

Emerging trends and key themes in public financial management: A bibliometric analysis from 1977 to 2024

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Abstract: This study presents a comprehensive bibliometric analysis of the literature on public financial management (PFM), aiming to identify key trends, influential publications, and emerging themes. Using data from Web of Science and Scopus, the study examines the evolution of PFM research from 1977 to 2024. The findings reveal a significant increase in PFM research output, particularly after 2010, with countries like the United States, the United Kingdom, and China contributing the most publications. Central themes such as financial management, transparency, and accountability remain prominent while emerging topics like gender budgeting, health insurance, and blockchain technology reflect shifting priorities in the field. The study employed performance analysis and science mapping techniques to assess the structure and dynamics of PFM research. The analysis highlights key focus areas, including fiscal decentralization and sector-specific management, and identifies gaps in the existing literature, particularly regarding interdisciplinary and international collaboration. The results suggest that while PFM remains rooted in traditional governance and financial control, there is a growing emphasis on modern, innovative solutions to address contemporary challenges. This study's insights provide a roadmap for future research, emphasizing the importance of transparency, technological integration, and inclusive financial policies. In conclusion, this bibliometric analysis contributes to understanding PFM's evolving landscape, offering scholars and policymakers a clearer perspective on current trends and future directions in the field. Future research should focus on expanding interdisciplinary approaches and exploring the practical impacts of emerging PFM trends across different regions.

Keywords: public financial management; bibliometric analysis; transparency; gender budgeting; blockchain technology; fiscal decentralization

1. Introduction

In public administration and management, financial resources are often regarded as the lifeblood of public institutions, as widely recognized by scholars (Alan et al., 2001). However, there has been limited focus on how these financial resources are managed, a process referred to as Public Financial Management (PFM) (Kioko et al., 2011). PFM ensures that public funds are used efficiently to deliver public services (Lusha et al., 2015). While there is no universally accepted definition of PFM, it is commonly described as comprising four main phases: (i) budget formation or planning; (ii) budget approval; (iii) budget implementation; and (iv) budget evaluation (Andrews et al., 2014; Goudge and Wishnia, 2021). Nonetheless, Lawson (2015) expands this view by suggesting that PFM encompasses a broader range of tasks than traditional financial management, presenting it as a six-phase cyclical process. This cycle begins with policy development and concludes with external auditing and

assessment, involving multiple stakeholders to ensure the process operates efficiently, transparently, and with accountability (Lawson, 2015).

Public financial management has emerged as a critical area of research due to global concerns surrounding the management of public expenditures, particularly in low-and middle-income countries (Goudge and Wishnia, 2021). These nations are increasingly prioritizing PFM to address fiscal challenges, including the impact of the COVID-19 pandemic (Ball, 2020). Moreover, enhancing the performance of PFM systems can yield significant long-term benefits by fostering good governance, strengthening states, reducing poverty, promoting gender equality, and encouraging balanced economic growth. PFM plays a vital role in supporting the availability of public resources and stabilizing fiscal and economic policies (Alshubiri, 2019; De Bruijn, 2002). Governments across the globe aim to strengthen institutions and develop sustainable societies by pursuing PFM as a strategic goal (Andrés et al., 2008). Achieving effective PFM requires a strong Ministry of Finance to oversee the management and administration of public resources. This, in turn, enables the equitable distribution of wealth across various economic sectors and supports the balanced development of national projects (Alshubiri, 2019; Buch et al., 2005).

Public finance management (PFM) plays a crucial role in equalizing financial and budgetary disparities, especially in contexts undergoing institutional changes. Chornovol et al. (2020) argue that optimizing financial and budgetary tools is essential for preventing the growth of public debt and deficits in relation to GDP. Their study, which used economic and statistical methods to assess PFM in Ukraine and the EU, highlights the challenges posed by macroeconomic fluctuations and pro-cyclical fiscal policies. As a result, they suggest that PFM should focus on stabilizing economic processes, especially in uncertain environments. Similarly, Demianyshyn et al. (2023) emphasize the importance of reforming Ukraine's PFM system, particularly in modernizing financial accounting and enhancing financial security in the public sector (Demianyshyn, 2021). They argue that reform efforts should minimize the negative aspects of the current system and address risks, thereby facilitating Ukraine's economic integration into the EU. Their research, utilizing various methodological approaches, explores how these reforms can improve financial security in the state and communal sectors, leading to better socio-economic outcomes. In contrast, Mutambara and Muzurura (2022) explore the role of supreme audit institutions in promoting sound PFM, with a focus on Zimbabwe. Using structural equation modeling, they reveal a strong relationship between audit effectiveness, PFM, and national development. Their findings suggest that strengthening auditor independence and public sector accountability can enhance both PFM and sustainable development. Addressing the Russian context, Rukina et al. (2022) examine the budget instruments necessary to counter external economic sanctions and fulfill Sustainable Development Goals. Their analysis, based on data from Russia's Ministry of Finance, recommends improving tax independence at the sub-federal level and reforming budget expenditure reviews. Such measures are deemed essential for better resource allocation and transparency in budget management. In Ukraine, Gasanov (2022) focuses on the alignment of public debt statistics with international standards to improve transparency and cooperation with global financial organizations. He suggests that amendments to the Budget Code of Ukraine would facilitate this alignment, thereby

