2021). The co-citation network presented in Figure 12, supported by the centrality values in Table 7, reveals several interconnected streams of scholarship that collectively shape research on FMPs and SME performance.

The first noticeable grouping (represented by the *red cluster* in Figure 12) is composed of works associated with corporate social responsibility, stakeholder engagement, and sustainability-oriented performance outcomes. Authors such as Gadenne et al. (2009), Orlitzky et al. (2003), Perrini et al. (2007) and Turker (2009) appear prominently in this cluster. Their co-citation suggests that SME performance is increasingly conceptualized beyond purely financial indicators and now incorporates social legitimacy, environmental responsibility, and broader stakeholder expectations. This reflects a shift in how performance is understood within the SME context.

A second major grouping (shown in the *green cluster*) includes widely cited methodological and strategic management literature. This cluster integrates foundational works related to measurement reliability and structural equation modeling, particularly those associated with PLS-SEM (Fornell & Larcker, 1981; Hair et al., 2017, 2019; Henseler et al., 2009, 2015, 2016; Leguina, 2015). Within this cluster, Barney (1991) also appears, indicating that the resource-based view (RBV) constitutes the dominant theoretical foundation underpinning empirical analyses in this research domain. This suggests that studies of FMPs and SME performance generally explain performance outcomes through internal capabilities and evaluate them using structured modeling approaches.

Additional clusters further emphasize the operational dimension of financial management in SMEs. The *purple cluster* includes contributions such as Chenhall (2003) and López and Hiebl (2015), which are concerned with management control systems, organisational processes, and governance mechanisms that facilitate the implementation and monitoring of financial practices. Meanwhile, the *blue cluster* incorporates studies by Davila (2005) and Marriott (2000), representing work on management accounting routines, budgeting, and cost practices that guide day-to-day financial decision making within SMEs.



**Table 7.** Co-citation analysis based on centrality measures

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Node	Cluster	Betweenness	Closeness	PageRank
henseler j 2015	3	29.344	0.010	0.034
cohen j. 1988	3	4.875	0.009	0.029
chin ww 1998	3	41.704	0.010	0.024
hair jf 2019	3	0.000	0.007	0.020
henseler j 2016	3	76.225	0.010	0.028
chin w. 2009	3	23.554	0.009	0.026
hair jf 2013	3	1.000	0.007	0.024
martinez-conesa i 2017	3	25.866	0.009	0.019
Podsakoff pm 1986	3	0.000	0.007	0.012
chin ww 1998-2	3	17.022	0.009	0.025
dimaggio pj 2000	3	0.000	0.003	0.006
falk rf. 1992	3	31.322	0.010	0.022
jensen mc 1976	3	0.199	0.007	0.006
eisenhardt km 1989	3	0.000	0.003	0.006
kline r.b. 2011	3	0.580	0.008	0.015
kock n 2015	3	0.457	0.007	0.016
madrid-guijarro a 2009	3	0.000	0.006	0.007
armstrong js 1977	3	0.000	0.007	0.011
lópez ol 2015	4	45.094	0.009	0.018
chenhall rh 2003	4	74.122	0.009	0.018

**Source:** Table by the author

#### 4. Conclusion

This bibliometric analysis mapped the intellectual and thematic development of research on FMPs and SME performance between 2001 and 2023. The review study addressed the research objectives, which were to identify key contributors, influential publications, and productive institutions. Through co-authorship and co-citation networks, the study also analysed collaboration and knowledge structure and uncovered emerging research gaps and future directions.

These findings, particularly since 2015, demonstrate an increase in scholarly attention to FMP-SME research, with a notable growth rate of 14.61% in annual publications. The analysis revealed that research is shaped by a combination of core financial themes and cross-cutting areas such as innovation, corporate social responsibility, digital transformation and sustainability. Key contributors include authors like Popa et al. (2017) and institutions such as the University of Murcia, while countries such as Spain, Malaysia, and China lead in output and collaboration. The theoretical frames that were uncovered help to explain how internal capabilities and external stakeholder dynamics shape SME financial behavior. The thematic analysis highlighted a shift from traditional financial practices to more integrative models supported by theories like the resource-based view, dynamic capabilities, and stakeholder theory.

The co-citation analysis revealed four interconnected distinct research clusters, indicating a partial disconnect between empirical work and theoretical grounding. These clusters reflect (i) sustainability and stakeholder-oriented perspectives on performance, (ii) methodological and strategic capability foundations anchored in PLS-SEM and RBV thinking, (iii) management control system design and governance, and (iv) management accounting and costing practices that support day-to-day decision-making. This multidimensional structure suggests that the field is evolving from a narrow efficiency-based understanding of financial practices toward a more integrated view that links financial capabilities with governance structures and broader performance orientations. Addressing this divide is essential to strengthen the field's conceptual coherence and improve the generalizability of findings across regions and contexts. While collaboration is growing, especially among institutions in Europe and Asia, more inclusive engagement particularly from underrepresented regions like Sub-Saharan Africa remains limited.

This study contributes to theory by reinforcing that FMPs are not merely technical tools, but strategic enablers influenced by resource configurations, stakeholder demands, and innovation capabilities. From a policy perspective, the findings point to the need for SME development programs that integrate financial strategy with innovation, sustainability, and digital literacy.

## 5. Limitations and avenues for future research

As a bibliometric review, this study is limited to metadata indexed in the Web of Science and may not capture insights from Scopus or other sources. Additionally, the analysis is reliant on author-supplied keywords and does not evaluate the methodological rigor of individual studies. These limitations restrict the depth of conceptual synthesis but do not diminish the value of the mapping exercise.

There are several promising avenues for future research in FMPs and SMEs' performance. These include integrating sustainability practices into financial management strategies, exploring the potential of financial technology (FinTech) in streamlining financial processes, and bridging the gap between academic research and practical application. Furthermore, leveraging tools like SEM and developing industry specific FMP frameworks tailored to diverse sectors such as agriculture, manufacturing and retail, offer opportunities for deeper insights and tailored guidance for SMEs. These frameworks would provide SMEs with practical guidance that aligns with their specific industry challenges and opportunities.

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