

Trends and Dynamics of Literature about Working Capital Management Published in 2000-2024

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Article Info

Article history:

Received Jul, 2025

Revised Jul, 2025

Accepted Jul, 2025

Keywords:

Bibliometric Analysis;
Financial Management;
Profitability;
Working Capital Management

ABSTRACT

This study presents a comprehensive bibliometric analysis of the literature on Working Capital Management (WCM) published between 2000 and 2024. Drawing data from the Scopus database and employing VOSviewer for visualization, the research maps the intellectual structure, thematic evolution, and collaborative networks within the field. The analysis reveals that WCM research has expanded from a focus on profitability and liquidity toward more interdisciplinary concerns, including knowledge management, human capital, social capital, and sustainability. Co-citation and keyword co-occurrence networks identify three major thematic clusters: traditional financial efficiency, strategic-financial integration, and behavioral-organizational perspectives. Temporal overlays indicate that emerging themes such as psychological capital, leadership, and sustainability have gained prominence in recent years. Additionally, the country collaboration network highlights the global nature of WCM research, with active contributions from both developed and emerging economies. This study not only synthesizes two decades of scholarly development in WCM but also provides insights for future research directions that integrate finance with strategy, technology, and organizational behavior.

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1. INTRODUCTION

Working Capital Management (WCM) has long been recognized as a critical component of corporate financial strategy, influencing liquidity, profitability, and operational efficiency. It encompasses the administration of current assets and current liabilities, including cash, receivables, inventories, and short-term debts. Effective WCM ensures that firms maintain optimal liquidity levels while minimizing the cost of capital and enhancing firm value [1]. Since the

early 2000s, globalization, digital transformation, and heightened competition have compelled businesses across sectors to reassess their short-term financial management practices, driving renewed academic interest in the topic [2].

The literature on WCM has evolved significantly in the past two decades, reflecting diverse theoretical perspectives, methodological approaches, and industrial contexts. Earlier studies primarily focused on establishing the relationship between WCM and firm profitability [3], while recent

research has expanded toward dynamic capabilities, cash conversion cycles, and the integration of supply chain financing and fintech innovations [4]. Moreover, economic shocks such as the 2008 financial crisis and the COVID-19 pandemic have intensified scholarly debates on the resilience of WCM practices in periods of financial distress and uncertainty, prompting a re-evaluation of traditional models.

A noteworthy trend in the WCM literature is the increased interest in sectoral and regional comparative analyses. Researchers have explored how cultural, institutional, and economic differences across countries influence WCM practices. Studies in emerging markets, especially in Asia and Africa, have challenged assumptions derived from developed economies, illustrating the heterogeneity in financial management behaviors [5], [6]. Such diversification in research focus has expanded the epistemological and empirical breadth of WCM as a scholarly field.

Technological advancement has further influenced the direction of WCM studies. The adoption of enterprise resource planning (ERP) systems, big data analytics, and artificial intelligence has introduced new tools and metrics for managing working capital more efficiently [7], [8]. These developments have encouraged scholars to reframe WCM within the broader context of digital finance and corporate innovation. As a result, contemporary studies increasingly intersect with disciplines such as information systems, operations management, and behavioral finance, reflecting the multidisciplinary character of modern financial research.

Despite the growing body of work, the field remains dynamic and fragmented. Various themes, ranging from cash management and inventory turnover to receivables collection and supplier financing have emerged, each with specific analytical lenses. The methodological diversity, including panel data regression, structural equation modeling, and bibliometric analysis, reflects the complexity of the subject matter. Therefore, mapping the trajectory of WCM

literature from 2000 to 2024 is essential to understanding its intellectual structure, thematic evolution, and research gaps that warrant scholarly attention.