strengthening the country's PFM system. This reform would also enhance Ukraine's ability to meet international expectations for public finance management. Additionally, Saputra (2021) examines how sound governance and PFM positively affect local government performance in Indonesia, particularly during the COVID-19 pandemic. His study indicates that improved governance and financial management can prevent fraud and enhance public service delivery, suggesting that these elements are critical for overcoming economic challenges. In terms of best practices, Tolikova et al. (2022) propose several strategies for improving customs administration within Russia's PFM framework. These strategies, focused on reducing administrative pressures and assessing the impact of information technology, are aimed at improving financial efficiency in customs operations and reducing business costs, thus contributing to a more robust PFM system. Lastly, Marhasova et al. (2021) analyze Ukraine's PFM system in the context of decentralization reforms, highlighting the decline in financial independence at the subnational level. They emphasize the importance of increasing financial capacity and trust in local governance as key factors for effective public finance management. These insights underscore the ongoing need to improve transparency, accountability, and financial discipline at both national and subnational levels.

These studies illustrate the diverse challenges and strategies for improving PFM systems in various contexts. Whether focusing on debt management, auditing, governance, or decentralization, each highlights the critical role of effective PFM in achieving broader socio-economic and development goals. Countries like Ukraine, Russia, and Zimbabwe can strengthen their financial systems by implementing the suggested reforms, ultimately improving economic stability and development outcomes. The existing literature on public financial management (PFM) within public organizations has covered various topics and applications. However, there needs to be a comprehensive and systematic overview of this field's current trends and future directions. This study aims to address that gap by conducting a bibliometric analysis of the literature on PFM in public organizations.

Bibliometric analysis is a quantitative method that applies statistical techniques to evaluate publications within a specific field or topic. This approach offers valuable insights into the characteristics, development, and structure of a research domain, including identifying the most influential publications, authors, journals, countries, and research themes, as well as uncovering research gaps (Aria and Cuccurullo, 2017). Specifically, this study provides a thorough overview of the current state and future prospects of PFM research. It also offers insights and implications for researchers, practitioners, policymakers, and educators. The following research questions are explored:

- RQ-1: What are the main trends and patterns in publications on public financial management (PFM) in public organizations?
- RQ-2: Who are the most influential authors, journals, and countries in public financial management (PFM)?
- RQ-3: What are the main research themes and topics in public financial management (PFM) literature?

- RQ-4: What are the research gaps and future directions in public financial management (PFM) literature?

Through this analysis, the study seeks to provide a comprehensive understanding of the current landscape of PFM research and guide future academic and practical efforts in the field. This study aims to explore trends and insights in public financial management. A bibliometric analysis was conducted using Scopus and Web of Science (WOS) databases to achieve this. The structure of this article is as follows: The first section discusses the concepts and importance of PFM. The second section outlines the methodology, including the databases and data collection methods. The third section presents the results, analysis, and discussion. Finally, the last section provides the conclusion, highlighting gaps in the literature and opportunities for future research.

2. Methodology

This study utilizes bibliometric analysis methodology to investigate research papers related to Public Financial Management (PFM) within the context of public administration education. Bibliometric analysis, a quantitative approach to evaluating and analyzing published scientific material, offers an objective framework for assessing the scope and depth of research in a specific domain. In this study, we apply performance analysis and science mapping techniques, which are fundamental to bibliometric analysis (Donthu et al., 2021). As noted by José de Oliveira et al. (2019), Oosthuizen and Pretorius (2020), and Čater and Zupic (2015), bibliometric techniques are invaluable for assessing the current state of knowledge, identifying research gaps, revealing emerging trends, and analyzing the cognitive structure of a research area. Key methodologies employed in bibliometric analysis—such as citation, co-citation, bibliographic coupling, co-author, and co-word analysis—offer a systematic and rigorous approach to understanding the scientific literature. These techniques are essential for advancing scientific research by identifying core topics, mapping specialized areas, and providing a clearer understanding of the field's trajectory and potential future directions.

