

Global Trends in Working Capital Management: A Bibliometric Review and Future Research Directions

Roshan^{1,*}, Niti Nandini Chatnani², Ibna Bhan³

¹School of Business, Galgotias University, Greater Noida, INDIA.

²Indian Institute of Foreign Trade, New Delhi, Delhi, INDIA.

³Jindal School of Banking and Finance, O.P. Jindal Global University, Sonipat, Haryana, INDIA.

ABSTRACT

Working Capital Management (WCM) plays a critical role in shaping firms' liquidity, risk, and profitability, a relevance underscored by the Global Financial Crisis of 2008 and the COVID-19 pandemic. Despite extensive empirical research, a comprehensive synthesis of the intellectual structure of WCM literature remains limited. Addressing this gap, this study provides the first comprehensive bibliometric analysis of 913 WCM articles indexed in Scopus between 1981 and 2025 to systematically map the evolution, thematic structure, and research frontiers of the field. Using bibliometric techniques, we analyse publication trends, co-authorship patterns, influential journals, institutions, and countries, alongside co-citation, PageRank analysis, and thematic evolution. The results reveal a sharp post-2008 expansion of WCM research, concentrated in leading finance journals and primarily driven by contributions from the USA, India, and China, albeit with relatively fragmented international collaboration. Importantly, the analysis identifies three dominant research clusters: WCM and firm performance, WCM and financial constraints, and WCM and supply chain management, while also uncovering emerging themes include excess net working capital, corporate investment, corporate governance, macroeconomic conditions, and trade credit. Finally, a conceptual framework and research agenda are developed to direct and advance future research in WCM. These insights carry important implications for researchers, managers, policymakers and other stakeholders by underscoring the strategic role of WCM in strengthening firm resilience and guiding liquidity and investment decisions under economic uncertainty.

Keywords: Bibliometric review, Liquidity management, PageRank analysis, Science mapping, Thematic evolution, Working capital management.

Correspondence:

Roshan

School of Business, Galgotias University,
Greater Noida, INDIA.

Email: drroshansiddiqui@gmail.com

ORCID: 0000-0002-1259-2758

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INTRODUCTION

Rising concerns over liquidity crises, supply chain disruptions, financial distress, tightening credit conditions, earnings volatility, and shocks such as global economic downturns and the COVID-19 pandemic have served as persistent wake-up calls for firms worldwide. These challenges highlight the critical importance of effective working capital management (hereafter, WCM) in ensuring operational continuity, financial resilience, and sustainable firm performance. Consequently, researchers and practitioners increasingly recognise the need to integrate Working Capital (WC) considerations into strategic, operational, and financial decision-making processes. WC is commonly defined as the excess of current assets over current liabilities, representing the short-term liquidity available to support a firm's

day-to-day operations. As a result, WCM has emerged as a vital area of research, focusing on how firms can balance liquidity and profitability while navigating uncertainty and maintaining long-term value creation. The origins of this research stream can be traced back to early theoretical studies on WC.

Sagan (1955) laid the foundational groundwork for WCM research by highlighting the critical role of managing cash, inventories, payables, and receivables in ensuring smooth firm operations. Building on this early framework, Walker (1964) examined the trade-off between risk and return in WCM decisions, emphasising the need to balance liquidity with profitability. Subsequently, Smith (1980) further advanced the literature by explicitly analysing the impact of WCM on firm profitability, thereby establishing WCM as a strategic financial function rather than a purely operational concern. Later empirical studies expanded this by identifying firm-specific and macroeconomic factors influencing WC requirements (Hill *et al.*, 2010). Complementing these insights, Shin and Soenen (1998) and Deloof (2003) provided robust empirical evidence demonstrating that efficient WCM significantly enhances corporate profitability. Motivated



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by this evidence, subsequent empirical research has sought to disentangle the mechanisms through which WC level affects firm performance.

Higher Working Capital Investment (WCI) can be value-enhancing, particularly for firms facing liquidity constraints, by supporting sales growth and operational stability. As adequate inventories reduce supply disruptions, hedge against input price volatility, and mitigate sales losses due to stockouts (Blinder and Maccini, 1991; Fazzari and Petersen, 1993; Corsten and Gruen, 2004). Moreover, the extension of trade credit facilitates price discrimination, signals product quality, and strengthens long-term customer relationships (Brennan *et al.*, 1988). However, excessive WCI may erode shareholder value by increasing financing requirements and opportunity costs (Kieschnick *et al.*, 2013), elevating bankruptcy risk, and constraining firms' ability to undertake value-enhancing investments (Ek and Guerin, 2011).

Conversely, lower WCI reduces financing needs, carrying costs, and interest expenses, thereby improving capital efficiency (Brandenburg, 2016). Nevertheless, overly aggressive WC policies may impair firm performance by increasing the likelihood of stockouts, weakening customer relationships, and reducing financial flexibility, ultimately leading to sales losses and reputational damage (García-Teruel and Martínez-Solano, 2007; Chang, 2022). Taken together, these arguments highlight the inherently nuanced and context-dependent nature of WC decisions, which has motivated a growing and diverse body of academic research. Consequently, the following section reviews the existing literature on WCM, synthesising prior review-based evidence, summarising key findings, and identifying gaps addressed by the present study.

The remainder of the paper is structured as follows. Section 2 reviews the existing literature, while Section 3 describes the methodology and literature search strategy. Section 4 presents the bibliometric results and key findings. Section 5 develops the conceptual framework. Section 6 identifies research gaps and outlines future research directions. Section 7 discusses the findings and highlights their implications and limitations. Finally, Section 8 concludes the study.

LITERATURE REVIEW

This section reviews the extant literature on WCM by synthesising evidence from existing review-based studies. Although a few literature reviews exist, they are limited in number and scope; to the best of our knowledge, only ten review studies published between 2014 and 2022 have examined this domain, each pursuing distinct research objectives (see Table 1). Existing review studies on WCM have systematically examined the evolution of the literature by synthesising prior empirical and theoretical research (Singh and Kumar, 2014; Kayani *et al.*, 2019; Prasad *et al.*, 2019). Bibliometric analyses have mapped publication growth, influential journals, authors, institutions, and countries,

providing a structured overview of the intellectual landscape (Martinho, 2021; Nobanee and Dilshad, 2021). Meta-analytical studies have quantitatively assessed the relationship between WCM and firm profitability, offering consolidated evidence on performance linkages (Singh *et al.*, 2017; Yasmin and Mohiuddin, 2021; Enow, 2022). Sector-specific and thematic reviews have further explored WCM in construction and supply chain finance contexts (Asare *et al.*, 2023; Chiu and Hsieh, 2021). Collectively, these studies present a descriptive and organised account of how WCM research has developed over time across different contexts and streams.

Despite the significant growth and importance of WCM, the field has remained relatively underexplored, and its development has not kept pace with corresponding academic, empirical, theory building and critical knowledge. The limited research restricts comprehensive understanding of WCM, as the absence of quantitative bibliometric analyses hinders the development of informed academic debate and future research directions (Asare *et al.*, 2023). Hence, the literature remains fragmented, with limited consensus on underlying mechanisms, motivating the need for a comprehensive and structured review.

Building on earlier review studies on WCM, several important research gaps can be observed. *First*, existing systematic reviews and meta-analyses (Pratap Singh and Kumar, 2014; Kayani *et al.*, 2019; Prasad *et al.*, 2019; Singh *et al.*, 2017; Yasmin and Mohiuddin, 2021) primarily focus on specific dimensions of WCM, such as "profitability" and "WC practices," while offering limited insight into the intellectual structure and knowledge diffusion of the field. *Second*, although recent bibliometric studies provide a broader overview of WCM research by identifying leading authors, journals, and countries (Martinho, 2021; Nobanee and Dilshad, 2021), they largely rely on descriptive indicators and do not undertake deeper content-based, influence-oriented, or network-level analyses, resulting in limited understanding of collaboration patterns and cross-country or cross-disciplinary linkages. *Third*, prior studies do not employ advanced influence metrics, such as PageRank analysis, to identify the most influential works within citation networks, nor do they systematically examine the temporal evolution of research themes. *Finally*, earlier studies do not develop an integrative conceptual framework or articulate a structured future research agenda, thereby limiting theoretical synthesis and guidance for advancing WCM research. Table 2 presents the research questions formulated to address the identified research gaps.

To address these gaps, we conduct a review of 913 articles published between 1981 and 2025 using bibliometric and content analyses from the Scopus database. This study contributes to prior review studies in four keyways. First, it identifies influential authors, leading journals, and seminal articles, providing a clear picture of the intellectual landscape. Second, it delineates the theoretical structure of the field by categorising the literature

Table 1: Summary of literature reviews on WCM (2014-2022).

