Accounting and Management Information Systems
Vol. 25, No. 3, pp. 437-475, 2026
DOI: http://dx.doi.org/10.24818/jamis.2026.03005

Mapping the field of performance management in accounting: A bibliometric and thematic review using VOSviewer

Ioannis Ch. Lampropoulos[1,a], Eleftherios Aggelopoulos[a], Angeliki Tsameti[b], Elen Paraskevi Paraschi[c], Spiridon Kariofyllas[d] and Maria Kalogera [a]

[a]*Department of Business Administration, University of Patras*
[b]*Department of Economics, University of Thessaly*
[c]*Department of Tourism Management, University of Patras*
[d]*Department of Accounting and Finance, University of the Peloponnese*

Abstract

Research Question: How has research on performance management within the field of accounting evolved, and what are the main conceptual and thematic areas that characterize the existing literature?

Motivation: Research on performance management within accounting has expanded considerably over time, reflecting the growing integration of accounting practices with strategic management, sustainability, and technology. However, the conceptual and thematic structure of this body of literature remains fragmented, highlighting the need for a systematic mapping of the field.

Idea: This paper aims to map the conceptual and thematic landscape of research on performance management within the field of accounting.

Data: The analysis is based on a final dataset of 239 scholarly articles indexed in the Scopus database.

Tools: A systematic literature review and bibliometric analysis were conducted. Keyword co-occurrence analysis and cluster formation were performed using the VOSviewer software.

---

[1] *Corresponding author:* Department of Business Administration, University of Patras, University Campus, 26504, Rio – Patras, Greece, email: ilampropoulos@upatras.gr
Funding: This research received no external funding. The corresponding author acknowledges the support received through the University of Patras MEDICUS programme.
© 2026 The Author(s). This is an Open Access article distributed under the terms of the Creative Commons Attribution License (http://creativecommons.org/licenses/by/4.0/)
Article history: Received 14 July 2025; Accepted 12 July 2026.
Accepted by: Camelia Iuliana Lungu

Findings: Four key thematic areas were identified: (1) Accounting, Healthcare, and Organizational Management, (2) Performance Management, Sustainability, and Analytics, (3) Cost Accounting and Decision Support, and (4) Advanced Analytical Methods and Forecasting. The analysis also revealed a temporal shift from traditional accounting tools toward data-driven and technology-enabled practices, including business analytics and artificial intelligence.
Contribution: The study contributes to a deeper understanding of how performance management has evolved within the accounting domain, offering a valuable reference point for researchers, practitioners, and policymakers.

Keywords: performance management, management accounting, bibliometric analysis, sustainability, business analytics, balanced scorecard

JEL codes: M41

1. Introduction

Performance management within the context of accounting science has steadily evolved over the past decades, reflecting a transition from a purely audit-based and supervisory model to a more strategically embedded framework for evaluating and enhancing organizational operations (Brignall, 2008). Accounting is no longer limited to financial measurement but has expanded to include multidimensional indicators that relate to efficiency, organizational sustainability, and strategic outcomes. The emergence of frameworks such as the Balanced Scorecard (Kaplan & Cooper, 1998; Ossadnik, 2017) has reinforced the understanding of performance management as a standalone field, promoting a broader vision of value creation beyond financial returns.

The literature has increasingly emphasized the role of technology and analytics in reshaping performance evaluation systems. Tools such as performance analytics, business intelligence, and artificial intelligence are integrated into modern accounting practices, enabling forward-looking and data-driven decision-making (Silvi *et al.*, 2010; Kausar *et al.*, 2026). These developments are linked to new demands for data literacy, system capabilities, and the combined use of quantitative and qualitative indicators. Furthermore, scholars have noted the importance of connecting performance systems to employee behavior and motivation, as performance-based incentive schemes play a significant role in enhancing engagement and productivity (Hasanuddin *et al.*, 2024). Recent reviews (Cozma et al., 2022; Assad *et al.*, 2022) also highlight a thematic broadening of the field, documenting its expansion into domains such as environmental management, decision-making under uncertainty, and sustainability accounting (Nurhayadi *et al.*, 2023). These shifts underscore the interdisciplinary and multifaceted nature of performance management within accounting.

Despite this growing body of literature, there remains a lack of systematic mapping that captures the conceptual evolution and thematic structure of the field. Previous bibliometric analyses have primarily focused on performance measurement at a broader business or management level, without isolating the accounting-specific domain (Cvetkoska & Eftimov, 2021), thereby reinforcing the need for the present study. Current knowledge is scattered across various subfields, with limited integration of findings. This study addresses this gap by systematically mapping and thematically synthesizing the academic literature on performance management within accounting. By integrating bibliometric and thematic analysis, it contributes a comprehensive overview of the field's conceptual structure, identifies key theoretical streams, and highlights emerging interdisciplinary directions for future research.

Thus, the study is guided by the following research questions:

RQ1*: How have research trends evolved over time in terms of topics, tools, and sectors?*

RQ2*: What are the main conceptual and thematic areas in the literature on performance management within accounting?*

RQ3*: Which countries and institutions have contributed most to this body of knowledge, and what are the emerging research networks?.*

Addressing these questions is essential to consolidate knowledge, identify gaps, and support both theoretical advancement and practical relevance.

From a methodological point of view, this study conducts a systematic literature review and bibliometric analysis based on a final dataset of 239 peer-reviewed articles indexed in the Scopus database. Using keyword co-occurrence and clustering analysis via the VOSviewer software (van Eck & Waltman, 2010), the study identifies four major thematic clusters: (1) Accounting, Healthcare, and Organizational Management, (2) Performance Management, Sustainability, and Analytics, (3) Cost Accounting and Decision Support, and (4) Advanced Analytical Methods and Forecasting. The analysis also reveals a temporal shift from traditional accounting tools toward technology-enabled, sustainability-focused, and strategically integrated approaches. Representative applications of these themes can be found across sectors such as healthcare (Ibrahim *et al.*, 2021), environmental accountability (Zakaria, 2015), and retail (Aggelopoulos *et al.*, 2023).

The remainder of the paper is organized as follows: Section 2 outlines the methodological framework and bibliometric procedures. Section 3 presents the bibliometric results, including cluster analysis, publication trends, and visualization

outputs. Section 4 discusses the findings and their theoretical implications, while Section 5 concludes the paper and provides suggestions for future research.

2. Methodological approach and analysis with VOSviewer

This section presents the methodological framework of the study, including the research design, data collection process, screening procedure, and bibliometric analysis using VOSviewer. This study is grounded in a literature review designed to map the existing body of academic knowledge on the relationship between performance management and accounting science, with particular emphasis on management and strategic accounting. This study followed a structured SLR protocol based on established guidelines for conducting bibliometric reviews. The inclusion criteria were: (a) peer-reviewed journal articles, (b) written in English, (c) indexed in Scopus, and (d) thematically relevant to performance management in accounting. Exclusion criteria included non-academic publications (e.g., conference abstracts, book chapters), duplicate records, and documents that - despite keyword presence - did not conceptually address the intersection of performance management and accounting (e.g., purely medical or engineering papers). The initial search retrieved 277 records. A two-stage screening procedure was then applied. Stage 1 consisted of a manual review of titles and abstracts in order to assess the conceptual relevance of each record to the intersection of performance management and accounting. During this stage, 38 records were excluded because they referred to unrelated contexts, such as purely medical or engineering studies in which accounting or managerial implications were absent. The final dataset used for thematic interpretation therefore comprised 239 articles. Stage 2 consisted of keyword filtering and cleaning during the bibliometric analysis in VOSviewer. In this stage, non-thematic or generic keywords, such as demographic descriptors, geographical identifiers, and purely technical terms, were removed in order to improve the conceptual clarity of the co-occurrence network. It should be noted that the search string was applied specifically to the TITLE-ABS-KEY fields, and not to 'All Fields', to ensure conceptual relevance. Using broader search scopes such as 'All Fields' may yield a larger volume of results, but these often include works that are not directly relevant to the intersection of performance management and accounting. This approach ensured both comprehensiveness and conceptual clarity in cluster formation. The decision to use only the Scopus database was based on its comprehensive coverage of the fields of accounting, business, and management, as well as its compatibility with VOSviewer. In addition, the search results were filtered according to the Scopus subject area classification and restricted to publications indexed under the subject area "Business, Management and Accounting" in order to ensure disciplinary relevance and alignment with the research focus of the study. The review protocol followed PRISMA-S guidelines for reporting systematic searches (Rethlefsen *et al.*, 2021), although no formal registration was submitted. This study adopts a quantitative, descriptive, and exploratory bibliometric perspective. The

objective is to map structures and relationships in the literature rather than to assess the argumentative quality or methodological rigor of individual studies.

Metadata were stored and processed in Microsoft Excel 365 for initial screening, duplication check, and keyword frequency analysis, prior to visualization in VOSviewer. To enhance transparency and minimize subjectivity, the screening criteria were consistently applied by the author, with random spot-checks during the title and abstract screening to ensure reliability of inclusion decisions. VOSviewer was employed to construct keyword co-occurrence, overlay, and density maps.

This approach follows standard bibliometric visualization procedures also applied in recent studies (e.g., Lampropoulos *et al.*, 2025), which used VOSviewer to map thematic clusters through network, overlay, and density analysis.

The full counting method was applied with a minimum occurrence threshold of 4 to balance thematic coverage and network readability. Non-thematic demographic (e.g., male, female, aged) and purely geographic terms were manually excluded, while contextually relevant terms were retained. A VOSviewer thesaurus file was applied during the keyword co-occurrence analysis to exclude non-thematic terms, including demographic descriptors, geographical identifiers, and purely technical terms, thereby improving the conceptual clarity of the co-occurrence network.

The process included the following stages:

1. Database Selection: Scopus (Elsevier)
2. Search String: TITLE-ABS-KEY ("performance management" OR "performance measurement") AND ("accounting" OR "management accounting")
3. Screening Phases:
   – Stage 1: Title & Abstract screening
   – Stage 2: Keyword filtering and cleaning via VOSviewer.

Final Sample: 239 articles used for bibliometric analysis and thematic interpretation. To enhance transparency, Figure 1 presents a PRISMA 2020-style flow diagram summarizing identification, screening, eligibility, and inclusion. The diagram reports the initial records retrieved from Scopus (n = 277), the records screened (n = 277), the records excluded after title and abstract screening (n = 38), the records assessed for conceptual eligibility (n = 239), and the final dataset included in the bibliometric analysis and thematic interpretation (n = 239).

