STRATEGIC MANAGEMENT ACCOUNTING FOR PERFORMANCE MEASUREMENT AND SUSTAINABILITY: A BIBLIOMETRIC REVIEW (1992-2025)

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ABSTRACT

This paper conducts a bibliometric analysis of studies on Strategic Management Accounting (SMA), focusing particularly on its role in evaluating performance and supporting sustainability. Researchers examined 111 peer-reviewed articles from Scopus and Web of Science databases, covering the years 1992 through 2025, employing bibliometric methods via VOSviewer along with algorithmic text matching to standardize keywords. The overview analysis highlights a steady rise in the volume of publications, with substantial expansion beginning after 2010, underscoring SMA's expanding significance in scholarly and real-world contexts. Analysis of keyword overlaps and theme diagrams reveals three primary research areas: (i) embedding SMA instruments within performance evaluation frameworks; (ii) the developing connection between SMA approaches and business outcomes; and (iii) a heightened focus on sustainability, stakeholder engagement, and fostering value. This analysis enriches existing scholarship by outlining the overall framework of SMA studies and identifying opportunities for further exploration, especially in developing nations where SMA implementation is still underdeveloped.

Keywords: *Strategic Management Accounting (SMA), Performance Measurement Systems, Strategic Cost Management, Bibliometric Analysis.*

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1. INTRODUCTION

Strategic Management Accounting (SMA) has emerged as a critical field at the intersection of accounting, strategy, and performance management, reflecting the growing need for organizations to integrate financial and non-financial information into decision-making processes. Since its introduction by Simmonds (1981), SMA has been associated with techniques such as target costing, life cycle costing, competitor analysis, customer profitability analysis, and the balanced scorecard, all designed to provide managers with strategic insights beyond traditional cost control [1, 2]. Over the past three decades, research has increasingly highlighted the potential of SMA to enhance organizational performance, improve competitiveness, and align management control systems with long-term strategic objectives [3, 4].

In parallel, the notion of performance measurement has evolved from being narrowly focused on financial outcomes to encompassing multidimensional frameworks that integrate financial, operational, and sustainability indicators [5, 6]. This evolution reflects the broader shift in management accounting research towards sustainability, stakeholder orientation, and value creation [7]. Particularly in the context of global challenges such as climate change, digital transformation, and Industry 4.0, SMA is increasingly viewed as a tool to bridge financial control with sustainability performance, making it highly relevant for both developed and emerging economies.

Despite this progress, several research gaps remain. First, there is a lack of systematic mapping of SMA's intellectual structure across time, especially regarding its intersection with performance measurement and sustainability [8]. Second, empirical studies are highly concentrated in developed countries such as the UK, USA, and Australia, while contributions from emerging economies remain limited, leading to a potential bias in the global understanding of SMA adoption. Third, the

integration of specific SMA techniques into sustainability frameworks remains fragmented.

Bibliometric analysis has become an increasingly popular approach to systematically review research fields, enabling scholars to identify publication trends, leading authors and journals, knowledge clusters, and future research [9]. Recent bibliometric reviews in accounting and management [10, 11] demonstrate the value of this method in uncovering intellectual structures and mapping research frontiers. However, to date, no bibliometric study has comprehensively examined SMA research with a specific focus on performance measurement and sustainability. This lack of synthesis hinders both scholars and practitioners from understanding the evolution of SMA and its implications for strategic decision-making.

To address these limitations, this study conducts a bibliometric review of SMA research from 1992 to 2025. By analyzing 111 peer-reviewed publications, it maps the field's trajectory, identifies dominant research streams, and highlights the disconnect between theoretical hubs and practical adoption in emerging economies. The findings are expected to provide valuable insights for academics, practitioners, and policymakers, particularly in emerging economies where SMA adoption remains underexplored.

2. MATERIALS AND METHODS

2.1. Research design

This study adopts a bibliometric review approach, which has been increasingly used to systematically map scientific knowledge in accounting, management, and related disciplines [9, 12]. Bibliometric analysis allows for the quantitative assessment of a research domain by identifying publication trends, authorship patterns, citation impact, and thematic clusters. Compared to traditional narrative or systematic reviews, bibliometric analysis offers a more objective and replicable method to evaluate large volumes of literature and uncover intellectual structures within a field.