Although numerous studies have addressed different dimensions of working capital management, the existing body of literature lacks a comprehensive synthesis of its developmental trends and thematic shifts over time. There is an absence of systematic mapping that tracks how the research focus has evolved, which methods have dominated the field, and which regions or sectors have been underrepresented. Without a clear understanding of the dynamics of WCM literature, researchers may risk redundancy or overlook emerging opportunities for theoretical innovation and practical application. Consequently, a bibliometric analysis that critically examines the publication patterns, citation networks, and conceptual clusters is necessary to inform future research directions and policy implications. The objective of this study is to conduct a bibliometric analysis of academic literature on Working Capital Management published between 2000 and 2024.

2. METHOD

This study employs a bibliometric approach to analyze the trends and dynamics of academic literature on Working Capital Management (WCM) from 2000 to 2024. Bibliometric analysis is a quantitative research method used to assess the development, structure, and impact of scientific literature through statistical and visualization techniques [9]. It enables researchers to uncover influential authors, highly cited publications, research clusters, and collaboration networks within a given field. This method is particularly suitable for synthesizing large volumes of academic output, making it ideal for tracking the intellectual evolution of WCM research over a 25-year period.

Data for this analysis were retrieved from the Scopus database, one of the most comprehensive and widely used abstract and citation repositories for peer-reviewed

literature. The search strategy involved using the keyword phrase "working capital management" in article titles, abstracts, and keywords, filtered for journal articles published between January 2000 and May 2024. Only articles written in English and categorized under the fields of business, management, accounting, economics, and finance were included. Duplicates, conference papers, and non-relevant records were excluded through manual screening. The final

dataset was exported in .csv and .ris formats for further analysis using bibliometric tools. The analytical process was conducted using VOSviewer, a software designed to construct and visualize bibliometric networks such as co-authorship, co-citation, and keyword co-occurrence [10].

3. RESULT AND DISCUSSION

3.1 Co-Authorship Analysis

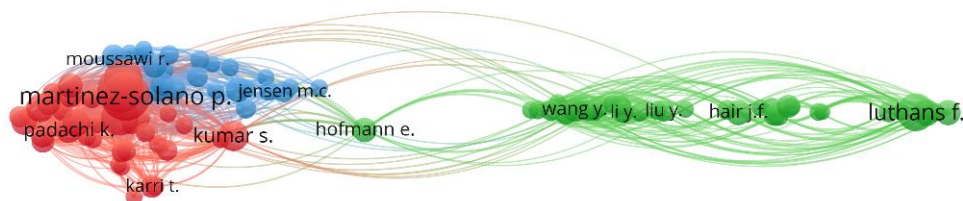


Figure 1. Author Visualization
Source: Data Analysis

The visualization above illustrates the intellectual structure of Working Capital Management (WCM) literature by mapping frequently co-cited authors from 2000 to 2024. The network reveals three distinct clusters, each represented by a different color. The red cluster is anchored by influential scholars such as Padachi K., Martínez-Solano P., and Kaur T., reflecting foundational research on WCM-performance relationships, particularly in small and medium enterprises (SMEs). The blue cluster, including authors like Jensen M.C. and Moussawi R., seems to integrate corporate governance and

liquidity considerations into WCM debates. Meanwhile, the green cluster represents broader methodological and analytical contributors such as Hair J.F., Wang Y., and Luthans F., suggesting an intersection between WCM research and broader management, statistical modeling, and behavioral studies. The interconnecting lines (edges) between clusters indicate cross-disciplinary linkages and shared citation patterns, underscoring the growing complexity and integration of WCM with adjacent academic fields such as finance, operations, and organizational behavior.