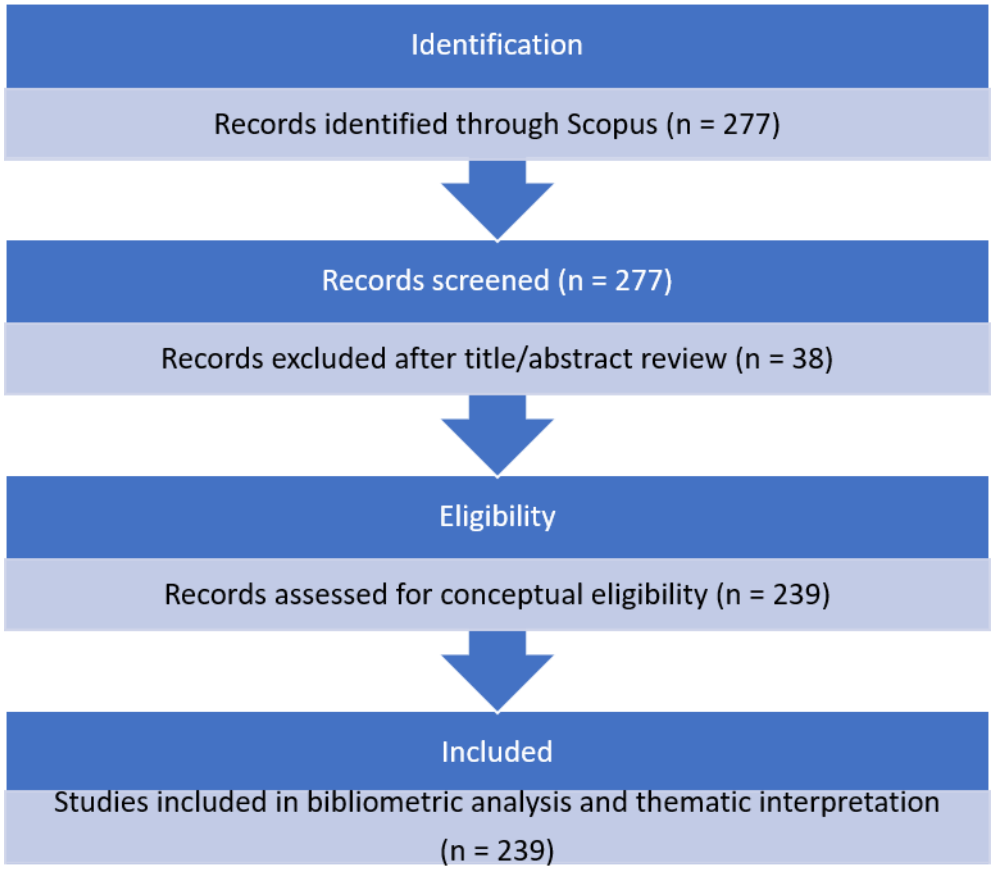


Figure 1. Study-selection flow (identification–screening–eligibility–inclusion) for the bibliometric mapping
Source: Authors' own research

Subsequently, article metadata (titles, abstracts, authors, keywords) were exported in a format suitable for processing with the VOSviewer software (van Eck & Waltman, 2010), for the purpose of performing a co-occurrence analysis. To ensure scientific validity, the keyword-cleaning process focused on removing conceptually irrelevant terms while retaining keywords central to the field. Technologies central to the field's evolution (e.g., artificial intelligence and business analytics) were retained. Likewise, terms forming the conceptual backbone of the field were also retained, such as performance measurement, performance management systems, balanced scorecard, management accounting, cost accounting, budget control, efficiency, profitability, management control systems, sustainability accounting, and strategic planning.

The data analysis conducted via VOSviewer enabled the identification of thematic clusters within the literature, uncovering conceptual relationships, knowledge communities, and research trends. The final analysis resulted in four thematic clusters representing the dominant conceptual structures of the field. This methodological approach contributed to the systematic mapping of existing knowledge and the identification of emerging research areas or gaps deserving further exploration. While no methodological triangulation was implemented in the present design, future work could combine bibliometric mapping with complementary content analysis or qualitative synthesis to deepen interpretation and enhance robustness.

3. Results

3.1 Distribution of publications

This subsection addresses RQ1 by examining how research on performance management within accounting has evolved over time in terms of publication activity and thematic development. In order to trace the evolution of academic interest in performance management within accounting over time, the temporal distribution of publications was examined using the CSV file exported from Scopus.

The first relevant publication appears in 1980; however, until the mid-1990s, publications were sparse and infrequent. From 2003 onwards, a more consistent increase in the number of articles is observed, with 2010 standing out as the year with the highest number of publications (20 in total). From that point forward, scholarly interest appears to remain consistently high, with annual figures typically ranging between 10 and 14 articles, particularly during the period from 2011 to 2023. For instance, the years 2014, 2015, and 2018 each record 14 publications.

Due to the timing of the search (April 2025), the final two years (2024 and 2025) show a reduction in publication numbers, likely attributable to the fact that not all articles had yet been indexed. Therefore, in summary, the trajectory of publications indicates a significant rise in scholarly interest in performance management in accounting since the mid-2000s, maintaining a continuous presence in the literature for over 15 years (see Figure 2).

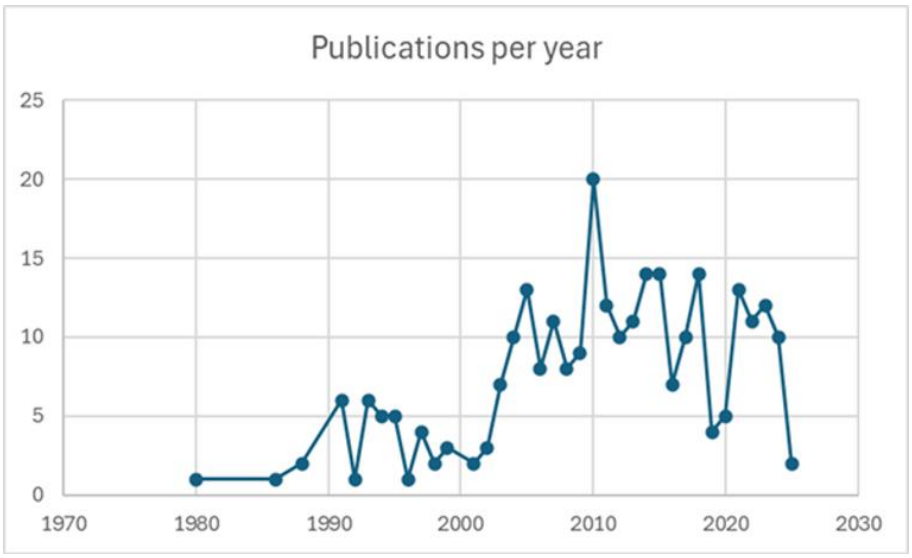


Figure 2. Distribution of publications per year in the field of "performance management" and "accounting" based on Scopus data (1980-2025)
Source: Authors' own research

Figure 3 presents the academic journals that hosted at least three publications, based on the final dataset of 239 articles for the period 1980–2025. As shown, the top outlets are the International Journal of Productivity and Performance Management (5 papers), the Journal of Cost Management (4), and Accounting, Auditing & Accountability Journal (4). Their recurring presence in the relevant literature highlights their pivotal role in shaping research in the field under study.



Figure 3. Academic journals with at least three publications in the field of performance management and accounting (1980–2025), based on data from the Scopus database
Source: Authors' own research

From the above figure, it becomes evident that specialized journals in the field of performance management and accounting play a prominent role, with the International Journal of Productivity and Performance Management and the Journal of Cost Management accounting for the highest number of publications. These journals appear to hold a central position in disseminating knowledge and advancements within the field.

Beyond documenting the publication trajectory from 1980 to April 2025, an analysis was conducted to estimate the potential future evolution of scholarly output in this domain through time series forecasting. The analysis was based on the Scopus dataset and the total number of articles from 1980 to 2024. The forecasting model was configured to project the publication trend up to the year 2040. A 95% confidence interval was applied to the forecasting model.

The statistical errors generated by the forecasting model (MASE = 1.40, SMAPE = 0.33, MAE = 3.08, and RMSE = 3.84) are considered acceptable within the context of time series analysis, in accordance with Hyndman and Koehler (2006). According to these authors, the MASE allows for normalized comparison of forecasting accuracy across models, indicating whether a model outperforms a naïve forecast. Values below 1 suggest superior performance over naïve models, while slightly higher values (as in the present analysis) are still deemed acceptable, particularly in non-seasonal datasets such as this analysis of article publication patterns with stable variance. Moreover, the very low SMAPE value (0.33) further supports the reliability of the projected trend, as it indicates minimal percentage error. Lastly, the relatively low MAE and RMSE values, in relation to the range of the time series, reinforce the overall validity of the model.

The projected trend suggests a relatively steady increase in the annual number of publications, with the average expected to range between 13 and 17 articles per year for the period 2025–2040. Specifically, the model estimates approximately 14.35 publications by 2030, and 16.97 by 2040, with corresponding confidence interval bounds ranging from 10.66 to 23.29.

While the model offers predictive insight, it is acknowledged that external factors - such as research funding and technological development - may influence publication trends. Nevertheless, the international literature highlights the ongoing scientific momentum of forecasting as a field, recognizing its continued use and the growing interest in future applications (Makridakis *et al.*, 2018). This observation strengthens the present assessment regarding the potential for further research growth (see Figure 4).

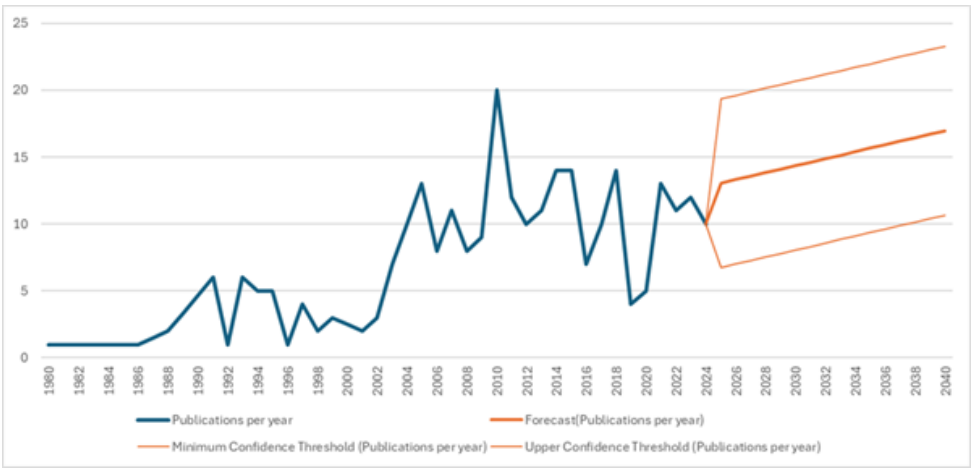


Figure 4. Forecast of future scholarly output in the field of "performance management" and "accounting" for the period 2025-2040
Source: Authors' own research

The present analysis serves as the basis for further exploration of thematic interrelations through bibliometric analysis.

3.2 Co-occurrence analysis – keywords

This subsection addresses RQ2 by identifying the main conceptual and thematic areas that structure the literature on performance management within accounting. To map the core thematic interrelations and visualize the field of performance management in accounting, a co-occurrence analysis was conducted using VOSviewer. The analysis was based on the 'All Keywords' field to identify the most frequently used terms in the 239 articles examined. In order to focus on substantively relevant research topics and avoid the inclusion of isolated or peripheral keywords, a minimum number of occurrences threshold was set at 4.