Author(s)	Method	Objective	Articles	Period	Databases	Findings
Overall WCM						
Pratap Singh and Kumar (2014)	Systematic literature review	Examining WCM research and pinpointing gaps.	126	1980-2012	EBSCO, Elsevier, Emerald, Scopus	Research primarily examined the effect of WC on profitability and its practices.
Kayani <i>et al.</i> , (2019)	Systematic literature review	Examining current literature on WCM.	187	1980-2017	Web of Science, Science Direct, EBSCO, Emerald and Scopus	Previous research has overlooked behavioural aspects, qualitative studies, survey studies, and systematic theory development.
Prasad <i>et al.</i> , (2019)	Systematic literature review	Assessing the research conducted on WCM.	75	As of June 05, 2018	Google Scholar	Most influential articles are published in lower-category journals. They identified five themes, with WCM and firm profitability being the most examined.
Martinho (2021)	Bibliometric analysis	Identifying key gaps and insights in WC literature.	1342 from Web of Science 2200 from Scopus	1959-2020 from Web of Science 1915-2020 from Scopus	Web of Science, Scopus	Emphasis on sustainability or sustainable development is weak, with most research concentrating on a limited number of authors, organisations, and countries.
Nobanee and Dilshad (2021)	Bibliometric analysis	Reviewing existing research on WCM.	1124	1954 to 2020.	Scopus	Identified the latest trends in WCM research, highlighting prominent journals, authors, and countries.
Asare <i>et al.</i> , (2023)	Systematic literature review	Understanding WCM of the Construction Industry (CI).	16	2006-2019	Google Scholar	Understanding the link between WCM and construction firms' overall performance is crucial.
WCM and profitability						
Singh <i>et al.</i> , (2017)	Meta-analysis	Quantitatively synthesising prior research on WCM and firm profitability relationships.	46	Up to 2017	EBSCO, Elsevier Science Direct, Emerald, Scopus	Support the traditional view that an aggressive WCM policy increases profitability. Across all subgroup studies, the CCC shows a negative correlation with profitability.
Yasmin and Mohiuddin (2021)	Meta-analysis	Concluding the role of WCM on firm profitability.	46	As of 2021	EBSCO, Elsevier Science Direct, Emerald, and Scopus	Efficiency and aggressive WCM strategies negatively impact profitability.

Enow (2022)	Meta-analysis	Investigating the strength and the extent to which profitability depends on WC.	32	2010-2021	NA	WC cannot drive profitability.
WCM and supply chain finance						
Chiu and Hsieh (2021)	Systematic literature review	Grasping the present status of supply chain finance and WC research.	161	Limited period	Web of Science	"Capital-constrained" and "replenishment" were prevalent terms, indicating that SMEs' WC structure, capital constraints, and financial performance are crucial, especially in Taiwan.

Source: Authors' compilation from previous review studies

Table 2: Research questions and techniques applied.

Research question	Technique applied
RQ1. How has the publication trend in WCM evolved, considering the number of articles and their distribution across journals, study types?	
RQ1.1 Publication trend	Annual publication graph
RQ1.2 Journals	Total Citation (TC) and Total Publication (TP)
RQ1.3 Disciplines/subject categories	Discipline wise map
RQ 2. Who are the leading contributors to WCM research in terms of authors, countries, and institutions and their interconnections?	
RQ2.1 Authors	Author collaboration network, TC and TP
RQ2.2 Countries	Countries collaboration network, TC and TP
RQ2.3 Institutions	Institutions collaboration network, TP
RQ 3 Which studies are the most influential in WCM research based on citation impact and keywords?	
RQ3.1 Studies	Local Citation (LC) and Global Citation (GC), citation network of studies
RQ3.2 Keywords	Keyword count, keyword co- occurrence network analysis
4. What are the dominant and emerging themes on WCM?	
RQ 4.1 Dominant themes	Co-citation network, PageRank analysis
RQ 4.2. Emerging themes	Sankey diagram (2020-2025 manuscripts)
RQ 5 How does the existing literature on WCM collectively inform a comprehensive conceptual framework, reveal critical research gaps, and shape future research directions?	
RQ 5.1 Conceptual framework	Qualitative content analysis
RQ 5.2 Research gaps	Gap analysis
RQ 5.3 Future research directions	Content analysis

Source: author's contribution

into three dominant themes: WCM and firm profitability, WCM and financial constraints, and WCM and supply chain finance. Third, a thematic evolution analysis of publications between 2020 and 2025 reveals that the field is still developing, with emerging topics including excess Net Working Capital (NWC), corporate investment, economic conditions, corporate governance, and trade credit. Finally, by combining bibliometric analysis with content review and cluster analysis, the study constructs a conceptual framework, highlights research gaps, and proposes future research agendas. This study thereby addressing knowledge gaps and offering actionable insights for scholars, practitioners, and policymakers in government, business, and society.

METHODOLOGY

Literature search

To retrieve relevant literature for this study, the Scopus database was employed, given its extensive use in prior bibliometric research (Baas *et al.*, 2020). Scopus was chosen for its robust indexing standards and reliable bibliometric information. The selection of this database is primarily justified by the following factors: (1) its broad coverage of high-quality publications from 1788 to the present, (Baas *et al.*, 2020); (2) its user-friendly functionalities for sorting and exporting academic records, which are crucial for bibliometric analysis; and (3) its relatively larger collection of peer-reviewed articles on WCM compared to other sources such as the Web of Science Core Collection and Google Scholar. After finalizing the database, a comprehensive keyword string (see Figure 1) was developed and implemented in Scopus, with the search strategy systematically applied across titles, abstracts, and keywords (Goyal and Kumar, 2021).

Exclusionary criteria

Based on the specified keyword string, the Scopus database initially yielded 4,166 records, but after restricting the period to 1981-2023, 3,333 records remained. Subsequently, restricting the subject areas to “business, management and accounting”, “economics, econometrics and finance”, and “social sciences” owing to their direct relevance to the field, resulted in 1,018 records. Further refinement by document type (articles, conference papers, and reviews) reduced the sample to 944 records. Finally, limiting the selection to English-language publications led to a final dataset of 913 relevant records, which were used for the bibliometric analysis.

Analysis of Final Records

This study adopts a bibliometric approach to analyse 913 research records, a method widely recognised for effectively examining the structural characteristics of a research domain (Li *et al.*, 2017). Accordingly, this study utilises multiple analytical methods, including publication trend analysis, citation network analysis (Paul and Benito, 2018), co-citation clustering, keyword analysis

(Comerio and Strozzi, 2019), and PageRank analysis (Brin and Page, 1998). Table 2 presents an overview of the techniques applied mapping four research questions. The Bibliometrix R-package (Aria and Cuccurullo, 2017) and VOSviewer (Rialti *et al.*, 2019) were employed to conduct the bibliometric analysis, enabling comprehensive science mapping and visualisation. Although Scientometrics analysis is a robust review technique, its findings are often influenced by highly cited publications, which may lead to the underrepresentation of recent studies with fewer citations. To mitigate this limitation, a supplementary content analysis was performed on 605 articles published between 2020 and 2025 to capture emerging research themes. Of these, 267 articles overlap with the final dataset of 913 records, while an additional set of 338 recent studies published between 2023 and 2025 was compiled using the same database and search strategy.

FINDINGS

Publication trends

Figure 2 illustrates the annual publication trend in WCM research from 1981 to 2025. The figure shows a relatively low and sporadic number of publications during the initial phase (1981-2000), indicating limited academic attention to WCM during this period (Pass and Pike, 1987). A gradual increase is observed after the early 2000s, reflecting growing recognition of WCM as a critical component of corporate financial performance and liquidity management, particularly in response to heightened market competition, financial globalization. From around 2010 onwards, the number of publications rises sharply, with a pronounced surge after 2015, reaching a peak during the early 2020s. This rapid growth can be attributed to increased global financial volatility, heightened focus on cash flow efficiency, supply chain disruptions, and the impact of economic shocks such as the GFC-2008 and the COVID-19 pandemic. Overall, the upward trend highlights the expanding relevance of WCM research in addressing contemporary financial, operational, and sustainability challenges faced by firms.

Leading Journals

As shown in Table 3, journals such as the “International Journal of Managerial Finance” and the “International Journal of Production Economics” emerge as key contributors with high citation impact and A-level ABDC rankings, reflecting the strong relevance of WCM to corporate finance and managerial decision-making. The presence of “Managerial Finance” and the “International Journal of Production Research” further demonstrate sustained scholarly interest from both financial and operational perspectives, underscoring the integration of WCM practices with production efficiency. Despite a lower publication volume, the “Journal of Accounting and Economics” exhibits substantial academic influence, as indicated by its A* ABDC and 4* ABS rankings, highlighting the theoretical significance of WCM within top-tier accounting and economics research.