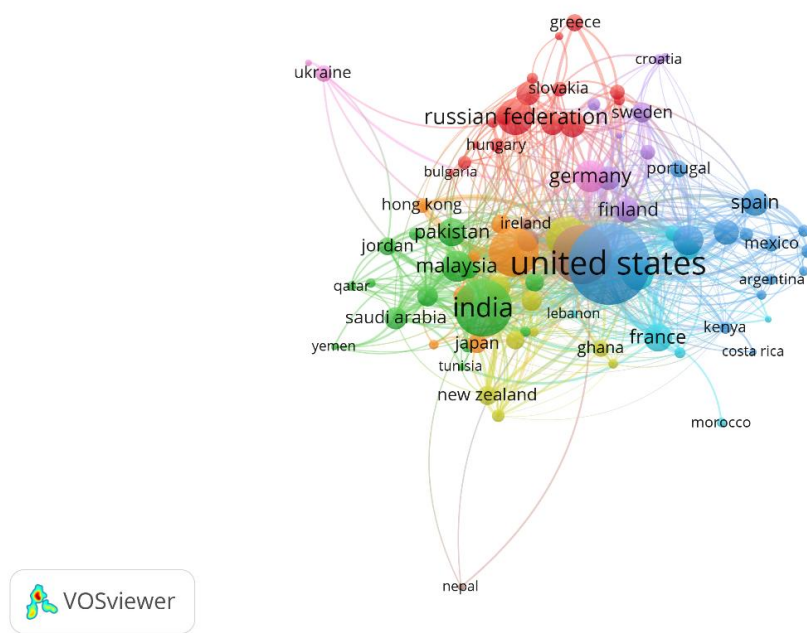


Figure 2. Country Visualization
Source: Data Analysis

The figure 2 above is a network map based on country affiliations reveals the global distribution and interconnectedness of research on Working Capital Management (WCM) between 2000 and 2024. The United States stands out as the most dominant and central node, indicating its pivotal role in both the volume of publications and international research collaborations. Surrounding the U.S. are several major hubs, including India, Germany, the United Kingdom, France,

and Spain, each forming regional clusters with frequent co-authorship links. India and Malaysia, for example, form a dense cluster representing strong South and Southeast Asian contributions, while Germany, Russian Federation, and Sweden represent a robust European research network. Countries like Mexico, Argentina, Kenya, and Nepal, though less central, are integrated into the network, reflecting the expanding global interest in WCM.

3.2 Citation Analysis

Table 1. Most Cited Article

Citations	Author and Year	Title
2073	[11]	Earnings management to avoid earnings decreases and losses
1614	[12]	Debt covenant violation and manipulation of accruals
1074	[13]	Corporate governance and firm performance
825	[14]	Does working capital management affect profitability of Belgian firms?
805	[15]	Natural capital and ecosystem services informing decisions: From promise to practice
803	[16]	The internationalization of new and small firms: A resource-based view
781	[17]	Psychological capital: A positive resource for combating employee stress and turnover
699	[18]	Commercializing knowledge: University science, knowledge capture, and firm performance in biotechnology

Citations	Author and Year	Title
690	[19]	Advanced oxidation processes (AOPs) involving ultrasound for waste water treatment: A review with emphasis on cost estimation
683	[20]	BIM Handbook: A Guide to Building Information Modeling for Owners, Designers, Engineers, Contractors, and Facility Managers