The results of the analysis are presented and interpreted through three types of visualizations, as generated by VOSviewer. The first (see Section 3.2.1) involves network visualization, the second (see Section 3.2.2) presents overlay visualization, and the third (see Section 3.2.3) involves density visualization. These three forms of visualization offer distinct yet complementary perspectives for interpreting thematic trends, temporal developments, and the research intensity of specific terms within the field under investigation. The VOSviewer results can be used as an interpretive tool for understanding both the dominant academic areas and their evolution over time, as well as the interconnections that link them. A brief sensitivity check with a higher threshold (6 occurrences) yielded fewer clusters with stronger internal link strengths; however, the core thematic structure remained stable.

3.2.1 Network visualization

The network visualization of keywords resulting from the co-occurrence analysis conducted in VOSviewer is presented in Figure 5. This particular analysis aims to elucidate how scholarly publications related to performance management in accounting are thematically connected. VOSviewer generated a keyword network in which each node (circle) represents a keyword, with the size of the node indicating its frequency of occurrence. The connecting lines represent the frequency with which a keyword co-occurs with others in the same article.

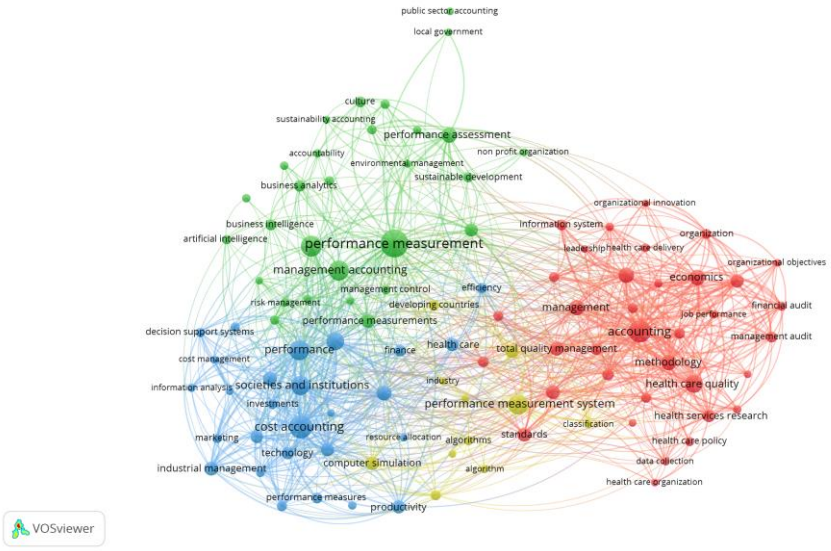


Figure 5. Network visualization of co-occurring keywords in the field of performance management in accounting, based on co-occurrence analysis (minimum occurrences = 4)
Source: Authors' own research

The network depicted in Figure 5 reveals four primary clusters, each represented by a different color. Each cluster includes keywords that frequently appear together, thereby indicating distinct thematic groupings. Specifically, the following clusters emerge.

The red cluster, titled "Accounting, Healthcare, and Organizational Management", includes terms such as accounting, management, methodology, economics, health care quality, health care policy, health services research, financial audit, and organizational innovation. This cluster reflects the integration of accounting practices with organizational management and healthcare performance evaluation. The coexistence of accounting and healthcare-related concepts suggests a strong research stream focused on performance assessment, quality management, and accountability within complex organizational environments.

The green cluster, labelled "Performance Management, Sustainability, and Analytics", incorporates keywords such as performance measurement, performance assessment, management accounting, business analytics, business intelligence, artificial intelligence, sustainability, sustainability accounting, accountability, and balanced scorecard. This cluster highlights the growing convergence of performance management with sustainability concerns and data-driven analytical approaches. It reflects the increasing role of digital technologies and strategic performance frameworks in supporting managerial decision-making and organizational accountability.

The blue cluster, referred to as "Cost Accounting and Decision Support", contains terms such as cost accounting, cost management, decision making, decision support systems, computer simulation, productivity, optimization, and performance. This thematic area emphasizes the contribution of cost information to managerial decision-making, operational efficiency, and organizational performance. The presence of simulation and decision-support tools further demonstrates the analytical orientation of contemporary cost accounting research.

The yellow cluster, identified as "Advanced Analytical Methods and Forecasting", includes concepts such as algorithms, classification, prediction, benchmarking, uncertainty, and performance measurement systems. Although smaller in size than the other clusters, it represents an emerging research direction focused on predictive analytics, computational methods, and advanced modelling techniques. The cluster reflects the increasing application of algorithmic and forecasting approaches to performance management and accounting-related research.

To deepen the interpretation of these thematic structures and clarify the associations among core concepts, Figure 6 (a–d) presents focused co-occurrence maps centered on key terms (performance measurement, accounting, cost accounting, performance management). These visualizations highlight the immediate relational environment of each keyword, illustrating how conceptual linkages differ across themes. By doing so, they complement the general network view (Figure 5) and provide a more granular understanding of intra-cluster relationships.

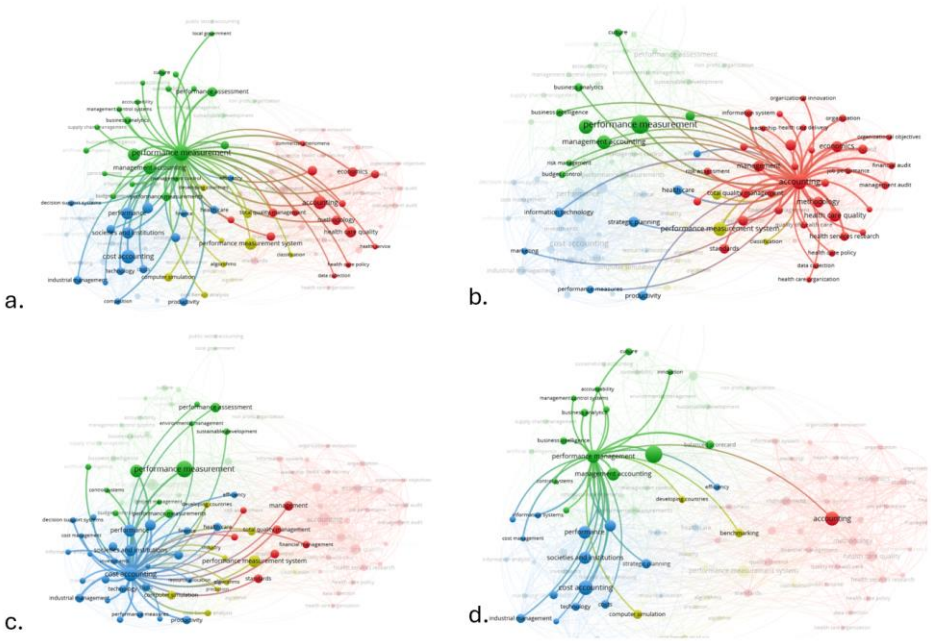


Figure 6. Cluster-specific visualizations of thematic groupings from the co-occurrence analysis of keywords in the field of performance management in accounting
Source: Authors' own research

In Figure 6a, attention is centered on the keyword performance measurement, which occupies a central position within the co-occurrence network. The visualization highlights its strong connections with concepts such as management accounting, performance assessment, business analytics, business intelligence, artificial intelligence, and sustainability accounting. These relationships illustrate the growing integration of analytical technologies and sustainability considerations into contemporary performance measurement systems.

Figure 6b focuses on the keyword accounting and its immediate conceptual environment. The network includes closely connected terms such as management, methodology, economics, health care quality, health services research, health care policy, and financial audit. The visualization demonstrates the interdisciplinary nature of accounting research, linking organizational management, performance evaluation, and healthcare-related applications.

In Figure 6c, attention is directed to the keyword cost accounting. The strongest associations are observed with concepts such as cost management, decision support systems, productivity, computer simulation, technology, and performance. These relationships emphasize the role of cost accounting as a fundamental tool for managerial decision-making, operational efficiency, and organizational performance improvement.

Finally, Figure 6d centers on the keyword performance management. The visualization highlights its connections with management accounting, balanced scorecard, benchmarking, strategic planning, and performance evaluation concepts. These associations demonstrate the strategic orientation of performance management research and its increasing integration with analytical and sustainability-related approaches.

3.2.2 Overlay visualization

The Overlay Visualization (Figure 7) introduces a temporal dimension to the thematic trend analysis, allowing for the interpretation of how keyword usage has evolved over time. The color gradient (ranging from purple to yellow) corresponds to the average year of appearance for each keyword, enabling the identification of both older and more recent thematic trends within scholarly discourse. Darker nodes (blue/purple) represent terms that appeared predominantly in the early stages of the study period (before 2010), while brighter nodes (green and yellow) indicate more recent topics that have emerged primarily after 2012.

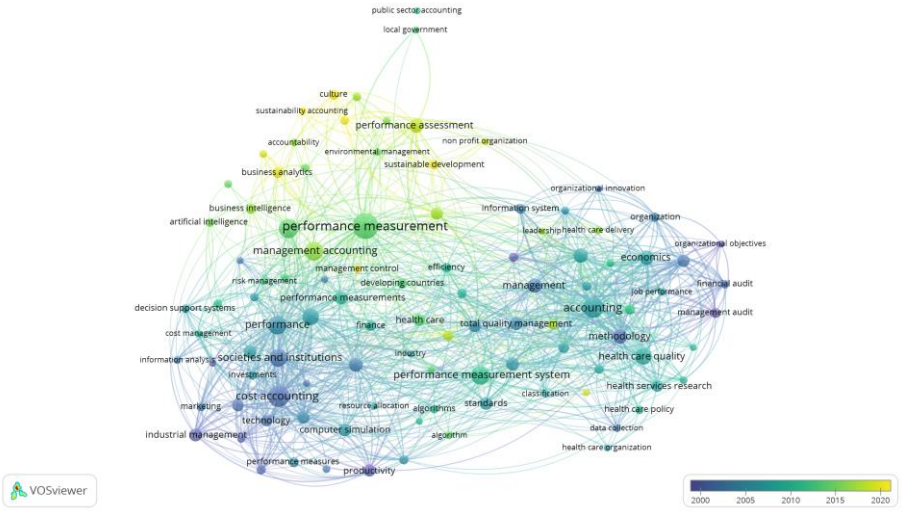


Figure 7. Overlay visualization of co-occurring keywords in the field of performance management in accounting
Source: Authors' own research

The analysis reveals that keywords such as cost accounting, productivity, industrial management, accounting, and economics are among the older terms, representing the foundational core of the field. These concepts dominated the early stages of scholarly output and essentially form the initial groundwork upon which the discourse on performance management within accounting was established and subsequently developed.

In contrast, terms such as performance measurement, performance assessment, business analytics, business intelligence, artificial intelligence, sustainability accounting, and culture appear more recently in the literature. This indicates a clear shift in scholarly attention from traditional accounting and cost-management approaches toward data-driven, sustainability-oriented, and analytically supported performance management systems. The growing prominence of concepts associated with analytics and artificial intelligence further demonstrates the field's increasing integration with digital technologies and contemporary management practices.

Of particular interest is the continued prominence of the term balanced scorecard. Although it originates from a framework developed in the 1990s, it remains connected with contemporary themes such as performance measurement, management accounting, and sustainability, confirming its enduring relevance in strategic performance measurement.

