

## A bibliometric exploration of working capital management in SME

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### **Abstract:**

A bibliometric exploration of working Capital Management in SME's abstract this bibliometric study explores the landscape of research on working Capital Management (WCM) in small and medium sized enterprises (SME's). By analyzing publications from major databases, the study identifies key trends prolific authors geographical distribution and thematic evolution within this domain. The results highlight an increasing scholarly interest in WCM practices, their impact on SME profitability, liquidity, and financial resilience, especially under varying economic and external stocks. The study also reveals predominant research topics such as cash conversion cycle, financial constraints, and supply chain finance, while emphasizing emerging areas like sustainability and behavioral biases affecting SME financial management. This exploration provides valuable insights for academics, practitioners, and policymakers aiming to enhance SME financial performance through effective working capital strategies.

### **Keywords:**

Working Capital Management, SME's, bibliometric analysis, cash conversion cycle, financial performance, liquidity, supply chain finance, financial resilience, sustainability, behavioral biases, PRISMA.

### **Introduction**

Working Capital Management (WCM) Introduction working Capital Management (WCM\_ plays a pivotal role in the financial health and sustainability of small and medium sized enterprises (SME's ),which are considered the backbone of many economies worldwide (Mazzarol, 2014), SME's often face challenges in maintaining liquidity and operational efficiency due to constrained access to external finance, making efficient management of current assets and liabilities critical (Tratt, 2024). effective WCM ensures that can meet short-term obligations and optimize cash flow, which directly impacts profitability and business continuity (Khan, Alam & Syed, 2021).

The dynamic economic environment marked recently by disruptions like the COVID-19 pandemic, has heightened the need to examine how SME's manage their working capital during market disturbances and financial uncertainties ( Levgenzova, Lecke & Lupeilyte, 2025; Zimon & Tarighi, 2021). Previous empirical studies suggest that strategic WCM

significantly effects SME profitability across various geographies and industries (Baker, Kumar and Singh, 2019; Garcia-Teruel & Martinez- Solano, 2007).

Despite the increasing volume of research on WCM and SMEs, there remains a lack of comprehensive synthesis of this knowledge. A bibliometric approach provides an objective method to map evolution, collaboration patterns, and thematic developments in this domain, offering valuable insights into research trends, key contributors, and emerging topics (Afrifam 2016; Tran, Abbott & Yap, 2017).

This study leverages Scopus as the data source to conduct a bibliometric analysis covering research publications from 2007 to 2025. The aim is to trace the intellectual structure, identify influential authors and institutions and highlight research gaps to guide future studies in working Capital Management within SMEs.

### **Theoretical Background**

The theoretical underpinnings of working Capital Management (WCM) live primarily in financial management series related to liquidity, profitability, and operational efficiency. At its core, WCM revolves around the management of current assets and liabilities to optimize the cash conversion cycle (CCC) while minimizing financing costs (Karadag, 2018). The tradeoff theory in WCM emphasizes balancing liquidity and profitability risks- excess liquidity may hamper earnings, while insufficient liquidity poses solvency risks (Banos-Caballero, Garica-Teruel & Martinez-Salano, 2021).

In the context of SMEs, which typically face more pronounced financial constraints compared to larger firms, the cash conversion cycle framework helps explain how these firms manage receivables payables, and inventory to sustain their operations (Baker et al., 2019; Saedo & Seerasquerio, 2022). Moreover, the pecking order theory highlights SME's preference for internal funding sources due to market imperfections and information asymmetry (Afrifa et al., 2018).

Recent theoretical advancements also consider the role of behavioral finance and SME decision making. research indicates that cognitive biases and managerial competencies can significantly affect working capital decisions influencing financial outcomes(Kent Baker, Kumar & Singh, 2018; Wong, Holmes & Schaper, 2018). the interplay between financial resilience and working capital strategies has gained attention especially considering global market disturbances (Legenzova et al, 2025).

An integrated view suggests that WCM and SME's must account for environmental factors, such as legal frameworks economic policies, and technological adoption, which shaped the efficacy of financial management practices (motto & Niskanen, 2021; Gill, Kang & Amiraslany, 2023).these multifaceted theoretical perspectives provide a comprehensive understanding of how SME's navigate financial management challenges to achieve sustainable growth.

This bibliometric study aims to illuminate how these theoretical approaches manifest across the body of research, thereby assisting scholars and practitioners in identifying critical knowledge domains and emerging trends SME working Capital Management .