Source: Scopus, 2025

3.3 Keyword Co-Occurrence Analysis

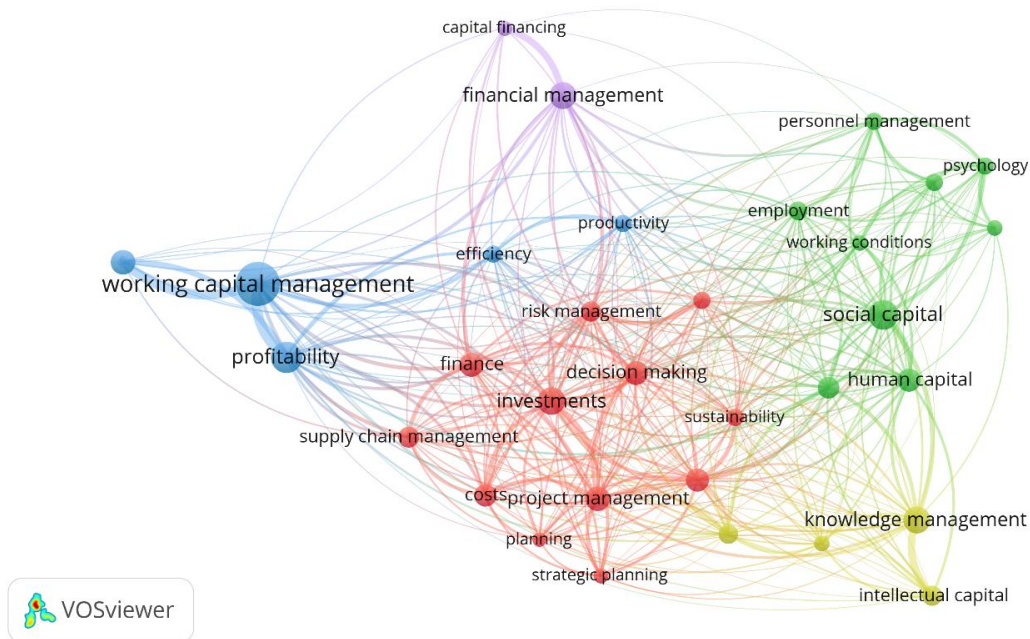


Figure 3. Network Visualization
Source: Data Analysis

Figure 3 keyword co-occurrence network visualizes the thematic structure of Working Capital Management (WCM) research from 2000 to 2024 by grouping frequently co-occurring terms into color-coded clusters. At the center of this visualization lies “working capital management,” closely connected with terms such as “profitability,” “efficiency,” and “supply chain management”, indicating that the core of the literature remains focused on examining how WCM strategies influence firm performance. This blue cluster captures the traditional emphasis on liquidity, return on assets, and optimal asset-liability balancing as key determinants of profitability.

The red cluster, which includes terms like “investments,” “finance,” “risk management,” “decision making,” “cost,” and “project management”,

reflects an expanded view of WCM as part of broader strategic and financial decision-making processes. It suggests that researchers are increasingly examining WCM not in isolation but in conjunction with capital budgeting, project execution, and financial planning activities. The presence of “strategic planning” and “sustainability” in this cluster also highlights a growing trend in aligning WCM with long-term organizational goals and risk mitigation frameworks, especially in volatile and uncertain business environments.

The green cluster, formed around keywords like “social capital,” “human capital,” “personnel management,” “employment,” and “working conditions,” represents a more interdisciplinary turn in the literature. This suggests a growing awareness of the role of intangible and human-centric resources in financial

performance. The connection of WCM studies with themes from organizational behavior, labor economics, and psychology indicates a shift toward understanding how workforce dynamics influence or are influenced by capital efficiency and short-term financial policies. It underscores the importance of aligning human resource practices with working capital decisions to enhance agility and adaptability.

The yellow cluster, centered on “knowledge management,” “intellectual capital,” and “strategic planning,” further supports the idea that intangible assets are gaining recognition in WCM research. These terms suggest that managing knowledge resources and leveraging intellectual capital have become integral to effective capital allocation and operational decision-making. This cluster aligns WCM with innovation management and learning

organizations, implying that firms with superior knowledge systems may better optimize working capital and reduce waste or redundancy in inventory, receivables, and payables.

The purple cluster, which includes “financial management,” “capital financing,” and “productivity,” indicates a traditional finance-oriented perspective, highlighting the role of broader financial control mechanisms and funding strategies in managing working capital. These keywords link WCM to firm-level financial architecture, suggesting that effective working capital policies are closely intertwined with capital structure decisions and overall productivity improvements. This cluster reflects ongoing interest in exploring how internal financing decisions and access to capital markets influence working capital efficiency.