The overlay visualization thus illustrates the evolution and transition of research interests - from traditional accounting and cost-management foundations toward technologically enhanced, sustainability-oriented, and analytically driven approaches to performance management. The findings confirm that the field continues to evolve in response to broader developments in digital transformation, organizational accountability, and strategic decision-making.

To more clearly highlight the temporal shift in scholarly interest toward contemporary and innovative areas, a focused representation of the same network is presented in Figure 8, emphasizing keywords associated with more recent publications.

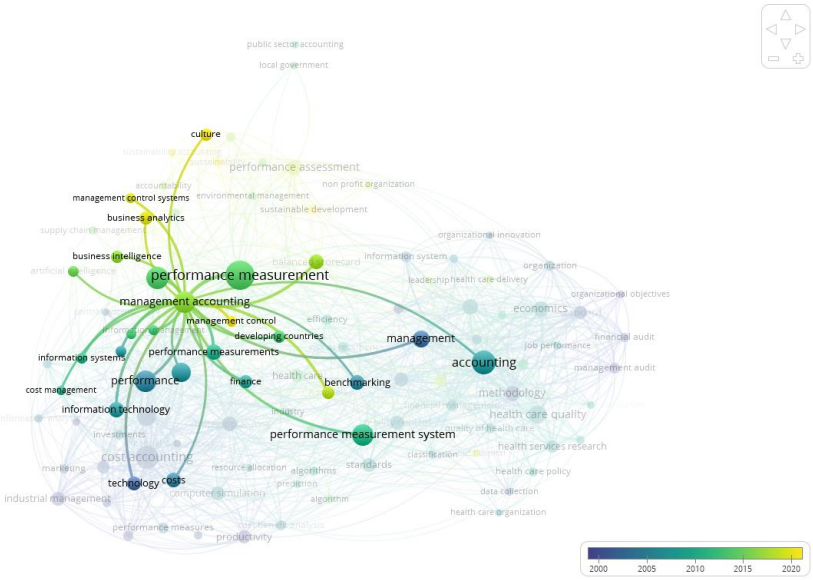


Figure 8. Focused overlay visualization in VOSviewer highlighting the most recent thematic trends in the field of accounting and performance management
Source: Authors' own research

The more intense yellow hues (van Eck & Waltman, 2010), which dominate around keywords such as performance assessment, business analytics, business intelligence, sustainability accounting, balanced scorecard, benchmarking, and management control systems, indicate that recent scholarly publications have increasingly concentrated on strategic, sustainability-oriented, and analytics-driven aspects of performance management. This observation reinforces the conclusion that accounting research is progressively moving beyond traditional performance measurement frameworks toward more integrated approaches that combine managerial control, sustainability considerations, and data-driven decision support. Simultaneously, the concept of the balanced scorecard remains present but is now embedded within modern computational and managerial contexts. This visualization strengthens the view that the field of performance management in accounting is undergoing a dynamic transformation, evolving in line with broader developments in sustainability, digital analytics, and strategic management.

3.2.3 Density visualization

Finally, the Density Visualization (Figure 9) offers a distinct perspective within the bibliometric analysis by focusing on the concentration frequency of keywords in the field of performance management in accounting. This visualization employs color gradients to highlight areas of higher or lower density, that is, the frequency with which certain keywords appear and the intensity of their interconnections with other terms across the 239 articles analyzed.

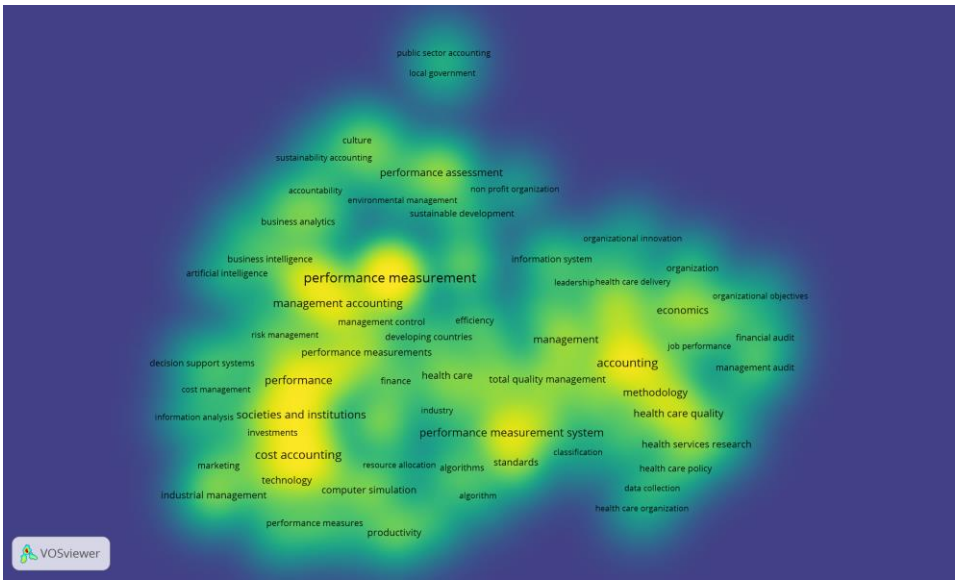


Figure 9. Density visualization of keywords in the field of performance management in accounting

Source: Authors' own research

In Figure 9, areas shaded in intense or light yellow indicate high concentrations of scholarly interest, whereas blue or green regions point to keywords with lower frequency or relevance. This visualization allows for the identification of 'hot zones' in the scientific discourse.

From the interpretation of the figure, the following observations can be made:

1. Terms such as performance measurement, accounting, management accounting, performance, and cost accounting show the highest density, confirming that they are the most central and widely discussed keywords in the literature on the subject.
2. Significant density is also observed around keywords such as performance measurement system, economics, methodology, health care quality, and management, reaffirming the close relationship between accounting practices, organizational performance, and sector-specific applications, particularly within healthcare contexts.
3. In contrast, terms such as public sector accounting, local government, sustainability accounting, organizational innovation, and artificial intelligence appear in less dense areas of the network, indicating more specialized or emerging research directions that have not yet achieved the same level of prominence as the core themes of the field.

Therefore, the Density Visualization reinforces the findings obtained from the network and overlay analyses, offering a complementary perspective on the concentration of research activity within the field. The most illuminated areas correspond to the conceptual core of performance management in accounting, whereas the less dense regions indicate specialized or emerging themes that may provide opportunities for future research.

3.3 Country-level co-authorship and bibliographic coupling analysis

This subsection addresses RQ3 by identifying the countries that contribute most actively to the field and by examining both the collaborative research networks formed among them and their bibliographic connections. In this section, a co-authorship analysis by country was conducted using VOSviewer. The analysis was based on the following parameters: a. Type of analysis: Co-authorship, b. Unit of analysis: Countries, c. Counting method: Full counting. The results revealed a global collaboration network involving 21 countries that met the minimum threshold of three publications. The Network Visualization clearly illustrates the dominant position of the United States, which demonstrates both the highest number of publications and an extensive range of international collaborations.

Other countries with strong presence include the United Kingdom, Australia, Germany, and Italy, all of which maintain robust collaborative ties among themselves as well as with other countries.

The Overlay Visualization provides a temporal dimension to this collaborative activity. The color palette shown in Figure 10 represents the average publication year by country. Countries such as the United States and the United Kingdom exhibit an earlier and sustained research presence, while countries such as Malaysia, Italy, Germany, and Norway appear in brighter shades, indicating comparatively more recent research activity within the field.

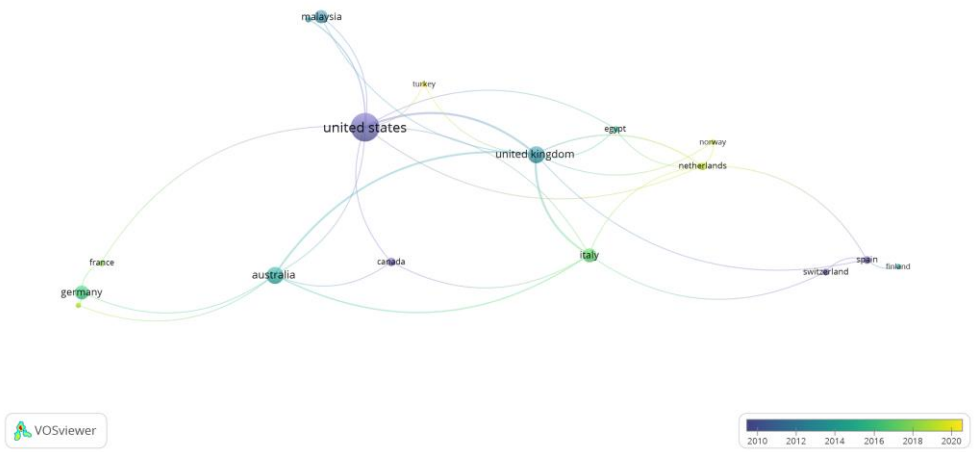


Figure 10. Overlay visualization of country-level authorship activity in the field of performance management in accounting, based on average year of publication
Source: Authors' own research

The Overlay Visualization provides insight into the temporal dynamics of academic contributions per country. The Density Analysis confirms that countries such as the United States and Australia exhibit a high concentration of scientific activity in the field, underlining their centrality in the international literature. In contrast, countries with lower intensity - such as Egypt, Malaysia, and Norway- demonstrate limited but active involvement, indicating emerging participation.

The bibliographic coupling analysis by country enhances our understanding of the geographic dimension of academic influence in the field of performance management in accounting. This method maps inter-country connections based on shared references to scholarly sources, offering an indirect measure of theoretical alignment and potential scientific collaboration.

For this analysis, the unit of analysis was set to Countries, with a minimum of three publication per country. The resulting Overlay Visualization captures the chronological distribution of countries' presence in the field, with a color gradient (from blue to yellow) indicating the average publication year of their research output (figure 11).

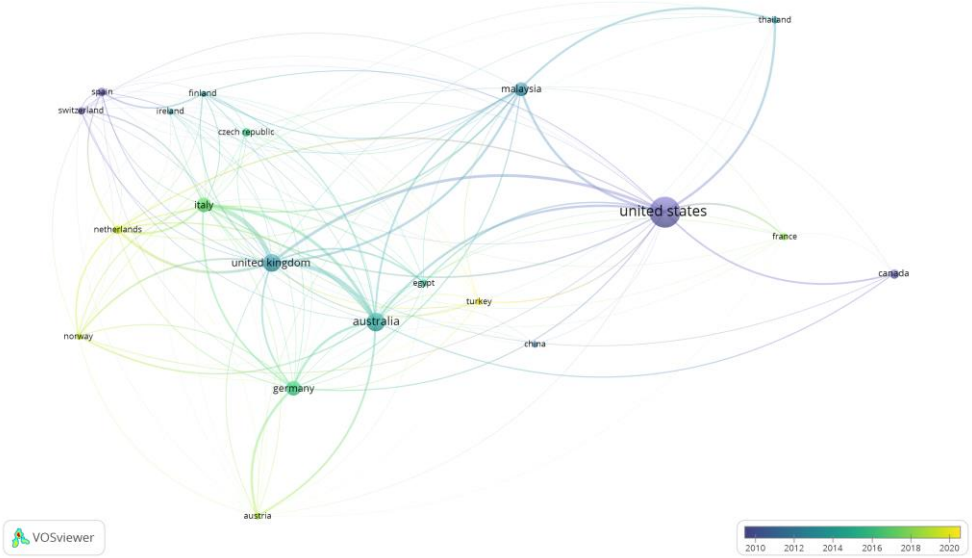


Figure 11. Overlay visualization of the bibliographic coupling analysis by country in the field of performance management in accounting (VOSviewer)
Source: Authors' own research

The interpretation of Figure 11 reveals that countries such as the United States, Canada, Spain, and Switzerland have maintained a significant presence in the field since its early development (prior to 2010), represented by darker nodes. The node size reflects the volume of publications and the extent of bibliographic coupling. The United Kingdom, despite having a slightly smaller node, shows a wide network of connections with other countries.