### **Research Mythology**

The narrative synthesis technique was chosen for the study to comprehensively freight and provides diverse quantitative and qualitative research on working Capital Management in SME's. This approach allows for the systematic summarization of complex evidence across multiple studies, highlighting patterns, themes, and relationships that may not be easily captured through purely quantitative meta-analysis. Narrative synthesis is particularly suited

to reviewing heterogeneous studies varying methodology, contexts, and focus, enabling a rich and contextual understanding of the topic.

The current study employs the **PRISMA 2020 framework for the systematic literature review process**. PRISMA (Preferred Reporting Items for Systematic Reviews and Meta Analysis) provides structured guidelines for transparently reporting the identification, screening, eligibility, and inclusion of studies. This framework ensures a rigorous replicable and unbiased process of literature selection and documentation, enhancing the validity and reliability of the review findings.

Process of reviewing the literature (the methodology of the systematic literature review) The literature review process initiated with clearly defined research questions to guide the scope and focus of the review. Comprehensive research of academic databases was conducted using specific keywords related to working Capital Management in SME's. identified records were screened initially by titles and abstracts to exclude irrelevant studies, followed by full text assessment against predefined inclusion and exclusion criteria. data from selected studies were then extracted and synthesized narratively to capture key themes and insights. the entire process was documented in a PRISMA flow diagram to show the progression and rationale for study inclusion or exclusion.

### **Research Questions**

1. What are the publication trends over time in the field of working Capital Management and SME's?

(To analyze how research output has evolved from 2007 to 2025.)

2. Which authors institutions and countries have been the most prolific and influential contributors to research on working Capital Management and SME's?

(To identify key players and regions thriving the research.)

3. What are the dominant themes keywords and topics emerging from the body of research on working Capital Management in SME's?

(To map the intellectual structure and topical focus areas.)

4. How has collaboration among authors and institutions shaped the development of research in working Capital Management within SME's?

(To examine Co authorship networks and partnerships.)

5. Which journals and sources have been the primary outlets for publishing research on working Capital Management and SMEs?

(To establish the main publication forums.)

6. What gaps underexplored areas or emerging trends can be identified from the bibliometric patterns for future research directions?

(To highlight opportunities for advancing knowledge.)

### **Selected Database & Retrieved Articles**

the systematic review sourced literature primarily Established academic databases including Scopus which provides extensive coverage of peer reviewed journals relevant to business finance and management studies articles were retrieved using targeted search terms related to SME's working capital financial management and associated key concepts the initial search yielded a broad set of articles that were systematically narrowed based on screening criteria.

- Criteria for selecting research papers inclusion criteria for selecting papers encompass:
- empirical and review studies focus on working capital in small and medium sized enterprises.
- Articles published in peer reviewed journals, available in English.

studies reporting on financial performance, profitability, financial management practices or external impacts related to working capital and SME's. Excluding criteria included studies unrelated to SME's or working capital, non-peer-reviewed publications, papers lacking methodological rigor or those focusing exclusively on large corporations or unrelated financial topics. This ensured that these selected papers were relevant and of sufficient quality to contribute meaningfully to this synthesis.

### Step-by-Step Research Methodology for extracting the documents for this study (Using Scopus)

#### Step 1: Define Your Research Scope and Keywords (82 documents)

- Search string for Scopus advanced search:

*text: TITLE-ABS-KEY("working capital management") AND TITLE-ABS-KEY("SME" OR "small and medium enterprise" OR "small and medium-sized enterprise")*

- Set time limits to capture the evolution: For instance, publications from 2000 to the present or a range you prefer.

#### Step 2: Apply Document Type and Language Filters (71 articles)

- Limit to *articles* to focus on original research (excluding reviews and conference papers and book chapters unless relevant).
- Limit to *English* language for consistency.

#### Step 3: Execute Search and Export Data

- Export data fields relevant for bibliometric analysis like- Titles, Authors, Source title (journals), Publication year, Author affiliations, Keywords, Abstracts, Citation counts.
- Export in bulk, (CSV format) for ease of analysis in bibliometric software tools.