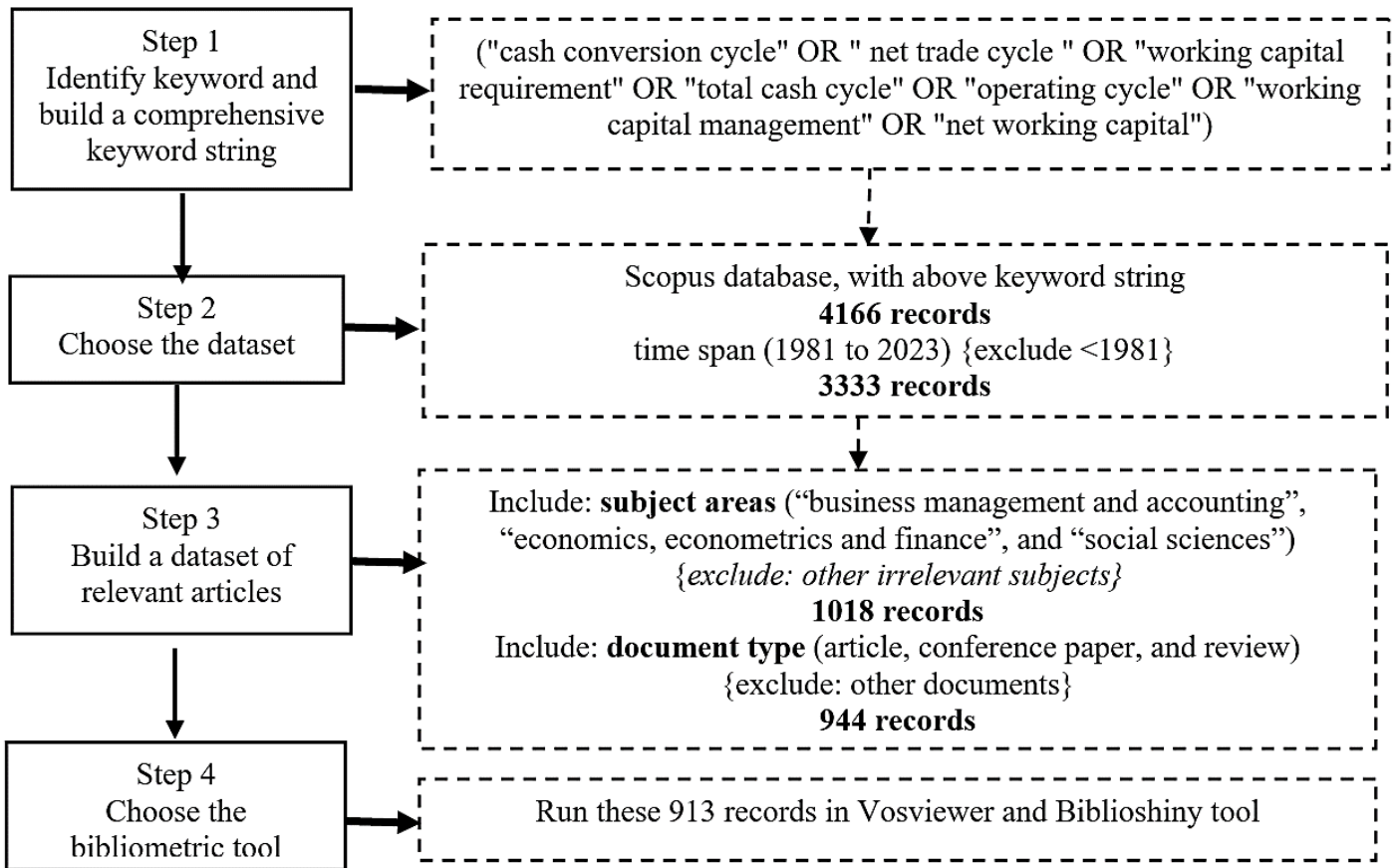


Figure 1: Data screening process. Source: author's contribution.

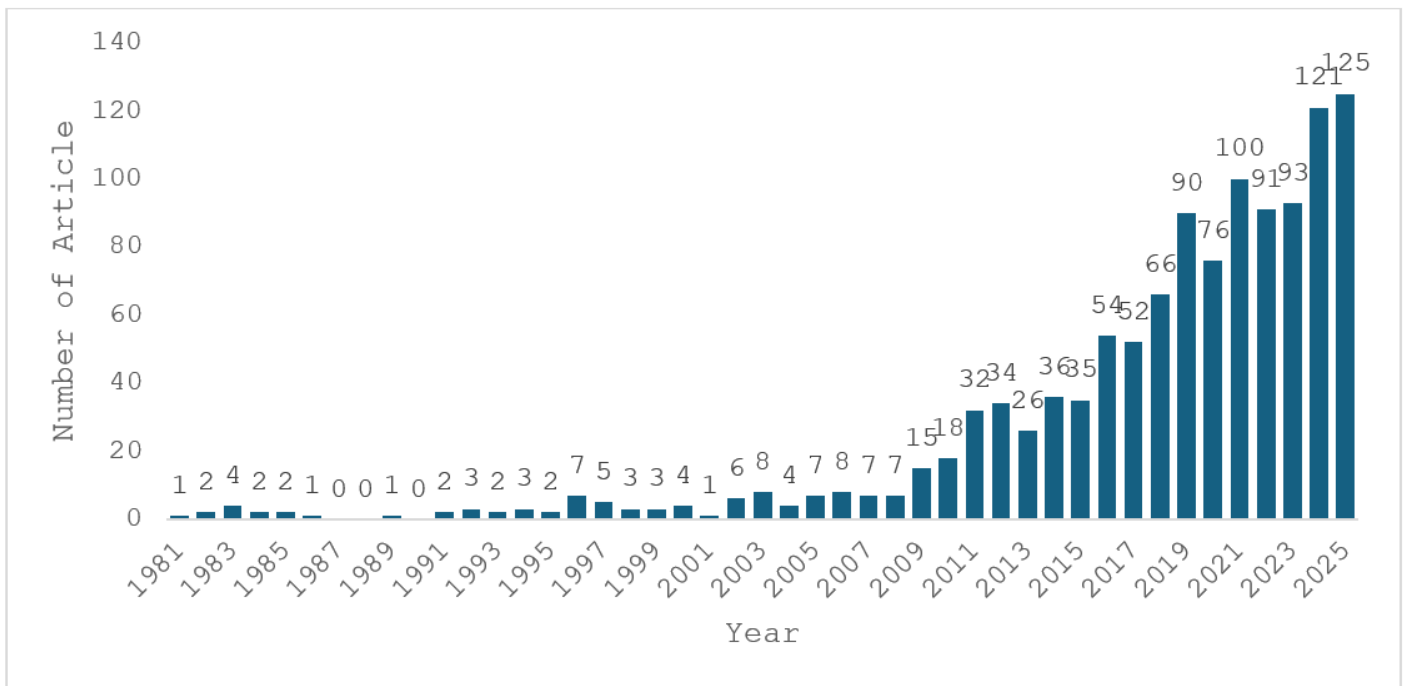


Figure 2: Publication trend of WCM research (1981-2025). Source: author's contribution.

However, the concentration of influential WCM studies within a limited set of journals suggests scope for broader theoretical development and cross-disciplinary diffusion across finance, accounting, and operations research.

Disciplinary Landscape

Figure 3 shows that WCM studies are predominantly concentrated in “business, management and accounting”, followed by “economics, econometrics and finance”, while emerging contributions from “decision sciences”, “engineering”, and “computer science” indicate increasing methodological sophistication. These results imply that while WCM research has achieved strong theoretical grounding within finance and management disciplines, future studies would benefit from greater interdisciplinary integration and the application of advanced analytical and data-driven approaches to address complex and evolving WC challenges.

Contributors and Collaboration Networks Across Authors, Countries, and Institutions

Table 4 presents the top contributors to WCM research, encompassing 2013 authors from 1096 organisations across 69 countries. At the author level, Table 4 highlights several highly influential contributions to the WCM literature. Lind *et al.*, (2012) is seminal for advancing a financial value chain perspective, demonstrating how WC decisions are interdependent across

firms and effectively bridging insights from corporate finance and Supply Chain Management (SCM). Similarly, García-Teruel and Martínez-Solano (2007) has been widely cited for providing one of the earliest robust empirical analyses showing how efficient WCM directly enhances SME profitability, thereby combining methodological rigor with practical relevance. Together, these studies have shaped both the theoretical and applied understanding of WCM, serving as foundational references for subsequent research in the field. This hierarchy is mirrored in Figure 4, where the Lind and Kärri T cluster forms the most cohesive collaborative nucleus, while groups around García-Teruel and Simon Savard N remain smaller and locally oriented. The absence of strong cross-cluster links demonstrates that, despite identifiable leaders, collaboration is structurally fragmented, constraining knowledge diffusion across author groups.

Country-level evidence reinforces this pattern. Table 4 positions the US as the dominant research hub in both citations and publications, reflecting its early and extensive adoption of WCM research, strong academic networks, and the presence of leading finance and operations journals, followed by China, the UK, and India. Consistent with this evidence, Figure 5 presents the international collaboration network in WCM research. The USA emerges as the central hub, reflecting its dominance in publications, citations, and cross-country collaborations,

Table 3: Leading journals publishing on WCM.

Sources	TC	TP	ABDC Ranking	ABS Ranking	Publisher
International Journal of Production Economics	246	21	A	3	Elsevier
International Journal of Managerial Finance	466	19	A	2	Emerald
Managerial Finance	143	18	B	1	Emerald group publishing
International Journal of Production Research	164	9	A	3	Taylor and Francis online
Journal of Accounting and Economics	281	4	A*	4*	Elsevier

Source: Authors' compilation. Note: TC denotes total citations, and TP represents total publications. Journal quality is assessed using the Australian Business Deans Council (ABDC) rankings, which range from A* (highest quality) to C. Additionally, journal standing is evaluated using the Chartered Association of Business Schools (CABS) ratings, where 4* indicates the highest research quality and impact, followed by 4, 3, 2, and 1.

Table 4: Leading authors, affiliated institutions and countries publishing on WCM.