In contrast, countries such as France, Norway, and Turkey are displayed in lighter (green to yellow) hues, indicating comparatively more recent engagement with the field. Their presence reflects the continuing expansion of the international research community and the growing diversification of scholarly contributions within accounting and performance management research.

Furthermore, the expansion of geographical scope - through the involvement of countries from Asia and Africa (e.g., Malaysia, Thailand, China, and Egypt)- signals the internationalization of the field and highlights a rising global demand for accounting standards and performance management tools.

This visualization can serve as a stimulus for further research, while also identifying potential areas for future collaboration, particularly in regions with lower current participation. It emphasizes the strategic importance of network-building and interdisciplinary contribution to the continued evolution of the field.

4. Discussion and theoretical integration

The preceding bibliometric analysis, based on the processing of 239 articles using VOSviewer, revealed four thematic clusters with strong relevance to performance management in accounting:

1. Accounting, Healthcare, and Organizational Management.
2. Performance Management, Sustainability, and Analytics.
3. Cost Accounting and Decision Support.
4. Advanced Analytical Methods and Forecasting.

The temporal analysis of keywords demonstrated a transition from traditional accounting and organizational themes toward more technology-driven, sustainability-oriented, and analytics-based approaches. In parallel, international patterns of scholarly collaboration confirmed the global expansion of the field and the growing interconnectedness of research networks across countries.

The following section aims to offer a theoretical interpretation of the findings, contextualizing the key thematic clusters within the dominant scientific paradigms and research directions of the field.

To facilitate the interpretation of the thematic clusters, Appendix A presents a synthesis of two representative studies for each thematic area identified through the bibliometric mapping. The studies were selected using a combination of criteria, including theoretical contribution, citation impact, thematic relevance to the cluster, and influence within the accounting and performance management literature. Articles classified as foundational introduced concepts, frameworks, or theoretical perspectives that significantly shaped subsequent research within a specific thematic area. Articles labelled as influential were selected because of their substantial contribution to the development of a research stream and their publication in recognized academic outlets. Studies classified as methodologically relevant were chosen because they introduced important analytical or conceptual approaches used within the field. Finally, studies classified as recent and relevant were selected because they reflect contemporary developments and emerging directions closely aligned with the thematic content identified through the VOSviewer analysis.

The representative studies included in Appendix A were not selected solely on the basis of citation counts. Instead, they were chosen to illustrate the intellectual foundations, methodological developments, and contemporary research directions

associated with each cluster. To enhance transparency, the Appendix also provides a brief rationale for the inclusion of each study, explaining how it contributes to the interpretation of the respective thematic area. The purpose of Appendix A is therefore not to provide an exhaustive review of the literature, but to illustrate representative contributions that support the interpretation of the bibliometric findings.

4.1 Accounting, healthcare, and organizational management

This section functions both as a literature review and as an interpretive discussion of the bibliometric findings. It synthesizes prior research and theoretical frameworks identified through the mapping process, organizing them into four thematic areas that correspond to the clusters revealed by the co-occurrence analysis. In line with the structure typically adopted in bibliometric and thematic review studies, the literature review is therefore integrated within this analytical section to ensure coherence between the quantitative mapping results and the theoretical interpretation of the field.

The first thematic cluster, Accounting, Healthcare, and Organizational Management, indicates that the accounting and organizational approach forms the bedrock of performance management. Terms related to accounting, organizational structure, management, methodology, and economics consistently show that performance is primarily analyzed through a lens of organizational structures and accounting tools (Boyle & Hermanson, 2020). Building on this foundational framework, recent studies like Pfister *et al.* (2023) have aimed to provide a more structured theoretical basis. They propose a three-level framework - descriptive, analytical, and explanatory - designed to connect empirical observations with the theoretical development of management and control systems. Earlier works, such as Hoque *et al.* (2013), also support the use of theoretical triangulation and methodological pluralism. They argue that complex organizational realities are better understood when insights from multiple theoretical perspectives are combined. This type of approach strengthens the literature by broadening the interpretive possibilities of research and is consistent with the evolving, interdisciplinary nature of performance management systems, as reflected in the thematic clusters identified in the present study.

From a theoretical standpoint, research on performance management and management accounting draws on multiple complementary frameworks. According to the bibliometric analysis by Krisnadewi *et al.* (2023), the most frequently applied theories include agency theory, economic theory, social identity theory, social comparison theory, contingency theory, contract theory, goal-setting theory, practice theory, self-determination theory, and social exchange theory. Among these, agency theory and contingency theory appear as the dominant perspectives explaining how

incentive mechanisms, contractual arrangements, and contextual factors influence performance measurement and management control. Together, these frameworks provide a multi-level understanding of the mechanisms underpinning performance management in accounting contexts. The growing relevance of psychological and behavioral perspectives in management accounting research has also been highlighted by recent reviews (Wibbeke & Lachmann, 2020), particularly in studies addressing performance evaluation and control. In parallel, institutional theory also remains a significant explanatory lens in management accounting and control research, particularly in sector-specific contexts such as higher education (Vale *et al.*, 2022). These findings are consistent with more recent bibliometric analyses of management accounting systems, which highlight the increasing emphasis on environmental management and organizational performance (Campos *et al.*, 2023). Moreover, Otley's (2008) research underscores the importance of taking a broader view in performance management. He emphasizes the need to understand how managers actually use the information they get from these systems. Otley's framework continues to be influential, offering a clear perspective on how accounting information integrates into managerial decision-making. Alsharari (2019) further highlights the dual nature of accounting systems. He distinguishes between rational approaches (like economic models) and more interpretive or critical approaches. This dual character means accounting systems act both as technical instruments and as socially constructed tools, shaped by factors both inside and outside the organization. Ultimately, accounting is not merely a measurement tool. As Chou & Hoke (2015) point out, it functions as a framework for organizational accountability. It helps organizations achieve goals through clear, measurable performance indicators. Its theoretical roots lie in traditional management accounting and cost accounting, but also in modern models like Total Quality Management (TQM).

The integration of accounting, organizational control, and accountability mechanisms is particularly evident in sector-specific applications, with healthcare representing one of the most extensively studied contexts within the performance management literature. The co-occurrence analysis conducted in the present study confirms this relationship, as healthcare-related concepts are closely associated with accounting, management, methodology, health care quality, health services research, and organizational performance within the same thematic cluster.

Healthcare-related performance measurement constitutes an important dimension of the broader accounting and organizational management literature. Tools such as Performance Measurement Systems (PMS) and quality indicators link performance evaluation with health policy and service effectiveness. The theoretical underpinning is twofold: it draws from health policy management theory on the one hand, and accountability-based public sector accounting on the other - focusing on improving service quality and governance in public health institutions. Several studies propose

frameworks for addressing the complexities of performance measurement in healthcare. Purbey *et al.* (2007) emphasize that performance must be evaluated across multiple dimensions - efficiency, effectiveness, and flexibility - through a framework sensitive to both external and internal environmental changes. Grossu and Kalkis (2019) identify five commonly used tools for Total Quality Management in healthcare, including benchmarking, ISO standards, customer satisfaction surveys, and self-assessment models. These tools support continuous improvement and quality excellence initiatives. The Malcolm Baldrige National Quality Award criteria also provide a structured model for evaluating healthcare service quality and organizational excellence, as discussed by D'Souza & Sequeira (2012). However, other works such as Endeshaw (2021) highlight that many existing models are based on Western standards and may not suit the cultural and institutional realities of developing countries. A critical view is offered by Pflueger (2015), who argues that accounting-based measurement tools in healthcare often fall short of expectations because of conceptual misalignments between accounting logic and quality improvement goals. The study calls for a rethinking of how accounting contributes to healthcare service quality. Similarly, Kazandjian & Vallejo (2004) discuss accountability tools such as the Maryland Quality Indicator Project, while Sheldon (1998) points to conceptual weaknesses in performance indicators widely used in healthcare systems.

Finally, Hassan (2005) brings a multi-stakeholder perspective to healthcare performance measurement, recognizing that satisfaction and accountability must be understood across patients, staff, and accrediting bodies.

Overall, the findings indicate that accounting systems, organizational management practices, and healthcare performance evaluation share common theoretical foundations centered on accountability, measurement, control, and continuous improvement. The integration of these themes within a single cluster reflects the interdisciplinary nature of contemporary performance management research and highlights the growing importance of performance evaluation across both private and public-sector organizational settings.

The representative studies presented in Appendix A further illustrate this thematic integration, highlighting how accounting frameworks, organizational management practices, and healthcare performance evaluation collectively contribute to the development of performance management research.

4.2 Performance management, sustainability, and analytics

The thematic cluster on Performance Management, Sustainability, and Analytics indicates that contemporary performance management has evolved through the integration of digital technologies, analytical capabilities, and sustainability-oriented

perspectives. Terms such as business analytics, artificial intelligence, and management control systems are also discussed by Bastian *et al.* (2017). The transformation of management accounting in the digital economy has fundamentally shifted its orientation from record-keeping to predictive and prescriptive analytics. As Aldabbous and Riyath (2024) observe, technologies such as cloud computing, artificial intelligence, and blockchain are reshaping accounting into a forward-looking, strategically oriented discipline that emphasizes real-time decision support rather than compliance. Topics that examine how new technologies transform management accounting systems in order to achieve more accurate forecasts, make optimal decisions, and improve organizational performance appear to be a key focus in recent research. Recent systematic reviews confirm this trend, emphasizing that digital technologies such as artificial intelligence, blockchain, big data, and business intelligence have become central in reshaping management accounting and performance management (Barreto *et al.*, 2025).

In particular, recent studies emphasize the growing importance of Business Analytics as an extension of performance management practices. As Uyar (2021) demonstrates, both descriptive and predictive analytics positively influence planning, control, and cost management, reinforcing the role of analytics as a bridge between management accounting information and organizational performance. Performance Management Analytics (PMA), initially introduced by Silvi *et al.* (2010) and Schläfke *et al.* (2012), focused on ways to understand business dynamics through analytical methods, proposing structured frameworks for its integration into managerial processes. In this way, data-driven approaches are required to be more detailed in order to support proper monitoring, evaluation, and control within organizations. These insights collectively underline the central role of analytics-driven approaches in enhancing managerial decision-making.