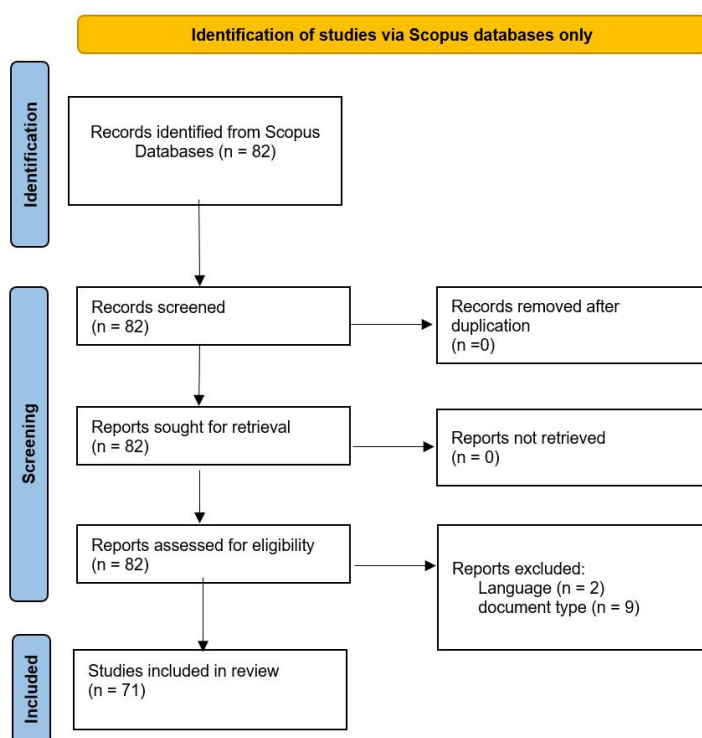


Figure 1: PRISMA 2020 flow diagram for systematic reviews.(SOURCE: Authors contribution)

**Notes:**

- Since you used only Scopus, only one database box will be filled with 82.
- The flow diagram visually will follow the standard steps: Identification → Screening → Eligibility → Included, with numbers as above.

**Key Themes identified:**

Working Capital Management WCM plays a pivotal role in the financial health and operational efficiency of SME's. used the data set of articles to provide a comprehensive review of working Capital Management issues in SME's across different countries and industries. **Following are the themes identified:**

1. **The impact of WCM on SME profitability and liquidity-** several studies have empirically demonstrated a significant relationship between WCM and firm profitability. Garcia teruel and Martinez- Solano (2007) found that optimizing the cash conversion cycle positively affects SME's profitability. this theme is consistently supported by research from various regions including Spain, Nigeria, Malaysia, and India (Afrifa, 2016, 2018 ; Tsagem et al., 2015; Gorondutse et al., 2017; Panda, Nanda & Panda, 2021). efficient management of receivables, payables and inventories reduces financing costs and enhances return on assets and equity.
2. **financial management practices and supply chain finance-** recent literature stresses the importance of integrated financial management practices including capital budgeting financing decisions and supply chain finance (Cheng et al., 2022; saho & Thakur, 2023). supply chain finance, such as reverse factoring, helps SME's improve liquidity and working capital efficiency by optimizing payables on receivables processes (Lekakos & Serrano, 2016). financial inclusion also enhances WCM effectiveness, enabling SME's to access credit and investments that bolster operational cash flow (Bhattacharyya et al., 2023)
3. **behavioral and organizational factors influencing WCM in SME's (cognitive, flexibility ,managerial routines)-** research has explored how managerial behavior and organizational factors affect WCM outcomes Weber and Kokott (2024) applied the attention based view to examine how German SME's adapt their WCM practices during crises, emphasizing cognitive flexibility and crisis we've been focus shifts. behavioral biases like overconfidence and loss aversion among SME owners also influence financial decisions related to working capital (Kent Baker et al., 2018). These insights highlight the human and cognitive elements behind financial management.
4. **Effects of external shocks such as COVID-19 and economic policy uncertainty on SME's WCM -** The COVID-19 pandemic and other economic disruptions have underscored the vulnerability of SME's working Capital Management Zimon & Tarighi, 2021; Parayil Iqbal et al., 2023). The pandemic triggered liquidity constraints necessitating agile WCM strategies to preserve business continuity similarly studies covering economic policy uncertainty on that WCM adjustments are critical to mitigate risks and v0olatile macroeconomic conditions (Gallegos Martins Moraga Flores and Brianna Soto 2024). These conditions spotlight the need for dynamic and resilience focused WCM approaches.
5. **Regional and sector specific studies -** Empirical evidence from various countries illustrates differing WCM challenges and practices based on local contexts:
  - a. European SMEs demonstrate strong focus on regulatory environment and financial constraints (Mättö & Niskanen, 2021; Czerwonka & Jaworski, 2023).
  - b. In Asia, studies highlight the impact of tax reforms and macroeconomic conditions on SMEs' WCM (Kumaraswamy, 2020; Tripathi et al., 2024).