In the context of Strategic Management Accounting (SMA), bibliometric analysis provides a suitable method to synthesize fragmented streams of research that span over three decades and are distributed across diverse journals, disciplines, and geographies. By employing bibliometric mapping, this study aims to systematically identify the evolution of SMA research, particularly in relation to performance measurement and sustainability.

2.2. Data source and collection procedure

To ensure high-quality and reliable coverage, Scopus and Web of Science were selected as the primary data source. The database is recognized for its rigorous indexing criteria and is widely used in bibliometric studies in accounting and management [10]. Scopus was chosen for its broad disciplinary scope and comprehensive coverage since the early 1990s.

The search was conducted in September 2025 using a set of predefined keyword strings derived from the research objective. Following best practices in bibliometric reviews [9], multiple keyword combinations were applied to capture the breadth of SMA-related research. The final search strings included terms such as "strategic management accounting", "SMA practices" and "strategic cost management" Boolean operators (AND/OR) were used to combine these terms, ensuring inclusiveness while avoiding irrelevant records.

While prior literature identifies up to 16 distinct techniques associated with SMA (e.g., attribute costing, life cycle costing, brand value budgeting), this study intentionally restricted search strings to the aggregate terms 'Strategic Management Accounting' and 'Strategic Cost Management'.

This methodological choice was driven by two factors. First, many SMA techniques possess independent literature streams outside the domain of accounting. For instance, 'quality costing' and 'life cycle costing' are heavily cited in engineering and operations management journals without reference to strategic accounting frameworks. Including these terms individually would introduce significant 'noise' and false positives into the dataset.

Second, this review specifically seeks to map the intellectual structure of SMA as a cohesive strategic discipline, particularly its convergence with performance measurement and sustainability. By focusing on the core terminology, we ensure that the resulting 111 articles represent the high-quality 'intellectual core' of the field, rather than a diluted dataset of disparate operational tools. Therefore, while the sample size is concentrated, it offers higher conceptual validity for the specific research questions posed.

The initial search yielded 684 documents. After removing duplicates and screening titles, abstracts, and keywords for relevance, 111 peer-reviewed journal articles published between 1992 and 2025 were retained for analysis. The inclusion criteria were as follows:

Articles written in English.

Peer-reviewed journal publications (excluding conference papers, book chapters, and non-scholarly sources).

Direct relevance to SMA, performance measurement, or cost management.

Indexed in Scopus and WoS.

This dataset was considered sufficient to capture the intellectual development of SMA research while maintaining focus and methodological rigor.

2.3. Data cleaning and preparation

The bibliographic data of the selected articles were exported from Scopus in BibTeX and CSV formats. The exported files included metadata such as author names, titles, abstracts, keywords, journal names, affiliations, citations, and references. To ensure consistency across databases, duplicate records were identified and eliminated using a combination of automated software functions and manual verification.

Special attention was given to harmonizing author names and keywords, as variations in spelling or abbreviations may fragment the bibliometric network. Data was cleaned using VOSviewer and manual verification to harmonize author names (e.g., merging 'Kaplan R.S.' and 'Kaplan, Robert S.') and keywords (using cosine similarity to merge variants like 'strategic decision making').

In particular, keyword harmonization was operationalized using cosine similarity on n-gram representations combined with lemmatization, which enabled the merging of syntactically similar or semantically equivalent variants (e.g., “strategic decision making” and “strategic decision-making”; “networks” and “network”). This algorithmic approach ensured a higher degree of accuracy and replicability compared to manual harmonization, thereby strengthening the robustness of the bibliometric network analyses.

2.4. Bibliometric tools and techniques

The cleaned dataset was analyzed using VOSviewer and computational text similarity algorithms. Specifically, keyword harmonization was conducted using cosine similarity on n-gram representations combined with lemmatization to ensure consistency in the bibliometric network [13]. Descriptive statistics (e.g., publication counts by year, country, author, and journal) were generated from the standardized dataset. The bibliometric analysis followed a three-step approach.