An additional finding highlights the role of artificial intelligence - including expert systems, neural networks, and machine learning - as useful tools that enhance the role of management accountants in strategic decision-making within digitalized environments. A characteristic example of a representative function for reducing inefficiency is robotic process automation (RPA), which falls under automation technologies. These automation technologies, beyond reducing inefficiencies, also help accountants shift their focus from routine data processing to strategic analysis (Ahmed *et al.*, 2022; Padmanabhan & Khandelwal, 2024). However, as Naranjo-Padilla *et al.* (2024) emphasize, the effective implementation of digital technologies also depends on addressing professional training gaps and cybersecurity challenges. Their bibliographic review identifies the need for continuous upskilling and robust digital governance to ensure that the benefits of AI and analytics are fully realized in accounting contexts.

Beyond automation, scholars have also explored how business intelligence tools contribute to strategic accounting. Additionally, Brands and Holtzblatt (2015), Alnor (2024), and Rikhardsson & Yigitbasioglu (2018) have examined the ways in which business intelligence and analytics systems improve reporting, forecasting modeling, and performance monitoring. Although the authors recognize the challenges in adopting such systems, they emphasize that their implementation constitutes a key factor for value creation and strategic alignment within accounting functions. These developments are consistent with broader trends in management accounting research, where recent reviews highlight the dual influence of digitalization and sustainability imperatives as key drivers of innovation in accounting systems (Husain *et al.*, 2024).

Overall, the synthesis of visualization and existing literature reveals a clear shift toward digitally enhanced performance management, with an approach that shapes organizational strategies through real-time intelligent data analysis - as opposed to the traditional use of management accounting as a means of reporting financial results.

Beyond technological transformation, the bibliometric analysis also highlights the growing integration of sustainability considerations into performance management research. Concepts such as sustainability accounting, balanced scorecard, accountability, and performance assessment appear closely connected within the same thematic cluster, suggesting that contemporary performance management increasingly combines analytical capabilities with broader strategic and sustainability objectives.

The sustainability dimension of the cluster is reflected through terms such as sustainability accounting, balanced scorecard (BSC), accountability, performance assessment, and performance measurement, which indicate the growing tendency to expand performance evaluation beyond purely financial outcomes to include environmental and social dimensions (Nigri & Del Baldo, 2018; Zakaria, 2015). This finding aligns with broader developments in performance management research, where recent bibliometric studies emphasize the integration of strategic frameworks and sustainability considerations into performance evaluation systems (Garengo & Sardi, 2021). This trend is largely grounded in stakeholder theory and ESG-oriented performance frameworks, while the continued prominence of the BSC highlights its value as a comprehensive tool for linking strategy, sustainability, and organizational performance (Boyle & Hermanson, 2020).

Building upon this, Figge *et al.* (2002) proposed the integration of environmental and social aspects into performance measurement tools, thereby transforming the BSC into a management system oriented toward sustainability. In this way, the concept of the Sustainability Balanced Scorecard (SBSC) was developed, and there is a noticeable integration of sustainability dimensions into the traditional BSC

frameworks. Subsequent contributions have expanded this conceptualization. Recent studies continue this line of inquiry by empirically and systematically assessing how the SBSC contributes to organizational strategy. For instance, Silva *et al.* (2025) find that the Sustainability Balanced Scorecard enhances organizational capacity to align sustainability with strategic objectives, while also identifying persistent implementation barriers, particularly regarding the selection of appropriate sustainability indicators and resistance within organizations. Their systematic review maps the current SBSC literature and provides pathways for further theoretical and practical development. Complementing these findings, Quesado *et al.* (2025) conduct a bibliometric analysis of international research on integrating sustainability goals into the Balanced Scorecard. Their study identifies four main research clusters - Strategy and Performance, Model Management Indicators, Balanced Scorecard Decision-Making, and SBSC - and highlights the growing incorporation of Sustainable Development Goals (SDGs) into performance management frameworks, especially across emerging economies such as Qatar, Taiwan, and Malaysia.

Additionally, the literature has emphasized that the SBSC can function both as a tool for implementing sustainability strategies and as a means for sustainability accounting and reporting. It is worth noting that recent studies (Mio *et al.*, 2022; Abdelrazek, 2019) recognized the SBSC as a comprehensive tool that supports the evaluation of economic, environmental, and social performance, helping companies align their strategies with sustainability goals through their daily operations. These studies collectively confirm the centrality of the SBSC within sustainability-oriented management control research.

Expanding on the evolution of SBSC research, Trisyulianti *et al.* (2024) provide a decade-long systematic review that maps the development of SBSC indicators. Their study clusters sustainability performance measures into distinct categories and proposes a taxonomy that integrates economic, environmental, and social dimensions, reinforcing the SBSC as a central tool within integrated performance management systems for sustainable development.

In a related contribution, Damtoft *et al.* (2025) propose a framework for corporate sustainability performance measurement that differentiates between four categories: isolated indicators, indicator frameworks, Sustainability Balanced Scorecards (SBSC), and Sustainability Performance Measurement Systems (SPMS). They argue that while SBSCs represent a key step toward integration, SPMSs provide a higher degree of precision and context adaptability, thus framing the SBSC within a continuum of evolving sustainability performance tools.

Furthermore, Rašić and Pajdaković (2021) note that SBSC structures vary depending on the organizational context and the strategic orientation of each enterprise, suggesting that sustainability can be integrated either by adding new perspectives or within the existing ones. This flexibility highlights how sustainability integration varies according to strategic context.

Finally, Szóka (2022), in his work, proposed a conceptual SBSC model designed to be part of future sustainability reporting frameworks. Overall, this thematic cluster demonstrates the growing convergence between strategy formulation and sustainability performance management.

The bibliometric mapping also identified a distinct methodological stream associated with advanced analytical methods and forecasting. Keywords related to prediction, classification, algorithms, and performance measurement systems indicate a growing interest in analytical approaches that support forecasting and performance evaluation. This development is consistent with the increasing adoption of business analytics, machine learning, artificial intelligence, and forecasting models discussed throughout this section, highlighting the methodological evolution of performance management research toward more predictive and data-driven approaches.

4.3 Cost accounting and decision support

The thematic cluster on Cost Accounting and Decision Support highlights the central role of cost accounting information in supporting managerial decision-making, operational efficiency, and organizational performance. Cost systems today have evolved far beyond their traditional budgeting role to encompass advanced methods that directly support strategy formation, performance planning, and competitive positioning. Activity-Based Costing (ABC), in particular, is widely recognized for improving the accuracy of cost information by tracing costs more precisely to products and services. This enables more informed decisions about pricing, product mix, and operational improvements (Susilowati, 2023). Strategic Management Accounting (SMA) tools - such as attribute costing, benchmarking, and strategic costing - further enhance an organization's capacity to align financial and non-financial indicators with market dynamics. Evidence from sectors such as low-cost airlines shows that SMA contributes significantly to financial performance by integrating forward-looking, external information into the decision-making process (Tirado & Mavlutova, 2023; Alabdullah, 2019). From an optimization standpoint, throughput accounting has proven particularly effective in environments with production constraints. It avoids the distortions of traditional cost allocations and supports decisions that align closely with operational realities (Boyd & Cox, 2002). Additionally, recent work based on contingency theory argues that strategic cost management, when tailored to environmental variables, strengthens business performance by improving the fit between strategy, context, and control systems (Verma & Aggarwal, 2021).

Taken together, these approaches underscore that modern cost accounting systems are no longer passive reporting tools, but active enablers of strategic decision-making and long-term value creation (Rayburn, 1996). Recent bibliometric evidence further supports this strategic orientation of management accounting. Bactalia *et al.*

(2025) conducted a systematic literature review and bibliometric analysis on the determinants of corporate tax avoidance and evasion, emphasizing how governance structures, managerial incentives, and ethical considerations shape financial decision-making. Their findings highlight the growing integration of governance and ethical dimensions into cost and performance management practices, reinforcing the role of management accounting as a mechanism for accountability and strategic alignment. These findings are consistent with the bibliometric mapping results, which associate cost accounting with decision support systems, productivity, simulation-based analysis, and organizational performance within the same thematic cluster.

4.4 Summary overview

The analysis of the four thematic clusters derived through bibliometric mapping confirms that performance management in accounting is a multidimensional and rapidly evolving field. The categories outlined in Sections 4.1–4.3 demonstrate that performance is addressed not only through traditional accounting and organizational frameworks, but also through the lenses of technological innovation, strategic alignment, institutional accountability, and environmental sustainability (Adler, 2023).

Moreover, the findings affirm a notable shift from unidimensional, financially focused systems to multifactorial performance evaluation frameworks that integrate quantitative indicators, qualitative criteria, and socioeconomic variables. The integration of advanced technologies - such as analytics and artificial intelligence - marks the beginning of a new era in management accounting, where value creation is increasingly linked to predictive, adaptive, and data-informed performance practices.

In sum, this chapter demonstrates the theoretical diversity and practical variability of the field, recognizing performance management as a critical component of accounting science within modern managerial and societal contexts.

The following section synthesizes the study's key conclusions and proposes targeted directions for future research, based on insights gained from the analysis of 239 articles and the bibliometric mapping. Accordingly, the conclusions drawn reinforce the importance of further scholarly exploration, especially in areas where thematic interconnections remain underexplored. This multidimensional evolution highlights not only the maturity of the field but also the need for further exploration in less-examined thematic areas, as discussed in more detail in the following chapter.

Overall, the discussion demonstrates how the identified clusters collectively depict the evolution of performance management research in accounting - from its

traditional theoretical roots to its integration with sustainability and digital technologies. By linking each thematic area to relevant theoretical frameworks and empirical evidence, this synthesis provides a more comprehensive understanding of how accounting-based performance management adapts to contemporary organizational and societal challenges.

5. Conclusions and suggestions for future research

This study aims to contribute to the clarification of the conceptual and thematic complexity within the field of performance management in accounting, by combining a systematic literature review with bibliometric mapping using VOSviewer. Through the analysis of 239 articles sourced from the Scopus database, it is evident that performance management in accounting is not a monolithic research subject, but rather a dynamic, interdisciplinary, and technologically sensitive domain with significant theoretical and practical implications.

The bibliometric analysis revealed four major thematic clusters, each representing a distinct yet interconnected dimension of contemporary performance management research in accounting:

1. Accounting, Healthcare, and Organizational Management, highlighting the foundational role of accounting systems, organizational structures, accountability mechanisms, and performance evaluation practices, including their application within healthcare settings.
2. Performance Management, Sustainability, and Analytics, emphasizing the increasing integration of digital technologies, business analytics, artificial intelligence, sustainability accounting, and strategic performance management frameworks such as the Balanced Scorecard.
3. Cost Accounting and Decision Support, focusing on the contribution of cost accounting information, strategic cost management, and decision-support tools to organizational performance and managerial decision-making.
4. Advanced Analytical Methods and Forecasting, reflecting the growing importance of predictive approaches, analytical techniques, forecasting methods, and data-driven performance evaluation systems within contemporary accounting research.

The findings demonstrate a clear transition from traditional accounting and organizational perspectives toward more integrated, technology-enabled, and sustainability-oriented approaches. The growing prominence of analytical methods, artificial intelligence, business intelligence, and forecasting tools indicates that performance management is increasingly supported by advanced data-processing capabilities and predictive decision-making frameworks. At the same time, sustainability-related concepts and non-financial performance indicators are becoming progressively embedded within performance evaluation systems,

extending the scope of accounting beyond financial reporting toward broader organizational and societal objectives.