- c. African SMEs face distinct liquidity and governance challenges impacting working capital efficiency (Stephen & Elvis, 2011; Mang'ana et al., 2023).
  - d. Latin American research uncovers the role of competitive environments and financial policy uncertainty on SME WCM (Mardones et al., 2024).
  - e. Sector-specific insights include fish canning (Rey-Ares et al., 2021), automotive components (Errico et al., 2022), and forest enterprises (Zada et al., 2021).
6. **Emerging themes: Sustainability and Digital Transformation-** Emerging studies explore the intersection of WCM with sustainability and technology. Sustainable investment practices contribute to efficient WCM by aligning financial management with environmental and social goals (Habib et al., 2024). Additionally, investments in information technology enhance WCM efficiency by improving cash flow forecasting and financial decision-making (Gill, Kang & Amiraslany, 2023).
7. The accumulated literature reveals that working Capital Management there is a multidimensional and critical area for SME financial sustainability and growth. Empirical evidence from diverse geographies consistently shows that effective WCM positively impacts profitability and liquidity, behavioral, organizational, and external economic factors further complicate WCM, underscoring the need for adaptive and strategic financial management. recent emphasis on supply chain finance, sustainability, and technology integration reflects evolving priorities in SME financial research.

### Systematic Review (Theme Wise)

Working Capital Management (WCM) plays a critical role in the financial health and operational efficiency of small and medium-sized enterprises (SME's). Effective management of working capital not only influences profitability and liquidity but also determines SME's ability to withstand external shocks and sustained growth in dynamic market environments. Over recent years, a growing body of research has explored various facets of WCM, including its impact on firm performance, the role of financial management practices, behavioral and organizational influences, and the effects of economic disruptions such as the COVID-19 pandemic and policy uncertainties. Additionally, regional and sector specific studies highlight the contextual nuances of working capital strategies while emerging themes around sustainability and digital transformation are reshaping traditional perspectives on WCM. This systematic review synthesizes the latest empirical evidence across these dimensions to provide a comprehensive understanding of working Capital Management in SME's globally.

**Figure 2: Table showing the classification of top articles based on the theme identified.**

Theme	Authors Name	Methodology used	Findings
<b>1. The Impact of Working Capital Management (WCM) on SME Profitability and Liquidity</b>	Khan M.A.I., Alam M.S., Syed A.J. (2021)	Case study; empirical analysis	Demonstrated a positive correlation between WCM practices and profitability in SMEs in the Gulf Cooperation Council region.
	Baker H.K., Kumar S., Singh	Quantitative study using	Effective WCM positively affects

	H.P. (2019)	cash conversion cycle metrics	profitability and cash flow in Indian SMEs.
	Afrifa G.A. (2016)	Empirical study using financial ratios	Net working capital and cash flow management significantly influence performance in UK SMEs.
	Gorondutse A.H., Ali R.A., Abubakar A., Naalah M.N.I. (2017)	Quantitative research in Malaysian SMEs	WCM has significant positive effects on SME profitability and liquidity in Malaysia.
	Yazdanfar D., Öhman P. (2014)	Empirical analysis based on Swedish data	Cash conversion cycle reduction enhances firm profitability in SMEs.
<b>2. Financial Management Practices and Supply Chain Finance</b>	Lekakos S.D., Serrano A. (2016)	Quantitative analysis of supply chain financing mechanisms	Reverse factoring and supply chain finance improve working capital and liquidity management in SMEs.
	Chang S., Li A., Wang X., Wang X. (2022)	Joint optimization modeling of e-commerce supply chain finance strategy	E-commerce supply chain financing strategies significantly optimize working capital management and enhance SMEs' liquidity.
	Pérez-Elizundia G., Delgado-Guzmán J.A., Lampón J.F. (2020)	Qualitative approach	Commercial banking factoring is critical for SME development and working capital management in Mexico.
	Sahoo P.S.B.B., Thakur V. (2023)	Empirical study using intuitionistic fuzzy-AHP (IF-AHP)	Supply chain finance implementation aids MSMEs in India in overcoming working capital challenges, especially post COVID-19.