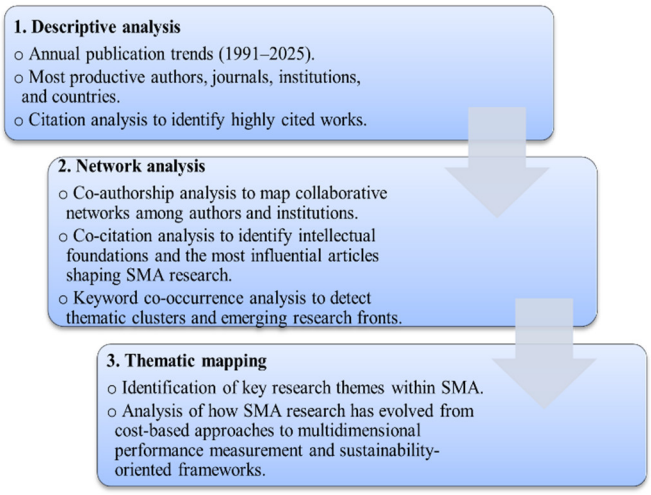

Figure 1. Bibliometric tools and techniques

To ensure replicability, network visualizations in VOSviewer were generated using fractional counting and association-strength normalization. Thresholds were set as follows: minimum 2 documents per author for the co-authorship network, minimum 3 occurrences per keyword for the co-occurrence map, and minimum 20 citations per reference for the co-citation network. Sensitivity checks with alternative thresholds produced qualitatively similar community structures, indicating that our main findings are robust to reasonable parameter changes.

2.5. Analytical framework

The analytical framework of this study was adapted from previous bibliometric reviews in management accounting. It integrates both performance measurement and sustainability dimensions into the bibliometric mapping of SMA. Specifically, the analysis focused on three guiding questions:

1. How has research output on SMA evolved over the period 1992-2025?

2. Who are the most influential authors, journals, institutions, and countries in this field?

3. What are the dominant themes and future research directions at the intersection of SMA, performance measurement, and sustainability?

By structuring the analysis around these questions, the study ensures alignment between the bibliometric results and the overarching research objectives.

2.6. Reliability and validity

To enhance reliability, the search strategy and inclusion criteria were explicitly defined and consistently applied. Multiple keyword variations were tested to

maximize coverage, while irrelevant and marginally related articles were carefully excluded through manual screening.

Furthermore, to ensure robustness, the results of bibliometric mapping were triangulated with insights from recent narrative reviews and conceptual papers on SMA [3, 4]. This combined approach strengthens the study's contribution by not only mapping research quantitatively but also interpreting the findings within the broader theoretical context.

2.7. Limitations of the methodology

Despite its strengths, bibliometric analysis has certain limitations. First, the reliance on Scopus and WoS may exclude relevant research published in other databases such as Google Scholar or ResearchGate,… particularly from emerging economies. Second, bibliometric indicators such as citation counts may not fully capture the impact of recent publications or non-traditional scholarly [9]. Third, the study's focus on English-language journals may overlook contributions in other languages. These limitations are acknowledged and considered in the interpretation of results and directions for future research.

3. RESULTS AND DISCUSSION

3.1. Publication trends

Figure 2 illustrates the clear evolution of SMA research output. Publications remained scarce during the 1990s and 2000s, indicating that SMA initially struggled to move from theory to practice due to implementation difficulties. A steady rise began after 2010, followed by a sharp surge post-2015 that coincides with two transformative global developments: the adoption of sustainability frameworks (notably the UN Sustainable Development Goals) and the rollout of Industry 4.0 technologies.

These forces compelled organizations to incorporate non-financial and ESG indicators into management control systems, rapidly elevating SMA from a niche, cost-focused concept to an essential tool for managing multidimensional performance in volatile environments. This pattern mirrors broader shifts in management accounting [4, 6, 7], marking165 a paradigm shift away from traditional competitor- and cost-oriented analysis toward sustainability-oriented strategic control. The post-2015 acceleration therefore signals that SMA's future relevance lies not primarily in cost reduction, but in its capacity to integrate financial and non-financial metrics in an era of digitalization and heightened stakeholder expectations.