Beyond mapping the existing literature, the study provides several practical insights. For scholars, it highlights the dominant theoretical foundations - such as agency and contingency theories - and shows how they intersect with emerging domains like sustainability accounting and digital transformation. For practitioners and policy makers, the analysis underlines the growing role of data-driven systems and sustainability metrics in shaping performance management and decision-making frameworks. Finally, future research could further enrich the understanding of this field by combining bibliometric mapping with qualitative content analysis, exploring cross-country differences, or investigating how digital technologies reshape management accounting practices in various organizational contexts.

Based on the findings, several directions for future research can be proposed. First, the impact of digital technologies on performance management systems (PMS) deserves further exploration. The emergence of terms such as machine learning, business intelligence, and predictive analytics signals a developing research area. Future studies could focus on how intelligent systems reshape decision-making processes and performance control (see Silvi *et al.*, 2010; Bastian *et al.*, 2017). Second, there is a growing need to integrate performance management with ESG accountability frameworks. Although concepts of sustainability and environmental responsibility are becoming more prominent, they require deeper theoretical elaboration and empirical validation within the accounting context (Nigri & Del Baldo, 2018; Zakaria, 2015). Third, additional work is required to develop performance management frameworks specifically tailored to the public sector and healthcare systems. Despite growing research output, comparative assessments across countries and institutional settings remain limited. Future research should include comparative case studies to examine PMS implementation across diverse national contexts (Ibrahim *et al.*, 2021). Fourth, a systematic assessment of the impact of performance management on employee behavior remains underexplored. Human capital is often overlooked in accounting-based performance systems. Studies examining the role of KPIs and incentive structures in shaping managerial psychology and organizational culture could offer valuable insights (Hasanuddin *et al.*, 2024). Lastly, advanced bibliometric tracking of emerging trends should be pursued. Tools such as VOSviewer can be combined with other techniques, including citation analysis and thematic mapping, to enable ongoing monitoring of the field's scientific evolution. The implementation of these proposals is expected to enhance both theoretical understanding and the practical applicability of research findings in the domain of performance management in accounting.

Despite its methodological rigor, this study has several limitations. First, the exclusive use of the Scopus database, while ensuring high-quality peer-reviewed

sources, may limit the scope of coverage, potentially excluding relevant articles from other academic databases. Second, the restriction to English-language publications excludes potentially valuable contributions in other languages. Third, although keyword cleaning was conducted to filter out irrelevant terms, some conceptual noise may remain due to the reliance on metadata rather than full-text content. Fourth, while keyword-based clustering offers a broad thematic overview, the interpretation of clusters was not supplemented by in-depth qualitative content analysis of representative articles, which could further validate thematic boundaries. In addition, the specific parameter settings used in VOSviewer (e.g., the minimum occurrence threshold) may influence the granularity of clusters. However, a sensitivity check conducted with a higher threshold confirmed that the overall thematic structure remained stable. Finally, given the single-database design, the findings should be interpreted with appropriate caution regarding the representativeness and completeness of the international literature.

References

Abdelrazek, A. F. (2019). Sustainability balanced scorecard: A comprehensive tool to measure sustainability performance. *International Journal of Social Science and Economic Research*, *4*(2), 948-962.

Adler, R. W. (2023). *Strategic performance management: Accounting for organizational control* (2nd ed.). Routledge.

Aggelopoulos, E., Lampropoulos, I., & Paraschi, E. P. (2023). An empirical analysis of evaluating the operational and economic efficiency of retail stores under an adverse operating environment. *Managerial and Decision Economics*, *45*(1), 65-81. https://doi.org/10.1002/mde.3844

Ahmed, A., Albaz, M. M., & Metwaly, A. Z. (2022). The role of artificial intelligence technologies in improving the performance of the management accountant considering the Egyptian state's trend toward digital transformation. *World Research of Business Administration Journal*, *2*(3), 167-182. https://doi.org/10.56830/ZAAF5463

Alabdullah, T. T. Y. (2019). Management accounting and service companies' performance: Research in emerging economies. *Australasian Accounting, Business and Finance Journal*, *13*(4), 100-118. https://doi.org/10.14453/aabfj.v13i4.8

Aldabbous, N., & Riyath, M. I. M. (2024). Review of management accounting in a digital economy. *European Journal of Accounting, Auditing and Finance Research*, *12*(7), 67-88. https://doi.org/10.37745/ejaafr.2013/vol12n76888

Alnor, N. H. A. (2024). Applications of modern technology in developing management accounting systems and how they affect the organizational performance. *WSEAS Transactions on Business and Economics*, *21*, 2591-2601. https://doi.org/10.37394/23207.2024.21.212

Alsharari, N. M. (2019). Management accounting and organizational change: Alternative perspectives. *International Journal of Organizational Analysis*, *27*(4), 1124-1147. https://doi.org/10.1108/IJOA-03-2018-1394

Assad, S. N. B., Hamdan, N. B., & Zakaria, N. B. (2022). The impact of managerial accounting practices on financial performance: A preliminary review. In *iBAF e-Proceedings*. Universiti Sains Islam Malaysia. https://doi.org/10.33102/2g740v53

Bactalia, A., Aggelopoulos, E., Lampropoulos, I., Kalogera, M., & Kariofyllas, S. (2025). A thorough literature review on the determinants of corporate tax avoidance and tax evasion. *Journal of Accounting and Taxation*, *17*(4), 148-170. https://doi.org/10.5897/JAT2025.0650

Barreto, A., Gomes, P., Quesado, P., & O'Sullivan, S. (2025). Advancements in management accounting and digital technologies: A systematic literature review. *Accounting, Finance & Governance Review*, *34*. https://doi.org/10.52399/001c.137301

Bastian, N. D., Ekin, T., Kang, H., Griffin, P. M., Fulton, L. V., & Grannan, B. C. (2017). Stochastic multi-objective auto-optimization for resource allocation decision-making in fixed-input health systems. *Health Care Management Science*, *20*, 246-264. https://doi.org/10.1007/s10729-015-9350-2

Boyd, L. H., & Cox, J. F., III. (2002). Optimal decision making using cost accounting information. *International Journal of Production Research*, *40*(8), 1879-1898. https://doi.org/10.1080/00207540210122239

Boyle, D. M., & Hermanson, D. R. (2020). Research initiatives in accounting education: Developing and utilizing faculty. *Issues in Accounting Education*, *35*(4), 75-86. https://doi.org/10.2308/ISSUES-2020-015

Brands, K., & Holtzblatt, M. (2015). Business analytics: Transforming the role of management accountants. *Management Accounting Quarterly*, *16*(3), 1-12.

Brignall, S. (2008). An accounting and finance perspective on performance measurement and management. In R. Thorpe & J. Holloway (Eds.), *Performance management: Multidisciplinary perspectives* (pp. 160-171). Palgrave Macmillan. https://doi.org/10.1057/9780230288942

Campos, F., Neves, V., Lobo, B., & Azevedo, G. (2023). Management accounting systems: A bibliometric analysis. In *2023 18th Iberian Conference on Information Systems and Technologies (CISTI)* (pp. 1-6). IEEE. https://doi.org/10.23919/CISTI58278.2023.10211347

Chou, T. S., & Hoke, E. (2015). Theoretical research project vs. hands-on project in a network management course. In *Proceedings of the 16th Annual Conference on Information Technology Education* (pp. 145-148). Association for Computing Machinery. https://doi.org/10.1145/2808006.2808026

Cozma, I., Tirau, A., & Pușcaș, S. A. (2022). The contribution of accounting to performance management: Literature trends and research potential. *Journal of Financial Studies*, *7*(12), 77-88.

Cvetkoska, V., & Eftimov, L. (2021). Bibliometric analysis for performance measurement in business, management and accounting subject area. *Journal of Engineering Management and Competitiveness*, *11*(1), 51-63. https://doi.org/10.5937/jemc2101051C

Damtoft, N. F., van Liempd, D., & Lueg, R. (2025). Sustainability performance measurement: A framework for context-specific applications. *Journal of Global Responsibility*, *16*(1), 162-201. https://doi.org/10.1108/JGR-05-2023-0082

D'Souza, S., & Sequeira, A. H. (2012). *A critical analysis of service quality and performance through Malcolm Baldrige national quality healthcare criteria: Benefits and research directions* [Working paper]. SSRN. https://doi.org/10.2139/ssrn.2018089

Endeshaw, B. (2021). Healthcare service quality-measurement models: A review. *Journal of Health Research*, *35*(2), 106-117. https://doi.org/10.1108/JHR-07-2019-0152

Figge, F., Hahn, T., Schaltegger, S., & Wagner, M. (2002). The sustainability balanced scorecard: Linking sustainability management to business strategy. *Business Strategy and the Environment*, *11*(5), 269-284. https://doi.org/10.1002/bse.339

Garengo, P., & Sardi, A. (2021). Performance measurement and management in the public sector: State of the art and research opportunities. *International Journal of Productivity and Performance Management*, *70*(7), 1629-1654. https://doi.org/10.1108/IJPPM-03-2020-0102

Grossu, D., & Kalkis, H. (2019). Performance measurement tools for total quality management in application to healthcare environment: A qualitative systematic review. *Journal of Economics and Management Research*, *8*(8), 82-89. https://doi.org/10.22364/jemr.8.05

Hasanuddin, R., Natsir, N., & Nurdin, N. N. (2024). Performance-based accounting and its influence on employee motivation. *International Journal of Economics and Management Sciences*, *1*(4), 242-251. https://doi.org/10.61132/ijems.v1i4.267

Hassan, D. (2005). Measuring performance in the healthcare field: A multiple stakeholders' perspective. *Total Quality Management & Business Excellence*, *16*(8–9), 945-953. https://doi.org/10.1080/14783360500163086

Hoque, Z., Covaleski, M. A., & Gooneratne, T. N. (2013). Theoretical triangulation and pluralism in research methods in organizational and accounting research. *Accounting, Auditing & Accountability Journal*, *26*(7), 1170-1198. https://doi.org/10.1108/AAAJ-May-2012-01024

Husain, F., Dungga, M. F., & Noholo, S. (2024). A systematic literature review on the development trends in management accounting research. *DIVERSITY: Logic Journal Multidisciplinary*, *2*(3), 78-92. https://doi.org/10.61543/div.v2i3.97

Hyndman, R. J., & Koehler, A. B. (2006). Another look at measures of forecast accuracy. *International Journal of Forecasting*, *22*(4), 679-688. https://doi.org/10.1016/j.ijforecast.2006.03.001

Ibrahim, A. E. A., Elamer, A. A., & Ezat, A. N. (2021). The convergence of big data and accounting: Innovative research opportunities. *Technological Forecasting and Social Change*, *173*, 121171. https://doi.org/10.1016/j.techfore.2021.121171

Kaplan, R. S., & Cooper, R. (1998). *Cost & effect: Using integrated cost systems to drive profitability and performance*. Harvard Business School Press.