<b>Behavioral and Organizational Factors Influencing WCM in SMEs (Cognitive Flexibility, Managerial Routines)</b>	Weber M.M., Kokott P. (2024)	Empirical study using attention-based view framework	Cognitive flexibility and crisis-driven focus shifts are crucial for organizational resilience and effective WCM in German SMEs.
	Tratt B. (2024)	Empirical study on working capital routines	Managerial routines significantly influence the implementation of WCM practices in small German craft businesses.
	Kent Baker H., Kumar S., Singh H.P. (2018)	Behavioral analysis	Behavioral biases such as overconfidence and anchoring impact SME owners' WCM decisions and financial outcomes.
<b>4. Effects of External Shocks such as COVID-19 and Economic Policy Uncertainty on SMEs' WCM</b>	Zimon G., Tarighi H. (2021)	Empirical evidence on COVID-19 impact	COVID-19 crisis significantly influenced SMEs' WCM policies in Poland, highlighting liquidity management challenges.
	Parayil Iqbal U., Kumar Nooney L., Mathew Jose S., Abraham Chacho S. (2023)	Empirical inquiry during external shock period	SMEs' liquidity and operational capital management were severely tested during COVID-19, requiring adaptive WCM.
	Gallegos Mardones J.A., Moraga-Flores H.A., Briones Soto V.P. (2024)	Case study analyzing economic policy uncertainty	Economic policy uncertainty affects WCM efficiency and firm performance in Chilean SMEs.
	Kotcharin S., Jantadej K. (2024)	Study on geopolitical risks and crises	Firm-specific characteristics moderate the impact of crises on WCM effectiveness, especially in shipping SMEs.
<b>5. Regional and Sector-</b>	Rey-Ares L.,	Sector-	WCM practices

<b>Specific Studies</b>	Fernández-López S., Rodeiro-Pazos D. (2021)	specific study on fish canning companies	directly influence profitability in the Spanish fish canning sector.
	Mardones J.A.G., Moraga-Flores H., Navarrete-Oyarce J., Araya-Castillo L. (2024)	Case study in Chile	WCM significantly impacts SME performance in competitive Chilean business environments.
	Ntshonga O., Kamala P.N. (2019)	Study on management accounting in hotel SMEs	Conventional management accounting practices are suitable for financial management and WCM in South African hotel SMEs.
	Mang'ana K.M., Ndyetabula D.W., Hokororo S.J. (2023)	Empirical in agricultural SMEs	Financial management practices, including working capital management, enhance agricultural SME performance in Tanzania.
<b>6. Emerging Themes: Sustainability and Digital Transformation</b>	Habib A., Anwar S., Hussain W., Fenyves V. (2024)	Conceptual and empirical investigation	Sustainable investment practices support maintaining efficient WCM in SMEs across multiple countries.
	Gill A., Kang P., Amiraslany A. (2023)	Survey-based study on IT investment	Information technology investments improve working capital management efficiency in Indian SMEs.
	Tenedero E.Q., Sintos J.R., Araza J.B. (2025)	Study on triple bottom line sustainability	MSMEs in the Philippines integrate sustainability with WCM to enhance economic, environmental, and social performance.

This thematic synthesis illustrates the multifaceted research approaches and findings within the SME working capital management domain, emphasizing its critical role for financial performance, resilience, and evolving business challenges globally.

### I. Bibliometric Analysis- Year Wise Publication Analysis:

The year wise publication analysis you provided presents the distribution of research papers on the topic of working Capital Management in SME's overtime, from 2007 up to 2025.

- **Early years (2007 to 2011):** the number of publications was quite low, ranging from zero to two per year. This indicates that research in working Capital Management in SME's was limited or emerging during this year.
- **Growth phase (2012 to 2018):** we see a steady increase in the number of publications from 2 to 5 per year, showing growing academic interest and accumulation of knowledge in this field. It suggests that the topic began gaining importance and more scholars started investigating working Capital Management in SME's
- **Recent years (2019 to 2025):** there is a notable surge in publications; the number rose from 5 in 2019 and 2020, then increased to seven in 2021 and 2022, and further jumped to 8 in 2023. The peak is in 2024 with 15 publications which could be due to increasing concerns about SME's financial resilience amid global crises like the COVID-19 pandemic and economic uncertainties. The data for 2025 shows 4 publications so far, which might increase by the end of the year.