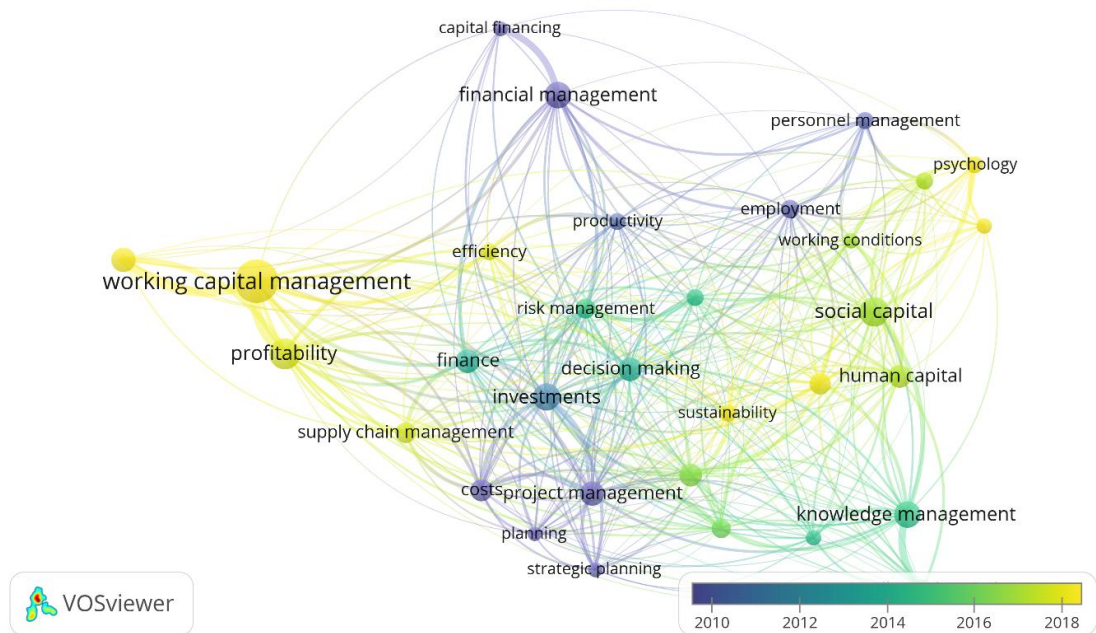


Figure 4. Overlay Visualization
Source: Data Analysis

Figure 4 illustrates the temporal evolution of keywords in the Working Capital Management (WCM) literature between 2010 and 2018. Using a color gradient from blue (older) to yellow (newer), the map reveals shifts in

thematic focus over time. The core terms like "working capital management," "profitability," and "supply chain management" appear in yellow, suggesting that these have remained active and recently emphasized areas of

study. Their recentness reflects continuing scholarly interest in the relationship between WCM practices and firm-level outcomes, particularly in dynamic and volatile economic environments post-2015. In contrast, older (blue to green) keywords such as “financial management,” “capital financing,” “efficiency,” “cost,” and “strategic planning” are positioned more centrally and connect a broad range of concepts. These terms were predominant in earlier years, especially between 2010 and 2014, indicating that foundational discussions initially focused on integrating WCM with broader corporate

finance strategies and operational performance. However, their persistence in the network suggests they still serve as bridging concepts that support more recent developments in the field. Interestingly, newer themes in yellow such as “social capital,” “psychology,” “human capital,” and “knowledge management” reflect the increasing interdisciplinarity of WCM research in recent years. This shift signals a growing recognition of intangible and behavioral factors, such as organizational culture and employee competence, in shaping financial performance.