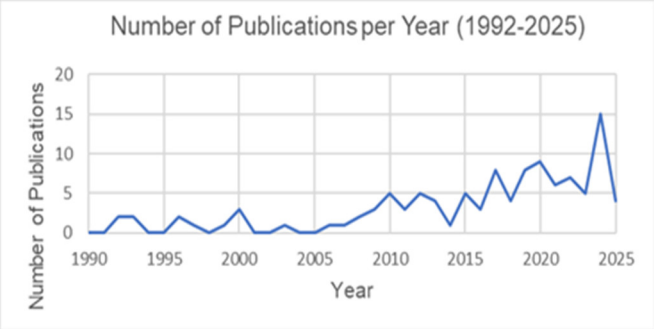

Figure 2. Number of Publications per Year

3.2. Co-authorship analysis

Method and settings. We constructed an author-author co-authorship network from the cleaned Scopus dataset using VOSviewer (fractional counting) and association-strength normalization. To improve interpretability and reduce noise, we applied a minimum threshold of two publications per author (sensitivity checks with alternative thresholds yield qualitatively similar clusters). Self-loops were removed and multiple collaborations between the same pairs were aggregated.

Network structure. The resulting graph exhibits a sparse topology with a single largest connected component and several smaller components, indicating low network density and modular structure. Community detection identifies multiple collaboration clusters centered on recurring co-authors and institutions. Visual inspection shows a few thick edges within clusters (stable domestic teams) and thin inter-cluster links, consistent with fragmented international collaboration.

Key actors and roles. Authors located at cluster boundaries display higher betweenness centrality, acting as bridges that connect otherwise disconnected groups-an important mechanism for knowledge diffusion. Meanwhile, cluster cores show higher degree centrality (intensive local teaming) but limited outreach beyond their communities.

Implication of Structure: Cross-referencing the network analysis with country distribution reveals that countries like Ukraine and Vietnam tend to form dense domestic clusters with fewer international ties. This pattern substantiates the claim that SMA collaborations are regionally concentrated, with underexploited cross-country opportunities. While the UK demonstrates both breadth and depth, emerging economies are increasingly active but remain structurally isolated in the network.

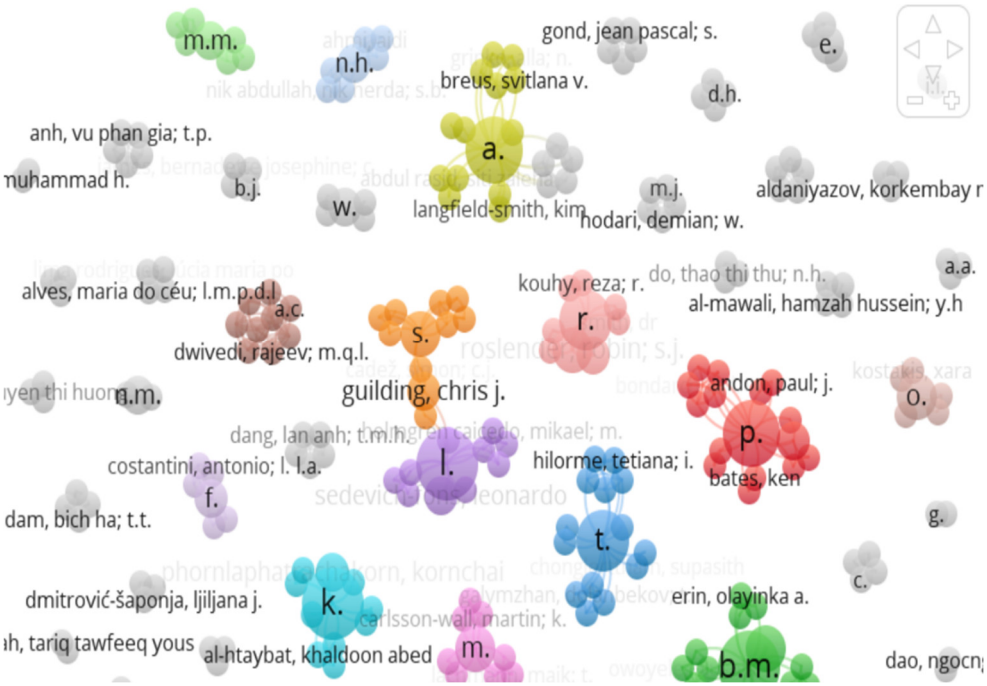

Figure 3. Co-authorship network

3.3. Keyword co-occurrence and overlay analysis

The overlay visualization (Figure 4) demonstrates how SMA-related keywords have evolved over time. Early studies were dominated by cost-based tools such as target costing, competitor analysis, and the balanced scorecard. In more recent years, keywords related to sustainability, stakeholder orientation, and contingency theory have gained prominence.