Figure 3: Graphical presentation of the year wise publications as per analysis

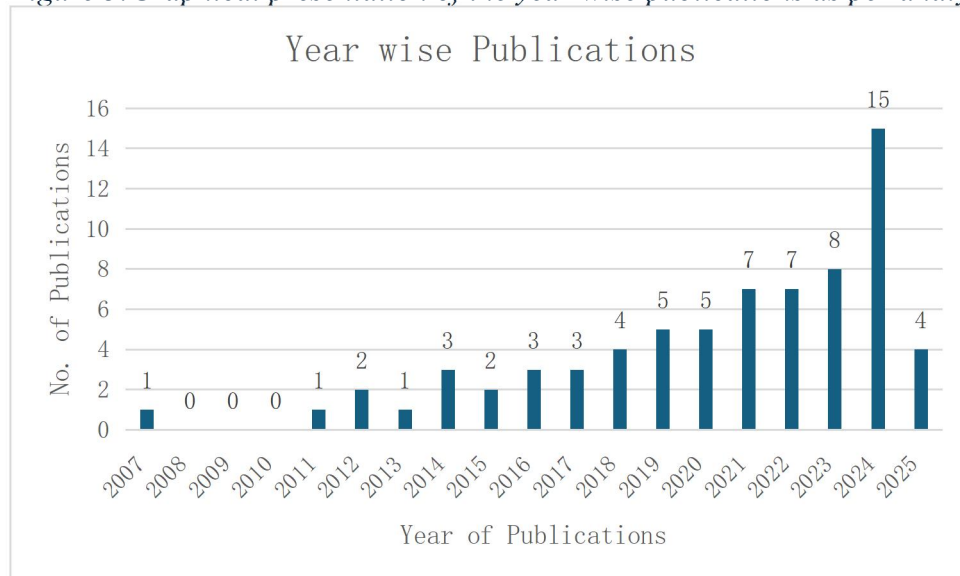


Figure 4: Tble showing the number of publications from 2007 onwards

Year of Publication	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
No. of Publications	1	0	0	0	1	2	1	3	2	3	3	4	5	5	7	7	8	15	4

the research on working Capital Management and SME's is increasing over time, reflecting the relevance and urgency of managing financial liquidity efficiently in small and medium sized enterprises. the sharp increase in recent years especially in 2024, likely corresponds to recent events and evolving challenges in SME's financial environments such as economic

disruptions, sustainability considerations and evolving financing mechanisms. the data suggests a maturation of the research field, with more diverse and in-depth studies published over the past decade.

This year’s otherwise trend highlights the dynamic nature of research interest and the rising understanding of working capital management's critical role within SMEs globally.

## II. Bibliometric Analysis- Top 15 Sources By Citations

The analysis of journal publication sources on working Capital Management and SME's reveals A diverse range of outlets contributing to this research field, totaling 60 different sources. however, the top 15 sources stand out due to their significant citation counts, indicating their influence and prominence in the academic discourse.

Among these, the International Journal of Managerial finance leads decisively with 682 citations, reflecting its significant role in publishing impactful research on financial management topics relevant to SMESs. following this, Small Business Economics And International Journal Of Physical Distribution and Logistics Management also has strong citation numbers of 246 and 189 respectively, underscoring their importance in small business and rational aspects of working Capital Management.

Other notable sources include International Journal of Production Economics and Review of Accounting and Finance, which suggest a strong interest in linking working capital practices to production efficiency and accounting frameworks. More specialized journals such as Journal of Risk and Financial Management and Marine Policy with their focused topic contribute valuable insights into niche areas like financial risk and industry specific applications for SME's.

*Figure 5 Table showing the Source title with respective citations.*

Source title	Cited by
International Journal of Managerial Finance	682
Small Business Economics	246
International Journal of Physical Distribution and Logistics Management	189
International Journal of Production Economics	109
Review of Accounting and Finance	100
Small Enterprise Research	85
European Journal of Operational Research	73
Journal of Risk and Financial Management	70
Journal of Small Business Management	53
Agribusiness	50
Journal of Small Business and Enterprise Development	50
GeoJournal	41
Marine Policy	40
Journal of Small Business and Entrepreneurship	35
Cogent Business and Management	21

Overall, the citation distribution among these top journals highlights the interdisciplinary nature of working Capital Management research bridging finance, economics, operations, risk management, and sector specific studies. this diversity reflects the broad relevance of working capital issues across various academic and practical domains, reinforcing the

importance of these leading journals as key platforms shaping the understanding and development of SME financial management strategies.

### III. Bibliometric Analysis- Top 10 Keyword Analysis

The keyword analysis conducted in your study used VOSviewer a software tool designed for constructing and visualizing bibliometric networks such as keyword Co-occurrences. Out of 195 total keywords extracted from data, set a minimum occurrence threshold was set to 5 only 10 keywords met or exceeded this threshold, so these 10 keywords were selected for detailed analysis. .