3. Data extraction

The data for this study was carefully sourced from two highly reputable and widely recognized databases, Web of Science and Scopus, to thoroughly address the research question and ensure the robustness of the findings (Čater and Zupic, 2015; Gaviria-Marin et al., 2019; Griffith et al., 1974; Jamshed and Majeed, 2022; Mongeon and Paul-Hus, 2016). Both Web of Science and Scopus are known for their comprehensive and authoritative collections of citation data and abstracts, making them critical resources for academic research. These databases are considered among the largest in the world, offering an extensive and multidisciplinary range of scholarly content from peer-reviewed sources. This broad scope enables researchers to capture valuable insights across numerous fields of study, including science, technology, medicine, social sciences, and the arts and humanities. By utilizing these databases, this study ensures that the data gathered reflects high academic rigor and integrity standards, supported by diverse and credible sources from global academic

communities. This contributes to the overall quality and reliability of the research findings. A query was constructed to search all fields of publication using the keyword combination “public financial management” By Kioko et al. (2011). **Figure 1** illustrates the steps of the systematic analysis process, following the PRISMA guidelines (Liberati et al., 2009; Moher et al., 2009; Page et al., 2021). The systematic analysis began with Phase One, where searches were conducted on Web of Science and Scopus using the relevant keywords. This search yielded 336 studies from Web of Science and 354 from Scopus, totaling 690. Since identical keywords were used in both databases, some results overlapped. After removing duplicates and studies with missing details (e.g., author names or journal information), 518 studies remained. In Phase Two, the data-cleaning method outlined by Wang et al. (2020) was applied. This step focused on integrating author keywords, country data, and the complete dataset. Subsequently, the data from both databases were merged to ensure consistency and accuracy in the analysis, resulting in a more refined and comprehensive dataset. This process enhanced the quality of the bibliometric analysis (see **Figure 1**).

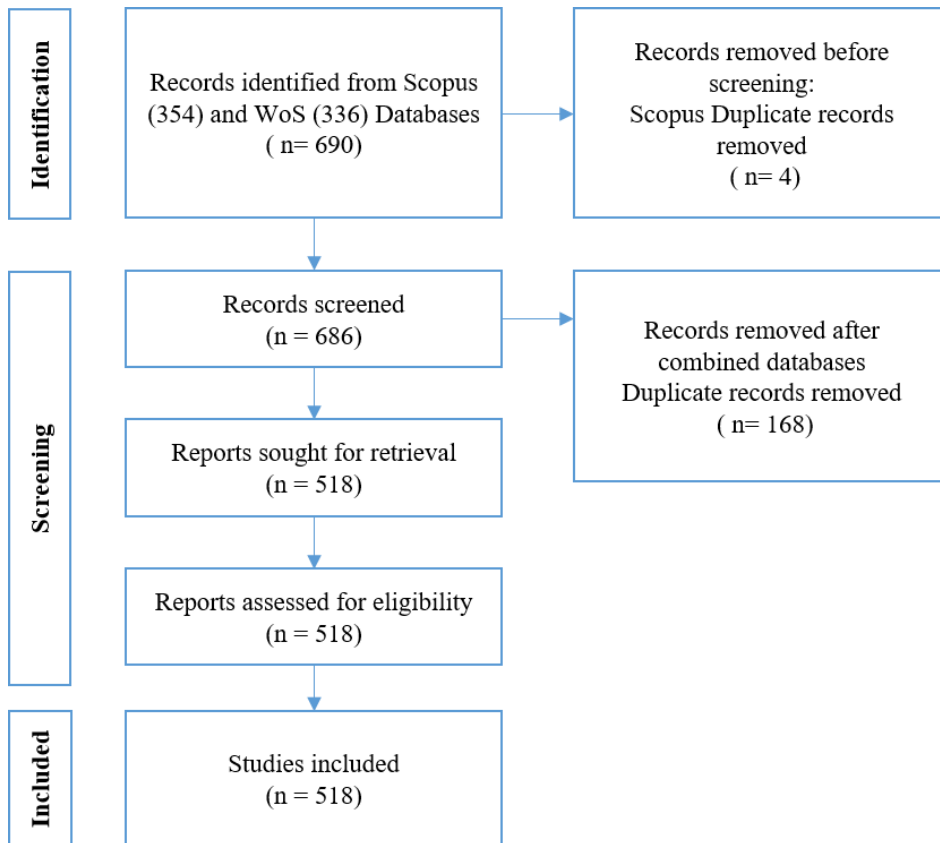


Figure 1. PRISMA flow diagram.