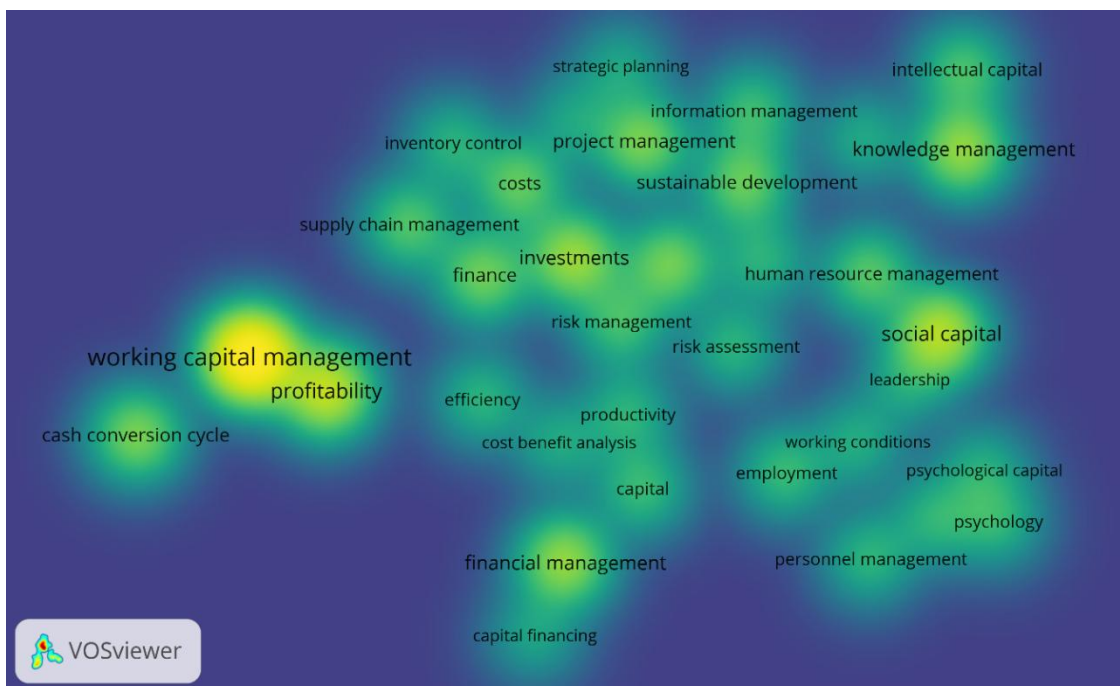


Figure 5. Network Visualization
Source: Data Analysis

The heatmap visualization highlights the density of keyword occurrences in the field of Working Capital Management (WCM) research. The most prominent hotspot—marked in bright yellow—centers on “working capital management” and “profitability,” confirming their status as the most frequently studied and cited themes. Nearby, terms such as “cash conversion cycle,” “inventory control,” and “supply chain management” also show moderate

intensity, indicating their close association with WCM in examining operational efficiency and short-term liquidity strategies. This concentration of focus reflects the traditional core of the WCM literature, which emphasizes the optimization of current assets and liabilities to enhance firm performance. Other noticeable areas of moderate keyword density appear around terms like “investments,” “financial management,” “project management,”

“social capital,” and “knowledge management.” These clusters suggest expanding thematic intersections, where WCM is increasingly linked to broader financial strategy, human capital development, and sustainability issues. The presence of terms like “psychological capital” and “leadership” in the peripheral but growing regions of interest reflects a shift toward behavioral and organizational perspectives.

3.4 Discussion

The bibliometric analysis conducted in this study provides significant insights into the evolution, thematic structure, and intellectual networks within the domain of Working Capital Management (WCM) research from 2000 to 2024. The findings reveal that WCM has undergone substantial transformation over the past two decades, shifting from a narrowly defined technical function within financial management to a multidisciplinary field that intersects with operations, strategy, organizational behavior, and human capital development.

At the core of WCM research, the analysis reaffirms that the relationship between working capital management and profitability remains the most dominant and persistently explored theme. This focus is evident in the high frequency and strong clustering of keywords such as “working capital management,” “profitability,” and “cash conversion cycle.” Foundational studies, such as those by [14], and [21], continue to be heavily cited and serve as intellectual anchors. These works established empirical relationships between WCM efficiency and firm profitability across various industries and geographies, laying the groundwork for subsequent investigations.

However, the visualization of keyword co-occurrence and heatmaps suggests that thematic diversification has become more pronounced in recent years. Emerging topics such as “social capital,” “human capital,” “knowledge

management,” and “psychological capital” are increasingly present, indicating that scholars are expanding the analytical lens to include intangible assets and behavioral dynamics. This aligns with the broader movement in management research toward valuing intellectual capital and employee well-being as drivers of financial performance [22], [23]. The integration of WCM with human resource management and organizational psychology marks a significant interdisciplinary shift, allowing for more nuanced analyses of how working capital decisions influence, and are influenced by, internal organizational dynamics.