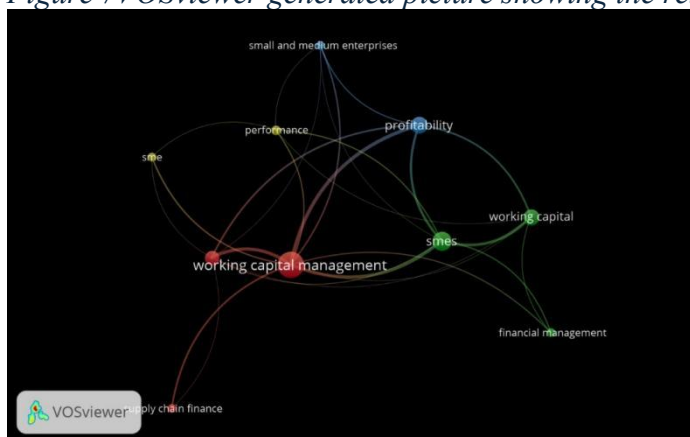
Figure 6 Table showing the Keyword analysis with respect to its occurrences and total link strength.

Keyword	Occurrences	Total Link strength
Working capital management	40	51
Smes	22	34
Profitability	17	31
Cash conversion cycle	12	21
Working capital	15	18
Small and medium enterprises	5	10
Performance	6	9
Financial management	5	8
Sme	5	6
Supply chain finance	5	6

“**Working Capital Management**” has the highest occurrences 40, and link strength 51, indicating it is the most frequently used and well connected keyword in the field. “**SMEs**” is also prominent with 22 occurrences and a total length strength of 34. other important keywords include “**profitability**”, “**cash conversion cycle**”, “**working capital**” and “**financial management**” highlighting core themes related to financial aspects and performance measurement in SME's. “**supply chain finance**” is among the significant keywords linking, working Capital Management with supply chain financial practices.

The analysis identifies the central topics and concepts researched around working Capital Management in SME's. it shows how these terms are interlinked in the literature, reflecting how research themes are connected in this domain this insight helps understand that thematic structure and focus areas in your collected publications, guiding further exploration or visualization of research trends.

Figure 7VOSviewer generated picture showing the relationship between the keywords.



The keyword analysis highlights the most commonly researched and interconnected concepts related to working Capital Management in SME's, emphasizing financial performance, cash flow aspects, and supply chain finance as important cluster themes this type of analysis is useful for mapping the intellectual structure of the research field.

#### IV. Bibliometric Analysis- Publication Trend Analysis By Top Countries

The analysis of research output by country highlights Spain, India, and Malaysia, as leading contributors in the domain. Spain stands out with the highest number of publications (9 documents) and a notably high citation count (1045 citations), indicating that research originating from Spain not only leads in quantity but also holds significant scholarly influence and impact worldwide Indian research, with six publications, though fewer in citations 88 indicates, growing engagement in working Capital Management within SME. Malaysia with five documents and 30 citations, also features as an emerging contributor reflecting increasing academic interest in the topic the divergence between document numbers and citation metrics suggests variation in research visibility and impact Spain's high citation count signals influential studies widely referenced in the field. In contrast research from India and Malaysia, while steadily increasing in volume, may still be developing larger recognition and impact globally.

*Figure 8 Table showing the Top countries contributing to the area with their number of documents and citations*

Country	Documents	Citations
Spain	9	1045
India	6	88
Malaysia	5	30

This bibliometric overview underscores the expanding research landscape on working Capital Management in SME's, with accelerating population rates over the past state and distinct country level contributions. The findings emphasize the importance of continuous scholarly attention to this domain, especially from countries showing rapid growth and emerging influence. this comprehensive mapping offers valuable insights for researchers' policymakers and practitioners interested in the financial management of SME's, guiding future research priorities and international collaborations.

#### V. Bibliometric Analysis Based On Authorship Citations

The bibliometric analysis of authorship was conducted to identify and highlight the most influential authors in the domain of working Capital Management and financial practices in SME's based on citation counts citation analysis serves as an indicator of research impact and scholarly influence within the academic community .

Among the authors analyzed, Pedro Martínez-Solano leads significantly with a total of 742 citations, establishing him as a key contributor whose work has garnered widespread recognition in the field. Following him, Grzegorz Zimon stands out with 100 citations, reflecting his influential research contributions. A cluster of authors including Sara Fernández-López, Lucía Rey-Ares, and David Rodeiro-Pazos each have accumulated 90 citations, underscoring their important roles in advancing knowledge in working capital management and SME financial performance.