Kausar, A., Lim, J. H., & Park, Y. I. (2026). Data analytics and operational efficiency. *Accounting Horizons*, *40*(1), 71-89. https://doi.org/10.2308/HORIZONS-2022-164

Kazandjian, V. A., & Vallejo, P. (2004). Local evaluation of quality using generic measurement tools. *Gaceta Sanitaria*, *18*(3), 225-234. https://doi.org/10.1016/s0213-9111(04)71837-3

Krisnadewi, K. A., Suryanawa, I. K., Sisdyani, E. A., Erawati, N. M. A., & Putri, I. G. A. M. A. D. (2023). Management accounting research trends: Bibliometrics and content analysis. *Uncertain Supply Chain Management*, *11*(4), 1549-1560. https://doi.org/10.5267/j.uscm.2023.7.014

Lampropoulos, I. C., Malli, F., Aggelopoulos, E., Tsameti, A., Rouka, E., Daniil, Z., & Gourgoulianis, K. I. (2025). Mapping the scientific landscape between respiratory conditions and costs: A bibliometric analysis. *Healthcare*, *13*(18), 2293. https://doi.org/10.3390/healthcare13182293

Makridakis, S., Spiliotis, E., & Assimakopoulos, V. (2018). Statistical and machine learning forecasting methods: Concerns and ways forward. *PLoS ONE*, *13*(3), e0194889. https://doi.org/10.1371/journal.pone.0194889

Microsoft. (2024). *Microsoft Excel* (Version 365) [Computer software]. https://www.microsoft.com/el-gr/microsoft-365

Mio, C., Costantini, A., & Panfilo, S. (2022). Performance measurement tools for sustainable business: A systematic literature review on the sustainability balanced scorecard use. *Corporate Social Responsibility and Environmental Management*, *29*(2), 367-384. https://doi.org/10.1002/csr.2206

Naranjo-Padilla, M. I., Herrera-Sánchez, M. J., & Coello-Panchana, A. J. (2024). Análisis bibliográfico del impacto de la transformación digital y tecnologías emergentes en la contabilidad actual [Bibliographic analysis of the impact of digital transformation and emerging technologies on current accounting]. *Multidisciplinary Collaborative Journal*, *2*(1), 52-64. https://doi.org/10.70881/mcj/v2/n1/31

Nigri, G., & Del Baldo, M. (2018). Sustainability reporting and performance measurement systems: How do small- and medium-sized benefit corporations manage integration? *Sustainability*, *10*(12), 4499. https://doi.org/10.3390/su10124499

Nurhayadi, W., Meutia, M., Hanifah, I. A., & Muchlish, M. (2023). Scopus indexed and VOSviewer-based environmental management accounting system mapping: Bibliometrics and visualization. In *Proceedings of the International Conference on Sustainability in Technological, Environmental, Law, Management, Social and Economic Matters (ICOSTELM 2022)* (pp. 1-9). EAI.

Ossadnik, W. (2017). Performance Management international agierender Unternehmen als Herausforderung für die Controllinglehre und Stimulanz für deren Weiterentwicklung. In W. Funk & J. Rossmanith (Eds.), *Internationale Rechnungslegung und Internationales Controlling* (pp. 399-417). Springer Gabler. https://doi.org/10.1007/978-3-658-16104-0_15

Otley, D. (2008). Performance management: A framework for analysis. In R. Thorpe & J. Holloway (Eds.), *Performance management: Multidisciplinary perspectives* (pp. 24-39). Palgrave Macmillan. https://doi.org/10.1057/9780230288942_3

Padmanabhan, A., & Khandelwal, S. (2024). Automation and AI adoption: Catalysts to enhance management accounting. *The Management Accountant Journal*, *59*(9), 83-87. https://doi.org/10.33516/maj.v59i9.83-87p

Pfister, J. A., Peda, P., & Otley, D. (2023). A methodological framework for theoretical explanation in performance management and management control systems research. *Qualitative Research in Accounting & Management*, *20*(2), 201-228. https://doi.org/10.1108/QRAM-10-2021-0193

Pflueger, D. (2015). Accounting for quality: On the relationship between accounting and quality improvement in healthcare. *BMC Health Services Research*, *15*, 178. https://doi.org/10.1186/s12913-015-0769-4

Purbey, S., Mukherjee, K., & Bhar, C. (2007). Performance measurement system for healthcare processes. *International Journal of Productivity and Performance Management*, *56*(3), 241-251. https://doi.org/10.1108/17410400710731446

Quesado, P., Costa Oliveira, H., & Silva, R. (2025). Integrating sustainability goals into the balanced scorecard: A bibliometric analysis of the sustainability balanced scorecard. *Measuring Business Excellence*, *29*(2), 352-367. https://doi.org/10.1108/MBE-09-2024-0139

Rašić, J. S., & Pajdaković, V. M. (2021). Sustainability balanced scorecard: Four performance perspectives or more? *Strategic Management*, *26*(4), 37-49. https://doi.org/10.5937/StraMan2104037R

Rayburn, L. G. (1996). *Cost accounting: Using a cost management approach* (6th ed.). Irwin.

Rethlefsen, M. L., Kirtley, S., Waffenschmidt, S., Ayala, A. P., Moher, D., Page, M. J., & Koffel, J. B. (2021). PRISMA-S: An extension to the PRISMA statement for reporting literature searches in systematic reviews. *Systematic Reviews*, *10*(1), 39. https://doi.org/10.1186/s13643-020-01542-z

Rikhardsson, P., & Yigitbasioglu, O. (2018). Business intelligence & analytics in management accounting research: Status and future focus. *International Journal of Accounting Information Systems*, *29*, 37-58. https://doi.org/10.1016/j.accinf.2018.03.001

Schläfke, M., Silvi, R., & Möller, K. (2012). A framework for business analytics in performance management. *International Journal of Productivity and Performance Management*, *62*(1), 110-122. https://doi.org/10.1108/17410401311285327

Sheldon, T. (1998). Promoting health care quality: What role performance indicators? *Quality in Health Care*, *7*, 45-50.

Silva, A., Maldonado, I., da Silva, M., & Cepeda, C. (2025). Sustainability balanced scorecard: Systematic literature review. *Journal of Risk and Financial Management*, *18*(6), 324. https://doi.org/10.3390/jrfm18060324

Silvi, R., Moeller, K., & Schlaefke, M. (2010). *Performance management analytics: The next extension in managerial accounting* [Working paper]. SSRN. https://doi.org/10.2139/ssrn.1656486

Susilowati, E. (2023). Cost management and strategic decision making: The role of managerial accounting. *Atestasi: Jurnal Ilmiah Akuntansi*, *6*(1), 457-473. https://doi.org/10.57178/atestasi.v6i1.855

Szóka, K. (2022). Conceptual model for developing a sustainability balanced scorecard: Taking into account ESG aspects. *Mathematical Modeling*, *6*(1), 20-22.

Tirado, J. S., & Mavlutova, I. (2023). The impact of strategic management accounting on the financial performance of low-cost airlines. *WSEAS Transactions on Environment and Development*, *19*, 786-797. https://doi.org/10.37394/232015.2023.19.74

Trisyulianti, E., Suryadi, K., & Prihantoro, B. (2024). Sustainability balance scorecard: Literature review and clustering of performance indicator. *Jurnal Manajemen dan Organisasi*, *15*(4), 455-469. https://doi.org/10.29244/jmo.v15i4.61691

Uyar, M. (2021). The role of business analytics in transforming management accounting information into cost performance. *Ege Academic Review*, *21*(4), 373-389. https://doi.org/10.21121/eab.1015665

Vale, J., Amaral, J., Abrantes, L., Leal, C., & Silva, R. (2022). Management accounting and control in higher education institutions: A systematic literature review. *Administrative Sciences*, *12*(1), 14. https://doi.org/10.3390/admsci12010014

van Eck, N. J., & Waltman, L. (2010). Software survey: VOSviewer, a computer program for bibliometric mapping. *Scientometrics*, *84*(2), 523-538. https://doi.org/10.1007/s11192-009-0146-3

Verma, T., & Aggarwal, R. (2021). Developing a framework to study the impact of contingent factors on business performance using strategic cost management: A meta-analysis study. In *Big data analytics for improved accuracy, efficiency, and decision making in digital marketing* (pp. 227-253). IGI Global. https://doi.org/10.4018/978-1-7998-7231-3.ch016

Wibbeke, L. M., & Lachmann, M. (2020). Psychology in management accounting and control research: An overview of the recent literature. *Journal of Management Control*, *31*(3), 275-328. https://doi.org/10.1007/s00187-020-00302-3

Zakaria, Z. (2015). A cultural approach of embedding KPIs into organisational practices. *International Journal of Productivity and Performance Management*, *64*(7), 932-946. https://doi.org/10.1108/IJPPM-08-2014-0127

Appendix A. Synthesis of representative studies across the four thematic clusters

Cluster	Representative study	Classification	Revised reason for inclusion
Accounting, Healthcare, and Organizational Management	Otley (2008)	Foundational	Selected because it provides one of the most influential conceptual frameworks for understanding performance management systems and their role in organizational control, accountability, and managerial decision-making. The study offers a comprehensive theoretical foundation for interpreting the accounting and organizational dimensions of performance management
Accounting, Healthcare, and Organizational Management	Pflueger (2015)	Influential	Selected because it critically examines the relationship between accounting-based performance measurement and quality improvement in healthcare settings. The study directly reflects the integration of healthcare performance evaluation within the broader accounting and organizational management literature.
Performance Management, Sustainability, and Analytics	Figge *et al.* (2002)	Foundational	Selected because it introduced the Sustainability Balanced Scorecard (SBSC), extending traditional performance measurement frameworks to include environmental and social dimensions. The study represents a

Cluster	Representative study	Classification	Revised reason for inclusion
			foundational contribution to sustainability-oriented performance management research.
Performance Management, Sustainability, and Analytics	Rikhardsson & Yigitbasioglu (2018)	Influential	Selected because it examines the growing role of business intelligence and analytics in management accounting research. The study reflects the increasing integration of digital technologies, analytics, and performance management practices identified within this thematic cluster.
Cost Accounting and Decision Support	Boyd & Cox (2002)	Foundational	Selected because it demonstrates how cost accounting information can support optimal managerial decision-making under operational constraints. The study provides a foundational perspective on the role of accounting information in decision-support processes.
Cost Accounting and Decision Support	Susilowati (2023)	Recent and Relevant	Selected because it highlights the strategic role of managerial accounting and cost management in contemporary organizational decision-making. The study

Cluster	Representative study	Classification	Revised reason for inclusion
			reflects recent developments in the application of accounting information to support business performance and strategic management.
Advanced Analytical Methods and Forecasting	Silvi *et al.* (2010)	Methodologically Relevant	Selected because it introduced the concept of Performance Management Analytics (PMA), emphasizing the use of analytical methods to support performance evaluation and managerial decision-making. The study represents an important methodological contribution to analytics-based performance management research.
Advanced Analytical Methods and Forecasting	Schläfke *et al.* (2012)	Influential	Selected because it provides a structured framework for integrating business analytics into performance management systems. The study directly reflects the growing importance of analytical methods, forecasting-oriented decision support, and data-driven performance evaluation within contemporary accounting research.

Source: Authors' own research