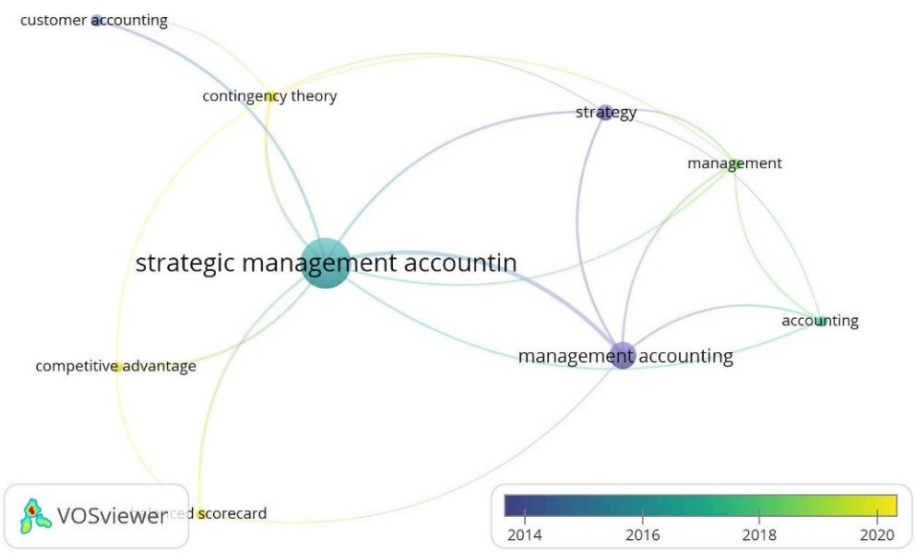

Figure 4. Keyword Co-occurrence and Overlay

This thematic shift reflects a transition from a narrow cost-control orientation toward a broader strategic perspective, integrating non-financial performance and sustainability [5, 7]. Similar shifts have been observed in bibliometric studies of performance measurement, confirming the growing salience of sustainability-oriented accounting frameworks. The overlay map also shows that digitalization and ESG are emergent themes, though they remain peripheral in the current SMA landscape, pointing to opportunities for future inquiry.

3.4. Keyword density visualization

The density visualization (Figure 5) highlights the central role of "strategic management accounting" within the research landscape. This centrality is reinforced by close associations with "management accounting," "strategy," and "performance measurement." Meanwhile, terms such as "customer accounting," "contingency theory," and "digital transformation" appear at the periphery, reflecting their emerging but not yet dominant status.

This pattern echoes earlier reviews in management accounting that found a persistent core of cost- and strategy-oriented themes, with newer ideas gradually diffusing into the field [3]. The map suggests that SMA is increasingly serving as an integrative platform that bridges traditional financial metrics with broader strategic, social, and technological considerations. High-density hot spots center on "strategic management accounting," "management accounting," and "performance measurement," reflecting frequent use and strong co-linkages. Lower-density regions aggregate emerging topics (e.g., ESG, digitalization), consistent with their later overlay years in Section 3.3 and signaling avenues for future research.