Figure 9 Table showing the list of authors with their citations

Authors	Citations
Martínez-Solano, Pedro	742
Zimon, Grzegorz	100
Fernández-López, Sara	90
Rey-Ares, Lucía	90
Rodeiro-Pazos, David	90
Afrifa, Godfred Adjapong	55
Tingbani, Ishmael	55
Kumar, Satish	41
Singh, Harsh Pratap	41
Hokororo, Silver John	20
Mang'ana, Kulwa Mwita	20
Ndyetabula, Daniel Wilson	20
Regupathi, Angappan	11
Sabki, Sharmilawati	11
Wong, Woei-Chyuan	11
Ahmeti, Ardi	5
Kamala, Peter Nasiema	0
Ntshonga, Olwethu	0

These top five authors collectively highlight major thought leadership and influence in this research area. Their high citation counts indicate the relevance and applicability of their scholarly work across diverse studies, contributing to substantive advancements in understanding working capital strategies and financial resilience for small and medium enterprises.

Other notable contributors with moderate citation counts include Godfred Adjapong Afrifa and Ishmael Tingbani with 55 citations each, followed by Satish Kumar and Harsh Pratap Singh with 41 citations each. These authors have also contributed valuable insights that complement and broaden the scope of research in SME financial management topics.

This citation-based authorship analysis provides a clear view of the pivotal academics shaping this field, guiding future researchers to refer to these influential works and build upon their findings.

## VI. Limitations

This bibliometric analysis, while comprehensive, is subject to limitations. First, the study exclusively uses the Scopus database, which despite its extensive coverage may not capture all relevant literature particularly works published in non-indexed regional journals, conference proceedings or emerging preprint repositories. Second, the analysis relies on data extracted from publication, metadata, and keywords, which limits the granularity of thematic insights and may overlook nuanced conceptual linkages addressed in full texts. Third, citation-based metrics tend to favor older publications and journals in English, thus, potentially underrepresenting recent research breakthroughs and contributions from non-English speaking regions. Finally, methodological heterogeneity among the included studies, as well as inconsistent reporting of author affiliations and funding sources may influence the accuracy of collaboration and geographical mapping findings.

## VII. Future Research Areas

To advance understanding in this field, future research could focus on integrating multiple bibliometric databases (e.g., Web of Science, Google Scholar) and including grey literature to broaden coverage and minimize selection bias. Upcoming investigations should delve more deeply into the application of digital and AI powered tools in working capital management evaluating their practical impact across diverse SME settings. Further, as sustainability grows in importance research, is needed to operationalize and measure the integration of Environmental Social and Governance (ESG) factors into WCM frameworks for SME's. Additionally, studies should explore strategies for SME's to enhance resilience against geopolitical and macroeconomic shocks, emphasizing region- or sector- specific interventions. Finally, qualitative, and mixed methods approaches can be used to uncover managerial behavioral factors, organizational culture and institutional influences shaping WCM practices, thus complementing the largely quantitative focus of existing literature.

## VIII. Conclusion

This bibliometric analysis of working Capital Management (WCM) in Small And Medium Sized Enterprises (SME's) offers a detailed synthesis of the field's growth, thematic priorities, and Key scholarly contributions over nearly two decades. the study reveals A consistent increase in research output. with a notable surge in 2024. signaling the growing significance of WCM against the backdrop of global economic uncertainties. evolving policy frameworks, sustainability, demands and technological advancements. our findings highlight that effective WCM remains crucial not only for SME's profitability and liquidity but also intersects closely with broader dimensions such as supply chain finance, managerial capabilities, behavioral biases, sustainability initiatives, and resilience against external shocks. the comparative insights drawn across different regions and sectors emphasize how WCM challenges and strategies are shaped by industry specifics regulatory environments, and macroeconomic conditions. from an academic perspective the field demonstrates an interdisciplinary character, spanning finance, economics, operations management ,and sector focused research influential scholars including Martínez-Solano and Zimon, have significantly shaped the discourse, while emerging research increasingly addresses digitalization, sustainable finance, and crisis adaptability. Central constructs like “working capital management,” “SMEs,” “profitability,” and “cash conversion cycle” consistently dominate the research landscape, reinforcing the enduring importance of operational efficiency and liquidity management.

Regionally, contributions from Spain, India, and Malaysia stand out providing diverse empirical contexts that enrich global understanding and practice of SME financial management .despite the rich body of work, key research gaps persist- particularly regarding digital solutions for WCM, integration of environmental and social performance metrics into financial decision making and SME strategies amid geopolitical risks -offering fertile ground for future inquiring.

In conclusion , the body of research on WCM and SME's has matured into a comprehensive and multifaceted domain that bridges foundational financial principles with contemporary challenges and opportunities. this bibliometric mapping not only consolidated existing knowledge but also serves as a crucial foundation for advancing targeted research, enhancing policy frameworks, and fostering innovative financial management practices tailored to the dynamic and evolving SME landscape.

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