Leading authors			Leading countries			Leading institutions	
Author	TC	TP	Country	TC	TP	Affiliation	TP
Lind and Kärri T	143	15	USA	4331	100	Lappeenranta University of Technology	15
Kumar S	231	11	India	940	75	Universiti Utara Malaysia	14
Michalski G	83	9	China	1019	55	Birla Institute of Technology and Science	11
Pirttilä M	105	8	United Kingdom	1386	37	Wroclaw University of Economics	11
Viskari S	97	8	Finland	181	21	Covenant University	10

Source: Authors' compilation. Note: TP=Total publications, TC=Total citations

effectively connecting both developed and emerging economies. Secondary hubs, including China, the United Kingdom, and India, exhibit strong regional ties but comparatively lower global connectivity, while peripheral countries occupy marginal positions, indicating asymmetries in participation and a hierarchically coordinated research structure. Despite the global relevance of WCM, collaborative research remains concentrated in a few dominant countries, suggesting limited cross-regional knowledge diffusion and the need for broader international engagement to develop more generalizable insights.

Institutional patterns further consolidate these findings. Table 4 identifies Lappeenranta University of Technology and Universiti Utara Malaysia as leading institutions by output, a status confirmed in Figure 6, where Universiti Utara Malaysia operates as the most interconnected node anchoring a major collaboration cluster. Other institutional groupings, such as IIM Ranchi and elite Western universities (e.g., Stanford, University of Pennsylvania, University of Manchester), display dense intra-cluster activity but limited cross-cluster exchanges, producing an institutional architecture with strong local cohesion but weak global integration. Overall, Table 4 and Figures 4-6 indicate concentrated scholarly leadership alongside fragmented collaboration, with a

small set of authors, countries, and institutions shaping the field. Strengthening cross-author, cross-institutional, and international collaboration remains essential for improving knowledge diffusion and theoretical convergence.

Highly influential studies: Local Citation (LC) and Global Citation (GC)

Local Citations (LC) capture a study's influence within the core corpus of 913 WCM articles, whereas Global Citations (GC) reflect its broader impact across disciplines. As reported in Table 5, the citation structure reveals a clear distinction between domain-specific influence and cross-disciplinary relevance. Deloof (2003) emerges as the most influential work within the WCM literature, recording the highest LC (229) along with a substantial GC (560). This prominence reflects its role as a seminal empirical benchmark that formally operationalized the profitability implications of WC practices and has since been extensively adopted and extended in subsequent research. In contrast, Dechow (1994, 2002) exhibits relatively lower local citation intensity but exceptionally high global visibility, indicating that while these studies are not positioned directly within the WCM stream, they provide the foundational methodological framework for measuring accrual

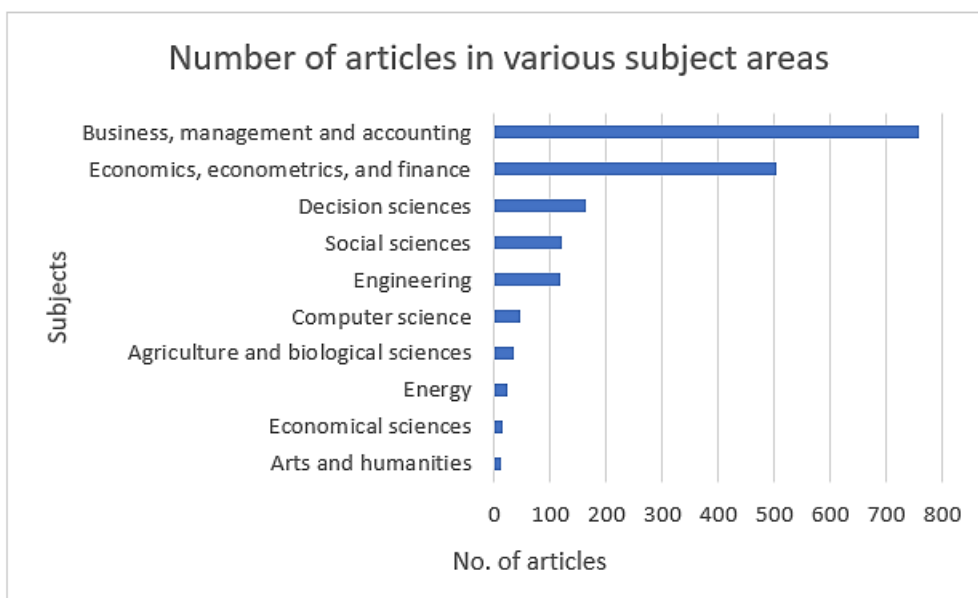


Figure 3: Top disciplines in WCM. Source: author's contribution.

Table 5: Leading publications based on local and global citation count and PageRank.

Document	LC	GC	Documents	PageRank
Dechow (2002), account rev	18	2086	Deloof m. (2003)	0.027517
Dechow (1994), j account econ	20	1227	Lazaridis i. (2006)	0.015165
Francis (2004), account rev	2	1028	Gill (2010)	0.009946
Deloof (2003), j bus finance account	229	560	Aktas (2015)	0.009833
García-Teruel (2007), int j manage finance	173	347	Baños-Caballero s. (2014)	0.009697

Source: AuthorsNote: LC=Local Citations, GC=Global Citations

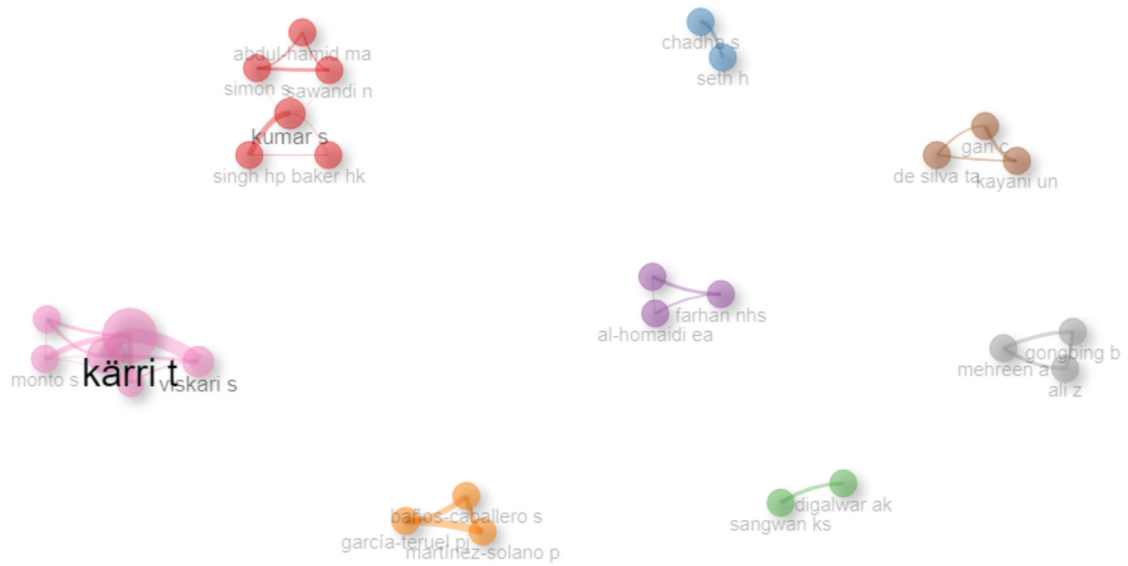


Figure 4: Author's collaboration network. Source: author's contribution.

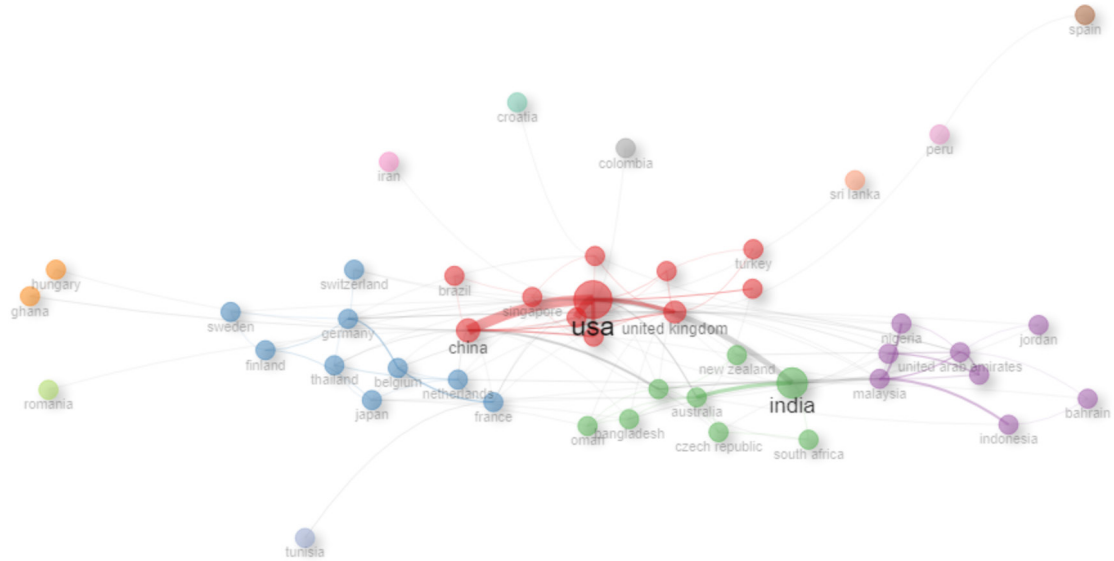


Figure 5: Country collaborations network. Source: author's contribution.

quality through WC based estimation errors. Building on this theoretical lineage, the present study aligns with and extends this stream of research by conceptualizing accrual quality as an outcome of WC estimation efficiency and linking it to operating performance and earnings persistence. Consistent with these patterns, the PageRank analysis identifies Deloof (2003) and Lazaridis and Tryfonidis (2006) as structurally central nodes in the citation network, underscoring their pivotal role in anchoring and transmitting core empirical insights within the WCM literature.