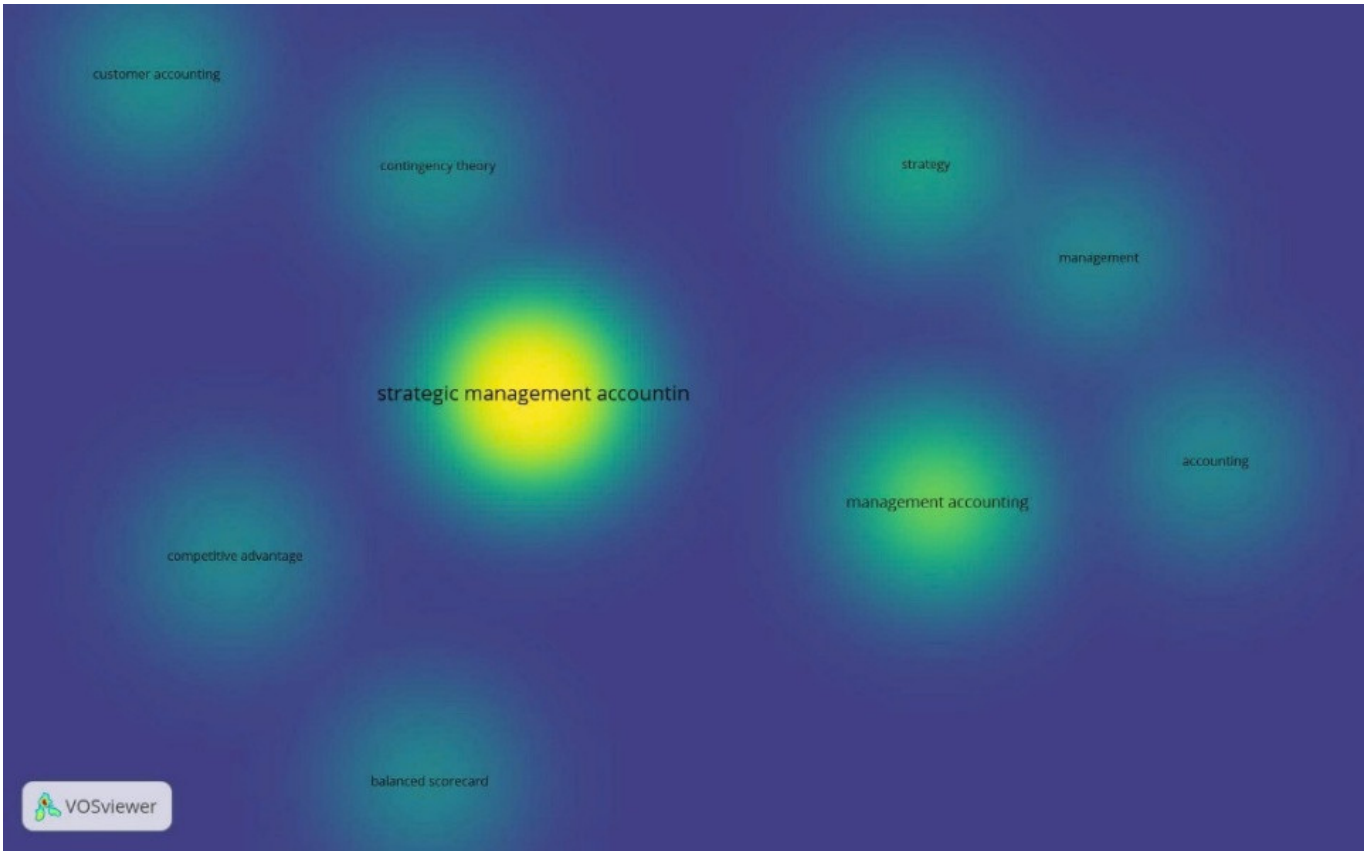

Figure 5. Keyword Density Visualization

3.5. Thematic clusters and research streams

By combining co-occurrence and network analyses, three dominant research streams can be identified:

Integration of SMA tools into performance measurement systems. Techniques such as the balanced scorecard and life cycle costing remain central, reflecting longstanding interest in operationalizing strategy through accounting [5]. While target costing was dominant in the 1990s, recent literature has pivoted to adapting it for environmental costing.

SMA and organizational performance. Research continues to emphasize SMA's role in competitiveness and long-term alignment of management control systems, particularly in manufacturing industries [2, 4].

Sustainability and stakeholder orientation. In line with recent management control research, SMA has increasingly been studied in relation to sustainable development, ESG, and stakeholder-driven value creation [7].

These findings confirm that SMA has expanded beyond its origins as a cost-focused accounting practice into a strategic enabler that bridges accounting, performance, and sustainability. At the same time, the bibliometric evidence indicates important gaps: contributions from emerging economies remain limited, integration with digital technologies and big data is nascent, and ESG frameworks are only beginning to appear in SMA research. Addressing these gaps will be critical for advancing the field over the next decade.

3.6. Co-citation Network Analysis

Figure 6 presents the co-citation network of the most influential references in SMA research. The visualization reveals several distinct clusters, reflecting different intellectual traditions:

Green cluster (foundational works): Dominated by Michael Bromwich and related works on management accounting pathways. These studies provide the theoretical foundation for SMA, emphasizing the shift from traditional cost accounting towards more strategically oriented practices. Their central positioning indicates that they serve as common reference points for subsequent SMA research.