The temporal overlay visualization confirms this evolutionary trajectory, showing that the most recent themes (yellow nodes) are associated with human-centered terms such as “employment,” “psychology,” and “leadership.” In contrast, traditional financial terms like “financial management,” “capital financing,” and “cost” are shaded in blue, indicating their earlier prominence. This temporal progression reflects how WCM research has matured, gradually incorporating social science perspectives and addressing more complex organizational realities. It also reveals the adaptability of the field in responding to new business challenges such as sustainability, workforce agility, and digital transformation.

In addition to thematic expansion, the co-citation network analysis illustrates intellectual clustering and cross-disciplinary linkages. Scholars such as *Padachi K.*, *Martínez-Solano P.*, and *Kaur T.* represent the core financial and SME-focused literature, while figures like *Luthans F.* and *Hair J.F.* represent the entry points from psychology and advanced statistical methodology into WCM research. This convergence signals a blending of methodological rigor with conceptual depth, where financial econometrics is enriched by structural

equation modeling, behavioral finance, and organizational theory.

The country collaboration map highlights a geographically diverse and interconnected scholarly community, with the United States occupying a central position in terms of both productivity and international collaboration. The presence of strong clusters around countries like India, Germany, Malaysia, and Spain indicates that WCM research has a truly global footprint. Developing economies in Asia and Africa are increasingly contributing to the discourse, often with empirical studies grounded in local business environments and unique regulatory or institutional contexts. This regional diversification is crucial for contextualizing WCM findings, as working capital dynamics are highly sensitive to macroeconomic variables, access to capital, and supply chain structures.

Moreover, this global spread has enabled comparative studies and contextual theory-building. For instance, research in emerging markets often emphasizes the challenges faced by SMEs in accessing short-term financing and the role of informal credit arrangements, which differ significantly from conditions in developed economies [24], [25]. Such comparative research enhances the generalizability of WCM theory and allows for the development of region-specific policy recommendations.

Another key trend emerging from this analysis is the integration of WCM with strategic and risk management perspectives. The co-occurrence of keywords such as “risk management,” “strategic planning,” and “decision making” alongside traditional WCM terms suggests that scholars are positioning working capital not merely as a financial control mechanism but as a strategic resource. This reconceptualization is consistent with the resource-based view of the firm, where working capital is treated as a deployable

asset that contributes to competitive advantage [26].

In recent years, sustainability has also emerged as a relevant dimension, as seen from the inclusion of terms like “sustainable development” and “efficiency.” This reflects a broader trend in financial research that integrates environmental, social, and governance (ESG) factors into operational and financial decision-making. WCM plays a pivotal role here, as efficient inventory and receivables management can reduce waste, promote ethical sourcing, and support socially responsible supply chains. These considerations indicate an ongoing shift toward value-based working capital management, where decisions are guided not only by cost minimization but also by stakeholder interests and long-term value creation.

Despite these positive developments, the field still faces certain limitations. The dominance of empirical, cross-sectional studies focusing on linear relationships (e.g., between the cash conversion cycle and profitability) may constrain theoretical innovation. Future research should consider non-linear, longitudinal, and case-based approaches to better capture the complex, dynamic nature of WCM in different organizational and environmental contexts. There is also a need for more studies that examine digital transformation and its implications for working capital—such as real-time inventory systems, AI-based credit assessment, and blockchain-enabled supply chain finance.

4. CONCLUSION

This study provides a comprehensive bibliometric analysis of the trends and dynamics in Working Capital Management (WCM) research from 2000 to 2024, revealing significant thematic evolution, intellectual diversification, and global expansion. The findings highlight that while traditional topics such as profitability, cash conversion cycles,

and financial efficiency remain central, the field has progressively embraced interdisciplinary themes including human capital, social capital, sustainability, and knowledge management. Temporal and co-occurrence visualizations indicate a growing integration of behavioral, strategic, and technological dimensions into WCM

discourse, suggesting a shift from transactional financial approaches to holistic, value-driven frameworks. Furthermore, the global collaboration network underscores the increasing contributions from emerging economies, enriching the literature with diverse empirical contexts.

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