Figure 7 illustrates the citation structure of WCM research and confirms Deloof (2003) as the field's primary intellectual reference, as reflected by its prominent node and extensive cross-cluster linkages. Building on this foundation, green and

blue clusters led by García-Teruel and Martínez-Solano (2007), Baños-Caballero *et al.*, (2014), and Aktas *et al.*, (2015) advance the literature by examining efficiency trade-offs, financing constraints, and nonlinear effects in WC decisions. In contrast, the red cluster, centred on Wuttke *et al.*, (2013a, 2013b) highlights the emergence of supply-chain finance as an important extension of the traditional firm-level perspective. The more peripheral positioning of recent and specialised studies indicates developing research streams that remain only weakly connected to the core, suggesting scope for stronger theoretical integration across subdomains.

Dominant keywords and co-occurrence analysis

Table 6 shows keyword analysis of 913 articles, encompassing 936 author keywords, identifies “working capital management,” “profitability,” and “cash conversion cycle” as the most prevalent terms, signalling the field’s central focus on firm performance and operational efficiency. Emerging keywords such as “supply chain management,” “investments,” and “inventory control” suggest a growing interdisciplinary orientation, linking financial and operational perspectives. The keyword co-occurrence network (Figure 8) reinforces these patterns, with central nodes and densely interconnected clusters mapping the intellectual structure of WCM research. The clusters reveal thematic concentrations: performance and SCM (green), liquidity and efficiency (blue), trade credit metrics such as accounts receivable and inventory (red), and methodological approaches (yellow and purple). Together, the analysis shows that WCM research is not only anchored in traditional performance and liquidity themes but is also evolving toward integrated, multidimensional perspectives that connect operational, financial, and governance considerations, offering a roadmap for future inquiry.

PageRank analysis

PageRank (Brin and Page, 1998) is employed to assess intellectual influence by accounting for the prominence of citing studies, thereby capturing structural importance within the citation network beyond simple citation frequencies. Applied to a corpus of 617 articles, the analysis uncovers three dominant clusters comprising 318, 264, and 35 studies, respectively, with the ten highest-ranked papers in each cluster reported in Table 7. The resulting hierarchy diverges notably from conventional citation-based rankings: among the 21 most-cited studies (see Table 5), only four, Deloof (2003), García-Teruel and Martínez-Solano (2007), Aktas *et al.*, (2015), and

Baños-Caballero *et al.*, (2014), also ranks highly under PageRank. Several articles achieve elevated PageRank positions despite moderate citation counts, reflecting their structurally central roles in connecting foundational and applied research streams. Seminal contributions, Shin and Soenen (1998) provide one of the earliest comprehensive analyses linking WC efficiency to firm value; Blinder and Maccini (1991) establish the macroeconomic and firm-level relevance of inventory behaviour; Faulkender and Wang (2006) connect corporate liquidity and financial policy to firm valuation; Hill *et al.*, (2010) formalise the determinants of WCI across operating environments; Lazaridis and Tryfonidis (2006) extend profitability-WCM linkages to international equity markets; and Gill *et al.*, (2010) contribute evidence on WC profitability dynamics in developed market contexts. Collectively, these studies form the conceptual backbone of the WCM literature by anchoring key theoretical constructs and empirical relationships, explaining their structural centrality and elevated PageRank within the citation network.

The identified clusters delineate the intellectual architecture of WCM research and trace its evolution from firm-level performance and profitability analyses toward broader perspectives encompassing liquidity management, financial policy, investment decisions, and supply-chain considerations. To evaluate their scholarly relevance, a focused content analysis is conducted on the top ten PageRank-ranked studies within each cluster.

WCM and profitability

Cluster 1 represents the foundational theme of the WCM literature, focusing on the core relationship between WCM and firm performance. A dominant strand of the foundational WCM literature documents a negative association between WC intensity and firm profitability when measured using aggregate indicators

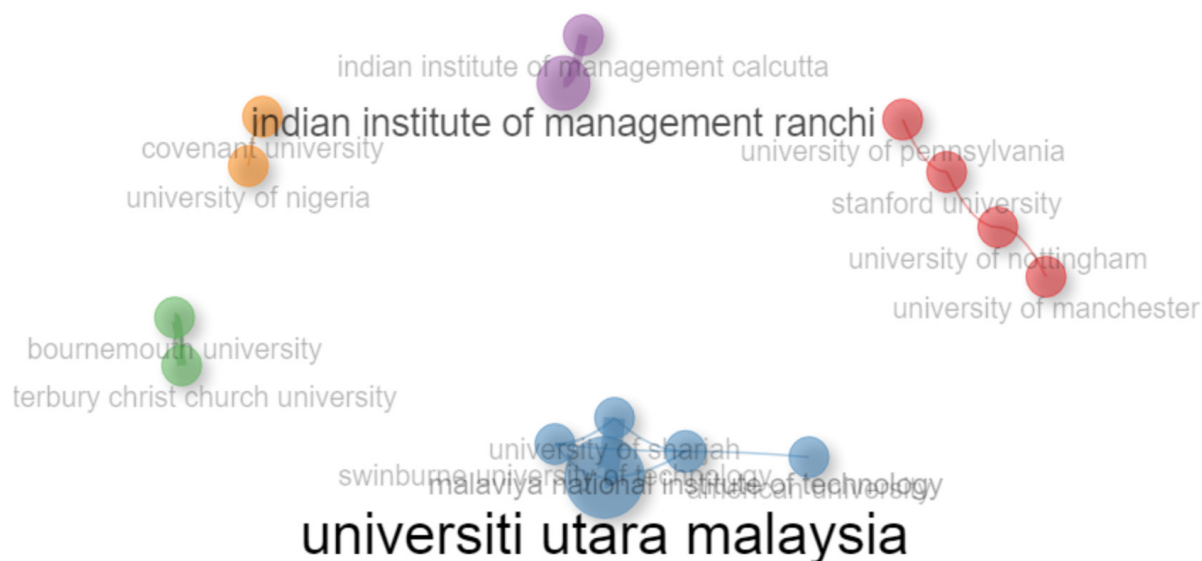


Figure 6: Institute collaboration. Source: author’s contribution.

such as the Cash Conversion Cycle (CCC) and net trade cycle (Deloof, 2003; Baños-Caballero *et al.*, 2012; Sharma and Kumar, 2011). This evidence suggests that prolonged investment in inventories and receivables ties up scarce financial resources, increases holding and financing costs, and reflects operational inefficiencies that depress returns. Component-level analyses reinforce this interpretation, shorter inventory and receivables periods are consistently associated with higher profitability, while delayed payables may impose indirect costs through strained supplier relationships or foregone discounts (Deloof, 2003; García-Teruel and Martínez-Solano, 2007). Collectively, these findings support the view that excessive WC represents a value-destroying use of funds.

In contrast, an alternative stream of research identifies a positive relationship between WCM and firm performance, highlighting the strategic benefits of higher WCI under certain conditions (Gill *et al.*, 2010; Sharma and Kumar, 2011). From this perspective, larger inventory buffers reduce stock-out risks and production disruptions, lenient credit policies stimulate sales and strengthen customer relationships, and timely payments to suppliers enhance supply reliability. Disaggregated evidence

further indicates that longer inventory holding periods can improve profitability by mitigating price volatility and ensuring operational continuity (Afza and Nazir, 2007), while the impact of payables on performance appears context-dependent or insignificant in some settings (Raheman *et al.*, 2010). These findings suggest that WC can function as a strategic asset rather than a cost burden, contributing to firm value when aligned with operational and market conditions. The coexistence of negative and positive profitability effects at both aggregate and component levels indicates persistent ambiguity in the WCM-performance nexus, underscoring the need for research that systematically integrates WC components, firm heterogeneity, and contextual conditions within a unified analytical framework.