Red cluster (conceptual and empirical frameworks): Includes Simon Cadez, Annette Baines, Alnoor Bhimani, and Magdy Abdel-Kader. This group represents the development of empirical and conceptual models, exploring the antecedents, structures, and practices of SMA in various organizational contexts. For example,

Cadez's exploratory frameworks and Bhimani's structural approaches are frequently cited together, suggesting a shared focus on how SMA integrates with strategy and organizational performance.

Connectivity and bridging role: The strong co-citation links between Bromwich and later scholars (e.g., Bhimani, Cadez) demonstrate how early conceptual arguments have been extended into applied research. Abdel-Kader's work, while somewhat peripheral in the network, shows important connections with Cadez and Bhimani, highlighting its role in linking traditional management accounting concerns with newer SMA approaches.

Overall, the co-citation map highlights the evolution of SMA scholarship: from foundational conceptualization in the 1990s (Bromwich) to more recent empirical and exploratory studies (Cadez, Bhimani, Baines). The prominence of these clusters suggests that SMA research is anchored around a relatively small but influential body of literature that continues to shape contemporary inquiry.

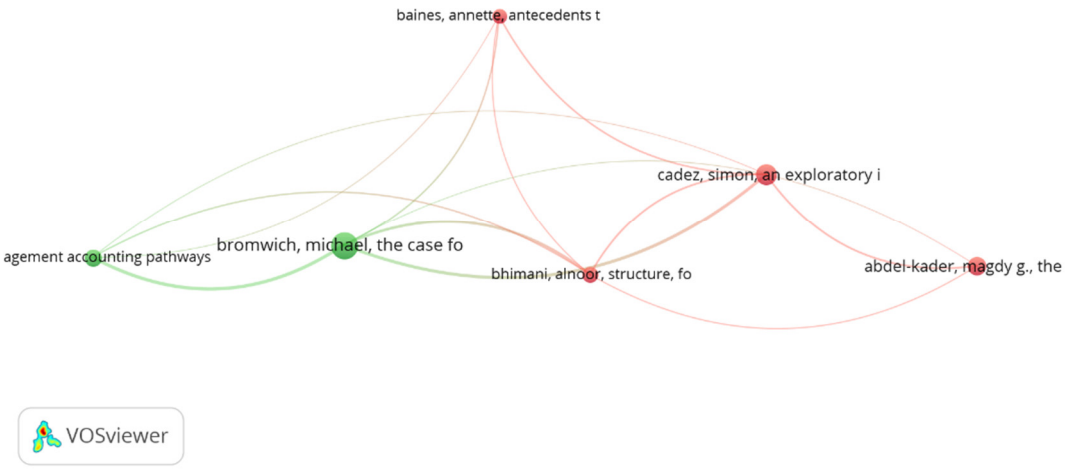

Figure 6. Co-citation network

3.7. Country-wise Authorship and Publication Distribution

Table 1 presents the distribution of authorship counts and unique article contributions across countries involved in Strategic Management Accounting (SMA) research.

The United Kingdom emerges as the most influential contributor, with 62 authorships and 17 unique articles, reflecting its role as a central hub for SMA scholarship. Other significant contributors include Malaysia (28; 6), Ukraine (31; 5), Vietnam (26; 7), Thailand (20; 7), and Australia (24; 6). These countries indicate growing interest in SMA, particularly within Asia, where Vietnam, Thailand, Malaysia, and Indonesia are increasingly visible in the international research landscape.

Interestingly, some countries show relatively high authorship but fewer unique publications. For instance, Ukraine has 31 authorships but only 5 unique articles, suggesting a collaborative research pattern where multiple authors contribute to a smaller number of studies. In contrast, the United Kingdom combines both high authorship and high unique article counts, highlighting both breadth and depth of contributions.

Countries such as United States, Italy, Kazakhstan, Saudi Arabia, New Zealand, and Nigeria contribute modestly (2 - 3 unique articles each), while others (e.g., Brazil, Denmark, Finland, Switzerland, Uzbekistan) appear only at the authorship level with no unique publications, indicating early-stage engagement with SMA research.