WCI and financial constraints

The second cluster extends the intellectual structure of WCM research by linking WCI decisions to financing frictions and capital market imperfections. Departing from the Modigliani and Miller (1958) irrelevance framework, subsequent studies show that information asymmetries and financial constraints materially shape WCI behaviour (Myers and Majluf, 1984;

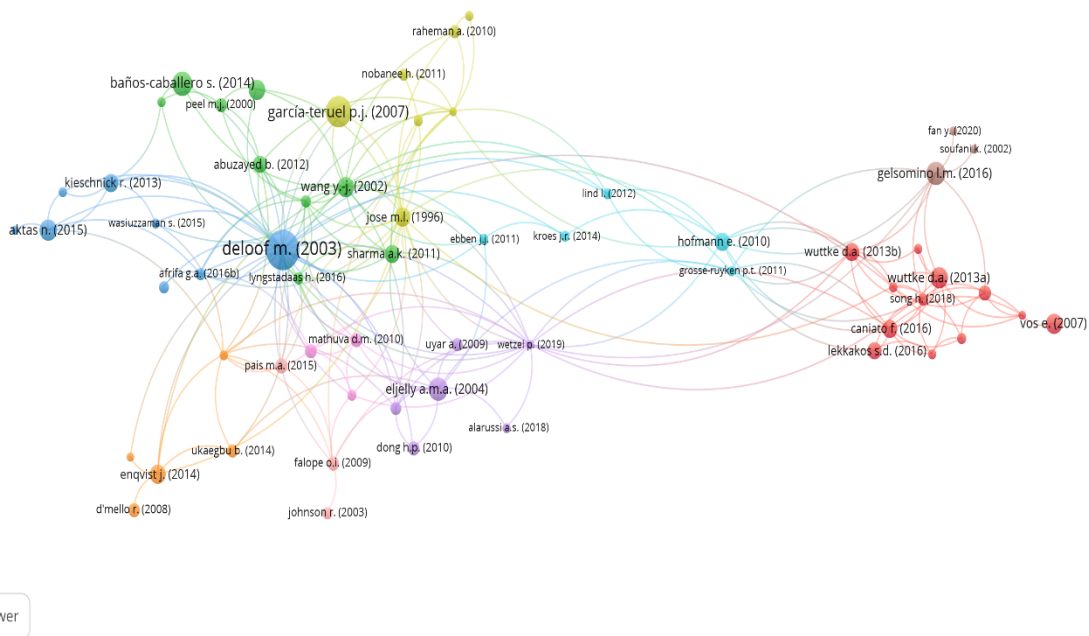


Figure 7: Citation network of studies using VOSviewer. Source: author's contribution.

Table 6: Top keywords of WCM based on occurrences.

Keywords	Occurrence	Keywords	Occurrence
Working capital management	28	Finance	14
Profitability	23	Capital	12
Cash conversion cycles	22	Investments	12
Working capital	19	Supply chain management	12
Supply chains	17	Inventory control	11

Source: Author's work

Table 7: Prominent articles within each cluster identified through PageRank analysis in the co-citation network.

Authors	Article title	Source title	Page-Rank
Cluster 1: WCM and firm performance (318)			
Deloof (2003)	Does Working Capital Management Affect Profitability of Belgian Firms?	Journal of business finance and accounting	0.02752
Lazaridis (2006)	Relationship between Working Capital Management and Profitability of Listed Companies in the Athens Stock Exchange	Journal of financial management and analysis	0.01516
Gill (2010)	The Relationship Between Working Capital Management and Profitability: Evidence from The United States	Business and economics journal	0.00995
Shin (1998)	Efficiency of working capital and corporate profitability.	Financial Practice and Education	0.00816
García-Teruel (2007)	Effects of working capital management on SME profitability	International journal of managerial finance	0.00662
Cluster 2: WCI and financial constraint (264)			
Aktas (2015)	Is working capital management value-enhancing? Evidence from firm performance and investments	Journal of corporate finance	0.00983
Baños-Caballero (2014)	Working capital management, corporate performance, and financial constraints	Journal of business research	0.00970
Blinder (1991)	Taking Stock: A Critical Assessment of Recent Research on Inventories	Journal of economic perspective	0.00750
Faulkender (2006)	Corporate Financial Policy and the Value of Cash	The journal of finance	0.00705
Hill (2010)	Net Operating Working Capital Behaviour: A First Look	Financial management	0.00657
Cluster 3: WCM and SCM (35)			
Richards v.d. (1980)	A Cash Conversion Cycle Approach to Liquidity Analysis	Financial management	0.00397
Hofmann e. (2010)	A supply chain-oriented approach of working capital management	Journal of business logistics	0.00327
Protopappa-Sieke and Seifert (2010)	Interrelating operational and financial performance measurements in inventory control	European journal of operational research	0.00257
Deloof (2003)	The debt-maturity structure of small firms in a creditor-oriented environment	Journal of Business Finance and Accounting	0.00190
Farris (1981)	cash to cash: the new supply chain management metric	International journal of physical distribution and logistics management	0.00190

Source: Authors' compilation

Whited, 1992). Within this framework, firms strategically adjust WC to mitigate financing costs and sustain investment under constrained conditions (Chauhan and Banerjee, 2018). Empirical evidence further indicates that firms with greater liquidity exhibit lower cash-flow sensitivity of investment (Fazzari and Petersen, 1993; Ding *et al.*, 2013; Wasiuzzaman, 2015), while financially constrained firms rely more heavily on WC as a flexible substitute for external finance (Faulkender and Wang, 2006). Collectively, this cluster reframes WCM as a strategic buffer against financial constraints, broadening the literature from performance effects to capital allocation and firm value considerations.

WCM and SCM

The third cluster broadens the intellectual structure of WCM research by extending analysis beyond the firm to the supply-chain level, thereby recognising the interdependencies embedded within value chains. Departing from firm-centric approaches that treat WC decisions in isolation (Lind *et al.*, 2012), this stream shows that unilateral efforts by dominant firms to compress payment cycles can transmit liquidity stress to suppliers and customers (Blackman and Holland, 2006), whereas coordinated adjustments in trade credit terms enhance value-chain stability and resilience (Saranga, 2009). Empirical evidence further indicates that

Table 8: Research gaps and future research questions.

Theme	Research gaps	Future research avenues
Major themes		
WCM and Firm Performance	Existing theoretical studies have not developed a robust and unified framework explaining the exact nature of the WCM-firm performance relationship, with mixed evidence on linear and nonlinear effects (Prasad <i>et al.</i> , 2019; Singh <i>et al.</i> , 2017; Asare <i>et al.</i> , 2023). Moreover, optimal WC thresholds remain underexplored.	<p>What is the nature of the relationship between WCM and firm performance, and does it follow a U-shaped or inverted U-shaped pattern?</p> <p>What are the optimal levels of WC components (inventory, accounts receivable, and accounts payable) that maximise firm value?</p> <p>How do external and internal factors influence firms' WCM choices in different industries?</p>
WCM and Financial Constraints	There is limited empirical evidence on the interplay between financial constraints, internal investment opportunities, and operational efficiency in shaping WCM efficiency.	<p>How do financial constraints interact with firms' internal investment opportunities to influence WCM efficiency? To what extent does operational efficiency moderate the relationship between financial constraints and WCM efficiency?</p> <p>Does financial flexibility alter firms' ability to adjust WC policies during periods of liquidity stress?</p>
WCM and SCM	Although trade credit and inventory management are central to supply chains, their integration into WCM research remains fragmented, particularly in complex and globalised supply chain networks.	<p>How do supply chain structures and inter-firm relationships influence firms' WCM efficiency?</p> <p>How does increasing supply chain complexity affect WC requirements and liquidity risk?</p> <p>How do supply chain complexity and international dispersion condition the relationship between trade credit and inventory efficiency, to improve overall WC performance?</p>
Emerging themes		
Excess NWC	Evidence on excess NWC remains inconclusive, particularly regarding its nonlinear effects on performance and its interaction with firm-specific and industry-level factors.	<p>Do optimal excess NWC thresholds vary across industries and firm life-cycle stages?</p> <p>How does excess NWC influence firm value across different economic cycles and institutional environments?</p> <p>Does excess NWC affect firm risk-taking behaviour and financial stability differently across industries and firm sizes?</p>
Corporate Investment	The role of WC as a financing source for long-term investment is underexplored, especially in emerging markets and financially constrained firms.	<p>To what extent does excess WC crowd out or facilitate corporate investment?</p> <p>How does the reallocation of excess WC toward long-term assets affect firm value?</p> <p>What role does excess NWC play in shaping firms' investment efficiency and capital allocation decisions?</p>
Corporate Governance	Limited empirical work integrates governance mechanisms with WCM decisions, particularly regarding managerial discretion, monitoring intensity, and agency conflicts.	<p>How do corporate governance mechanisms moderate the relationship between WCM and firm performance?</p> <p>Does CEO duality or board structure influence firms' trade credit and liquidity management policies?</p>
Macroeconomic Conditions	Crisis-specific dynamics of WCM remain insufficiently studied, and qualitative insights are rarely integrated with quantitative evidence (Olowookere <i>et al.</i> , 2022).	<p>How do macroeconomic shocks and crises (e.g., COVID-19) alter firms' WCM strategies?</p> <p>How can qualitative approaches complement quantitative models in explaining WCM behaviour during economic crises?</p>

Theme	Research gaps	Future research avenues
Trade Credit	Despite its importance, the interaction between trade credit, macroeconomic conditions, and firm performance remains inadequately understood, particularly in cross-country settings.	How do trade credit gaps influence firm performance under varying macroeconomic conditions? Do country-specific institutional factors moderate the relationship between trade credit and firm value?
Emerging extensions		
Sustainable Practices	The integration of Environmental, Social, and Governance (ESG) considerations into WCM research remains nascent, with limited evidence on long-term financial implications (Shahid <i>et al.</i> , 2020).	How do environmental and social considerations influence WCM decisions and firm performance? Does green financing moderate the relationship between WCM, corporate governance, and firm value?
Financial Technology (FinTech)	The impact of FinTech innovations on WCM efficiency, supply chain finance, and liquidity risk has received limited scholarly attention.	How do FinTech solutions, such as blockchain-based supply chain financing, digital payments, and AI-driven analytics, affect WCM efficiency and firm performance? How does FinTech adoption reshape WC practices in complex supply chain networks?
Survey-Based and Behavioural Perspectives	Behavioural biases and managerial decision-making processes in WCM are largely unexplored due to limited use of primary data, especially in developing economies.	Do behavioural factors influence managerial WCM decisions and risk management practices? How do investors interpret and respond to changes in firms' WCM policies? Do findings from primary data align with or diverge from archival-based evidence on WCM?

Source: Authors' compilation

Excess NWC and corporate investment

Building on performance implications, prior studies examine how excess NWC shapes corporate investment. Evidence from US and emerging-market firms suggests that reducing WCI frees internal funds for fixed asset investment (Fazzari and Petersen, 1993; Appuhami, 2008). Subsequent research shows that efficient WC management can alleviate financing constraints and support capital investment, especially in imperfect capital markets (Ding *et al.*, 2013). Consistent with an optimal WCI framework, reallocating excess WCI toward long-term assets and acquisitions enhances shareholder value (Aktas *et al.*, 2015), while internal capital markets gain importance during external financing frictions (Hovakimian, 2011). Recent evidence from Pakistan reinforces the role of redeploying blocked WC funds to stimulate investment (Akbar *et al.*, 2022). Nonetheless, comprehensive analyses of the WCI-investment nexus remain limited (Prasad *et al.*, 2019). The effectiveness of such investment decisions, however, depends on firms' internal governance structures.

WCM and corporate governance

Corporate governance plays a pivotal role in shaping managerial discretion and enhancing monitoring effectiveness in WCM, encompassing cash, receivables, and inventories. Empirical evidence indicates that board characteristics, CEO duality, ownership structure, and board independence significantly affect

WCM efficiency and firm performance (Gill and Mathur, 2011; Shahid *et al.*, 2020). Recent evidence shows that strong governance not only improves WCM efficiency but also partially mediates its impact on firm performance (Naz *et al.*, 2022). These findings suggest that effective governance enhances firm outcomes both directly through oversight and indirectly by promoting efficient management of WC. However, governance-driven WCM practices are also shaped by broader macroeconomic conditions, particularly during periods of economic stress.

WCM and economic conditions (COVID-19 or financial distress)

Macroeconomic conditions significantly affect WCI decisions and financing policies (Enqvist *et al.*, 2014; Çetenak *et al.*, 2017). Prior studies document the influence of inflation, interest rates, and GDP growth on WC efficiency, though crisis-specific dynamics remain underexplored (Filbeck and Krueger, 2005; Wasiuzzaman and Arumugam, 2013; Mathuva, 2014). The GFC 2008 and COVID-19 pandemic renewed attention to WCM under distress, with evidence suggesting that traditional practices may be inadequate during crises (Simon *et al.*, 2023). Complementary findings indicate moderate WCM efficiency during COVID-19, highlighting scope for improvement (Habib and Kayani, 2023). These conditions intensify firms' reliance on short-term and inter-firm financing channels, particularly trade credit.

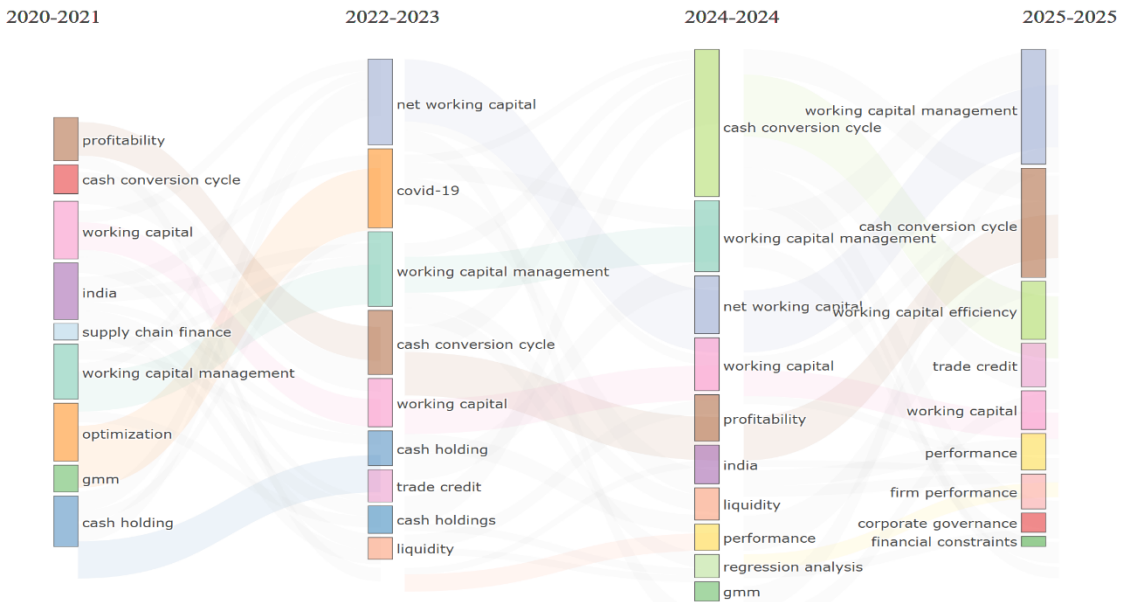


Figure 9: Theme development over the period (2020-2025). Source: author's contribution.

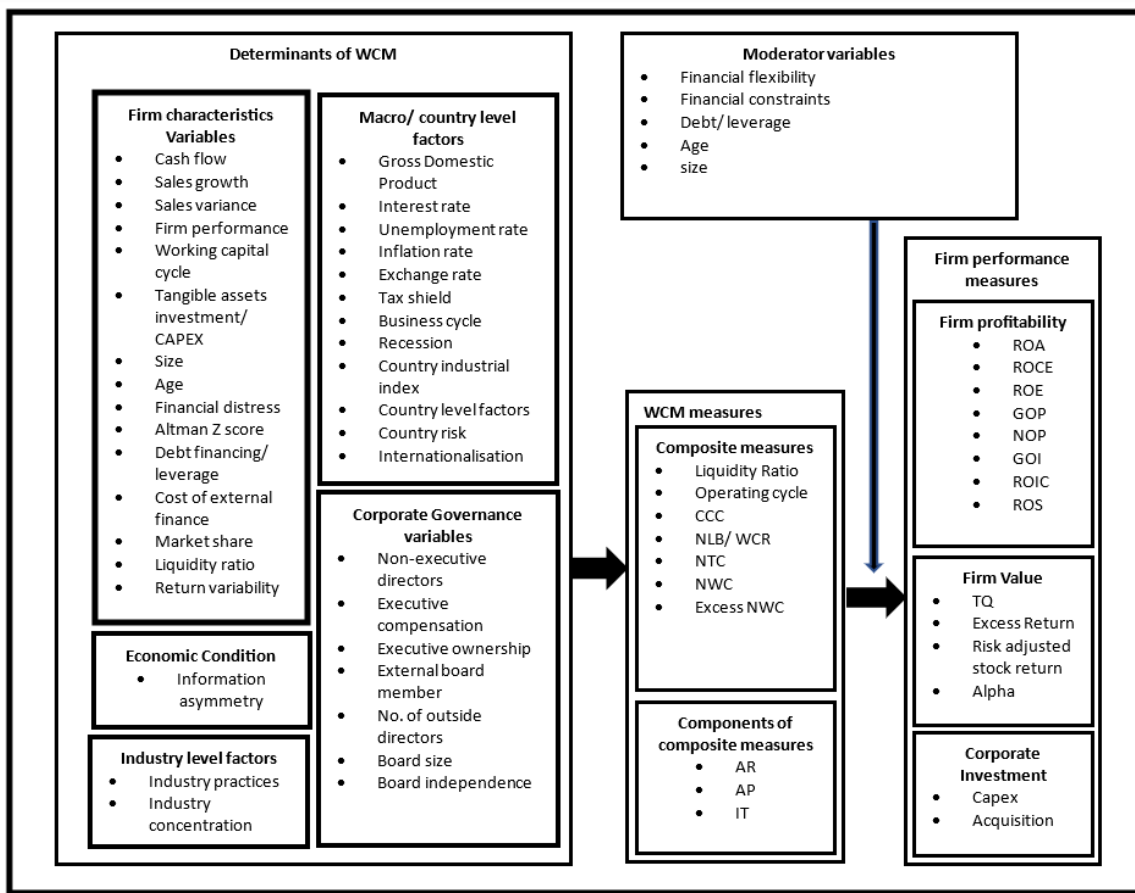


Figure 10: Conceptual framework. Source: author's contribution.

Table 9: Summary of research findings.

Research questions		Findings
RQ 1.1	Publication trend	WCM-related publications increased sharply after the GFC-2008, indicating the countercyclical rise of academic interest in liquidity and short-term financial management during periods of economic stress. The growth trajectory of research articles received greater scholarly interest in recent times, that is, (2020-2025).
RQ1.2	Journals	International Journal of Managerial Finance” and the “International Journal of Production Economics” emerge as key contributors with high citation impact and A-level ABDC rankings, reflecting the strong relevance of WCM to corporate finance and managerial decision-making.
RQ1.3	Disciplines categories	Predominantly concentrated in “business, management and accounting”, followed by “economics, econometrics and finance”, while emerging contributions from “decision sciences”, “engineering”, and “computer science” indicate increasing methodological sophistication.
RQ2.1	Authors	The most productive authors included are Lind, García-Teruel and Martínez-Solano, Lind and Kärri T and Kumar S. Author collaboration remains modest and localized.
RQ2.2	Countries	The United States, India, and China dominate WCM research output. The USA emerges as the central hub, reflecting its dominance in publications, citations, and cross-country collaborations. Secondary hubs, including China, the United Kingdom, and India, exhibit strong regional ties.
RQ2.3	Institutions	Lappeenranta University of Technology play a central role in shaping the field, Universiti Utara Malaysia operates as the most interconnected node anchoring a major collaboration cluster.
RQ3.1	Studies	Deloof (2003) as the most influential study in WCM research, ranking highest in both citations and PageRank centrality, followed by García-Teruel and Martínez-Solano (2007) and Baños-Caballero <i>et al.</i> (2014).
RQ 3.2	Keywords	Working capital management, profitability, and cash conversion cycle as the most prevalent terms.
RQ 4.1	Dominant themes	Three main clusters emerge: (1) WCM and firm performance, (2) optimal WCM levels and financial constraints, and (3) WCM and SCM.
RQ 4.2.	Emerging themes	Emerging themes include excess NWC, corporate investment, corporate governance, macroeconomic conditions, and trade credit.