Overall, the distribution reveals a geographic diversification of SMA scholarship. While the United Kingdom remains the leading center, emerging economies in Southeast Asia (Vietnam, Malaysia, Thailand, Indonesia) and Eastern Europe (Ukraine) are increasingly active, reflecting the global relevance of SMA in addressing strategic and managerial challenges.

Table 1. Country-wise Authorship and Publication Distribution

Country	Authorship Count	Unique article Count
United Kingdom	62	17
Ukraine	31	5
Malaysia	28	6
Viet Nam	26	7
Australia	24	6
Thailand	20	7
Indonesia	19	4
Nigeria	13	2

Sweden	12	2
United States	11	2
Kazakhstan	11	2
Czech Republic	9	3
Germany	9	2
Saudi Arabia	7	2
Italy	7	2
Brazil	7	0
Jordan	6	2
New Zealand	5	2
Canada	5	1
Iran	5	1
Bangladesh	4	1
India	4	1
Norway	4	1
Portugal	4	1
Russian Federation	4	1
Switzerland	4	0
Kuwait	3	1
Turkey	3	1
Denmark	3	0
Latvia	3	0
Uzbekistan	2	0
Finland	1	0

4. CONCLUSION

4.1. Summary of key findings

This bibliometric analysis demonstrates that Strategic Management Accounting (SMA) has progressed far beyond its original scope as a set of standalone costing tools. It has now solidified into a comprehensive framework that supports long-term, sustainability-driven strategy. Although the United Kingdom continues to dominate theoretical advancements in the field, a clear geographic divide emerges: emerging economies particularly Vietnam and Malaysia exhibit strong practical application of SMA, largely driven by global supply-chain demands, yet they contribute relatively little to conceptual innovation. Bridging this divide by converting real-world adaptations in developing manufacturing centers into universally recognized theoretical contributions represents the most promising direction for future SMA scholarship.

Thematic analysis identified three dominant research trajectories: (i) incorporating SMA techniques (e.g., target costing and the balanced scorecard) into broader performance measurement systems; (ii) exploring the strengthening relationship between SMA implementation and overall organizational performance, especially in manufacturing settings; and (iii) an increasing focus on sustainability, stakeholder interests, and broader value creation. Taken together, these streams illustrate SMA's transformation from a primarily cost-oriented discipline into a strategic instrument that connects financial accounting with performance management and sustainability goals.

4.2. Theoretical contributions

This review adds value by synthesizing previously fragmented lines of inquiry and positioning SMA within larger conversations in management accounting and strategic management. The co-citation analysis highlights the field's intellectual roots, showing how foundational contributions (e.g., Bromwich) have gradually merged with studies on performance measurement and organizational strategy. The results affirm that SMA has become an interdisciplinary domain that links traditional financial oversight with wider strategic and societal priorities.

4.3. Implications for practice and policy

For managers: The study emphasizes SMA's capacity to align strategic goals with sustainable outcomes amid major global trends such as climate change, digitalization, and Industry 4.0. Practitioners can leverage SMA to move past conventional cost-control mindsets and adopt multidimensional performance frameworks that integrate financial and non-financial indicators.

For policymakers: The findings reveal opportunities to accelerate SMA uptake in emerging markets, where institutional conditions and resource availability differ markedly from those in advanced economies. Network analysis suggests concrete policy actions: governments in developing countries should prioritize funding for international co-authored publications over purely local research efforts to boost global visibility and impact.

Knowledge transfer: Supporting initiatives such as visiting-scholar programs and joint PhD supervision (cotutelle) involving key bridging researchers would enhance the flow of ideas between established and emerging academic communities.

4.4. Limitations and future research directions

Limitations: The study relies primarily on Scopus-indexed sources, potentially missing relevant work

published in other databases or non-English-language outlets, especially from emerging economies. Additionally, the exclusive focus on English-language journals may underrepresent contributions in other languages.

Future research avenues:

Conduct deeper empirical studies on SMA adoption in developing and transitional economies, where evidence remains scarce.

Explore the integration of digital tools, big data analytics, and artificial intelligence into SMA systems, an area that is still in its early stages.

Further incorporate sustainability and ESG metrics into SMA models, as these elements are only beginning to gain traction in the literature.

Promote stronger international research collaborations to facilitate cross-context learning and ensure SMA continues to evolve as a robust lever for long-term organizational resilience.

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