Source: Authors' compilation

Trade credit

Trade credit is a central component of WCM, encompassing receivables from customers and payables to suppliers. Receivables affect liquidity, profitability, and firm value, while also supporting demand stimulation, quality verification, and long-term relationships (García-Teruel and Martínez-Solano, 2010a, 2010b; Baker *et al.*, 2022). However, excessive receivables increase current asset investment and may reduce profitability, underscoring the need for an optimal balance. On the payables side, trade credit serves as a critical short-term financing source, particularly for Indian firms, often rivaling bank credit (Petersen and Rajan, 1997). Payables ease financing constraints, lower transaction costs, and offer flexibility relative to formal debt (Ferris, 1981; Smith, 1987). Recent studies further demonstrate

how governance attributes, firm age, and financial distress shape trade credit dynamics across institutional settings (Pattnaik and Baker, 2023; Luo *et al.*, 2023). Collectively, these themes demonstrate that WCM outcomes are jointly shaped by internal investment and governance mechanisms, external economic conditions, and trade-credit dynamics.

Conceptual framework development (RQ 5.1)

Figure 10 presents an integrated conceptual framework derived from the systematic content analysis of the thematic clusters identified in this review. The framework identifies key determinants of WCM emerging from three principal streams of prior research. The first stream focuses on firm-specific characteristics, including cash flow generation, sales growth and volatility, firm size and age, leverage, liquidity, asset tangibility,

investment intensity, and financial distress, which consistently explain variation in WCI decisions across studies (Deloof, 2003; Baños-Caballero *et al.*, 2012; Aktas *et al.*, 2015). The second stream emphasises macroeconomic and country-level conditions, such as GDP growth, inflation, interest rates, exchange rates, business cycles, and crisis periods, which shape firms' liquidity needs and financing constraints, particularly during periods of economic uncertainty (Filbeck and Krueger, 2005; Enqvist *et al.*, 2014; Simon *et al.*, 2023). The third stream highlights corporate governance and industry-related factors, showing that governance mechanisms, such as board structure, CEO duality, ownership patterns, and monitoring intensity, influence managerial discretion in liquidity management and trade credit decisions (Gill and Mathur, 2011; Shahid *et al.*, 2020; Pattnaik and Baker, 2023). Collectively, these strands motivate the inclusion of internal, governance-related, and external determinants within a unified framework.

The framework also reflects the heterogeneous measurement of WCM documented in the literature. Prior studies employ both composite measures, such as NWC and the cash conversion cycle (Deloof, 2003; Baños-Caballero *et al.*, 2012), and component-based measures, including accounts receivable, accounts payable, inventory management, and trade credit (García-Teruel and Martínez-Solano, 2010a; Baker *et al.*, 2022). Incorporating both approaches allows the framework to capture aggregate liquidity positions as well as granular managerial decisions underlying WCM practices.

Consistent with the thematic clusters on firm performance and corporate investment, the framework links WCM decisions to firm-level outcomes, including profitability, firm value, and investment efficiency (Aktas *et al.*, 2015; Akbar *et al.*, 2022). However, the review reveals mixed and nonlinear effects, particularly in the excess NWC-performance relationship (Baños-Caballero *et al.*, 2012; Chauhan and Banerjee, 2018), indicating that WCM outcomes are context dependent. This motivates the explicit inclusion of moderating variables, such as financial constraints, financial flexibility, leverage, firm size, and firm age, which are frequently acknowledged but rarely modelled explicitly. Overall, the proposed framework integrates determinants, measurement dimensions, moderators, and outcomes into a single analytical structure, clarifying how firm characteristics, governance mechanisms, and macroeconomic conditions jointly shape WCM decisions and their performance implications.

Research gaps and future research agenda (RQ 5.2 and 5.3)

Drawing on the major and emerging themes, this study identifies several promising avenues for future research. These insights, summarized in Table 8, highlight key themes and underexplored

areas that can guide scholars in extending and deepening the scope of research within the WCM domain.

DISCUSSION

The bibliometric evidence presented in Table 9 highlights the observed expansion of WCM studies following periods of economic disruption underscores the need for deeper investigation into the dynamic and countercyclical role of WC policies. While existing research remains largely grounded in finance and management, the growing interdisciplinary orientation suggests scope for methodological innovation and cross-country analysis. Future studies should therefore move beyond static performance-based models to examine governance structures, investment efficiency, and the role of macroeconomic uncertainty in shaping WC decisions.

IMPLICATIONS

This study offers several implications for different stakeholders. First, for academic researchers, the findings highlight the need to move beyond profitability-centric analyses toward integrated WCM frameworks that incorporate governance mechanisms, macroeconomic conditions, sustainability, and supply-chain dynamics. The fragmented pattern of international collaboration indicates scope for cross-country and interdisciplinary research, while future studies may extend foundational work using dynamic, crisis-sensitive, and network-based approaches to capture the evolving role of WCM under economic uncertainty. Second, for governments, the results underscore the strategic importance of WCM in enhancing firm resilience and reducing bankruptcy risk during periods of economic stress, with firm-level liquidity management playing a key role in sustaining employment, investment continuity, and economic stability. Third, from a policy perspective, the growing links between WCM, corporate governance, and macroeconomic conditions point to the need for transparent and prudent regulatory frameworks, including improved disclosure of WC components and access to short-term financing, particularly in emerging economies. Lastly, for corporate managers and other stakeholders, the findings reinforce WCM as a strategic decision-making tool, where effective management of receivables, inventories, payables, trade credit, and supply-chain relationships supports firm performance, liquidity risk assessment, and long-term financial sustainability.

LIMITATIONS

This study is subject to several limitations. First, the data were sourced exclusively from the Scopus database, thereby excluding publications indexed in other bibliographic repositories. In addition, the analysis was restricted to peer-reviewed articles published in English, which may limit the generalisability of the findings. Future research could address this constraint by incorporating multiple databases, alternative document types,

and non-English publications. Second, the selection of keywords, the use of fuzzy terms, and variations in keyword combinations and Boolean operators may yield different search outcomes; consequently, the search query employed cannot be regarded as exhaustive in capturing the entire body of research on WCM. Third, bibliometric analyses inherently prioritise publication counts and citation metrics, which may not fully reflect the qualitative contribution of individual studies. Finally, the results generated using VOSviewer and Biblioshiny may be influenced by algorithmic sensitivity and potential sampling bias, which should be considered when interpreting the findings.

CONCLUSION

Focusing on WCM, this study undertakes a comprehensive bibliometric analysis to map the intellectual structure and knowledge base of the field. The review contributes to the literature in two keyways. First, it extends existing WCM scholarship by offering a systematic and integrative overview of the domain, providing a holistic assessment of performance indicators (such as publication trends, geographical distribution, leading authors, influential journals, and highly cited studies) along with the underlying intellectual framework and major research fronts from the inception of WCM research to the present. By documenting the evolution of WCM scholarship over time, this study enables readers to develop a consolidated understanding of the accumulated knowledge in the field, thereby reducing the need for repetitive large-scale reviews in the near future. Second, through in-depth content analysis, the study bridges the gap between established and emerging knowledge by identifying dominant themes, emerging research fronts, and underexplored areas that can inform future research agendas. In doing so, it encourages scholars to examine dimensions of WCM, supporting the continued growth and advancement of research in this increasingly important area of corporate finance.

Future research on WCM may benefit from incorporating additional databases such as Science Direct, Wiley, Taylor and Francis, and Google Scholar, as well as integrating practitioner-oriented literature to obtain a more comprehensive understanding of the field. Scholars are also encouraged to extend bibliometric and scientometric analyses by linking WCM with complementary research domains, including sustainable development, corporate governance, SCM, behavioural finance, and macroeconomic conditions. Moreover, given the limited representation of emerging and developing economies in the existing literature, future studies should focus on context-specific WCM issues in these regions. Overall, it is expected that this review will stimulate further scholarly interest and motivate researchers to explore the identified research fronts, thereby supporting continued academic engagement and advancement in WCM research.

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ABBREVIATIONS

CCC: Cash Conversion Cycle; **GC:** Global Citations; **LC:** Local Citations; **NWC:** Net Working Capital; **RQ:** Research Question; **SCM:** Supply Chain Management; **TC:** Total Citations; **TP:** Total Publications; **USA:** United States of America; **WC:** Working Capital; **WCM:** Working Capital Management.

CONFLICT OF INTEREST

The authors declare that there is no conflict of interest.

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