4. Data analysis

Bibliometric analysis, a field of study that focuses on the quantitative analysis of scientific output through literature, is instrumental in tracking the development of a particular scientific area and identifying trends over time (García-León et al., 2021). This approach provides valuable data on publication metrics, geographical distribution, author collaborations, leading research institutions, and key journals. By

applying statistical and mathematical techniques to written sources, bibliometric analysis examines various elements such as language, keywords, article titles, publication sources, authors, document types, and abstracts. Often referred to as statistical bibliography, bibliometric analysis primarily measures scientific output, particularly in articles and books. The analysis is frequently conducted using the powerful RStudio® software, along with the user-friendly BiblioShiny app by the Bibliometrix library, which is among the most widely used tools for performing bibliometric analyses related to specific research topics (Aguillo, 2012; Aria and Cuccurullo, 2017). Before commencing data analysis, the bibliographic data underwent thorough examination and correction to ensure consistency in the expression of author names, as emphasized by Van Eck and Waltman (2010). This step was critical to avoid inaccuracies and inconsistencies in the dataset, ensuring the reliability of the subsequent analysis. In this phase, the study conducted two types of analyses:

- **Descriptive Analysis:** This analysis provided a comprehensive summary of the papers included in the study, offering an overview of the research landscape in public financial management (PFM).
- **Bibliometric Analysis:** Several methods were employed in the bibliometric analysis, including performance analysis, citation analysis, co-citation analysis, and co-word analysis. To ensure the dataset was prepared for analysis, a rigorous process of data cleaning and processing was conducted using Microsoft Excel. This step was crucial in maintaining the accuracy and reliability of the data. The Biblioshiny app in RStudio (Aria and Cuccurullo, 2017) was then used to generate and visualize various bibliometric indicators and statistics, as well as to create and analyze bibliometric maps. These maps, which were based on network data, allowed for visualization and exploration of relationships between different concepts. The bibliometric maps, focusing on countries and author keywords, provided valuable insights into the geographical distribution and thematic focus of PFM research. This combination of tools enabled a comprehensive and visually enhanced analysis of the bibliometric data, contributing to a deeper understanding of the field's structure and dynamics.

5. Results

This section analyzes and presents the findings related to public financial management (PFM) based on the systematic review. It offers insights into key aspects of PFM, identifies major trends in the research, and highlights potential gaps for future exploration. Through a comprehensive evaluation of the literature, this section aims to deepen the understanding of PFM and its evolving role, providing guidance for future research directions and informing policy considerations.

Figure 2 presents a comprehensive bibliometric analysis of research publications in PFM over 47 years (1977–2024). The corpus comprises 518 documents from 273 distinct sources, indicating various publication outlets. The annual growth rate of 7.79% suggests a steady increase in research output over the studied timeframe. Regarding authorship, the analysis identified 986 unique authors, with 227 producing single-authored documents. This suggests that approximately 23% of the research is

conducted independently. The international co-authorship rate of 0.1931% is notably low, suggesting limited global collaboration in this research domain. The average of 2.18 co-authors per document indicates a tendency towards small research teams or partnerships. This collaborative pattern and the low international co-authorship rate suggest a field characterized by localized or specialized research efforts. The analysis also reveals 441 author keywords, providing insight into the field’s main themes and focus areas. Interestingly, the reference count is reported as 0, which may indicate a limitation in the data collection process or a unique characteristic of the publications in this field. The document’s average age of 7.78 years suggests a relatively young body of literature, potentially indicating a rapidly evolving or emerging research area. Additionally, the average citation rate of 4.724 per document implies moderate impact or engagement within the academic community. In conclusion, **Figure 2** shows a growing research field with a preference for small-scale collaborations and a potential for increased international partnerships. The relatively young age of the documents and moderate citation rate suggest an active and developing area of study with room for further growth and impact.

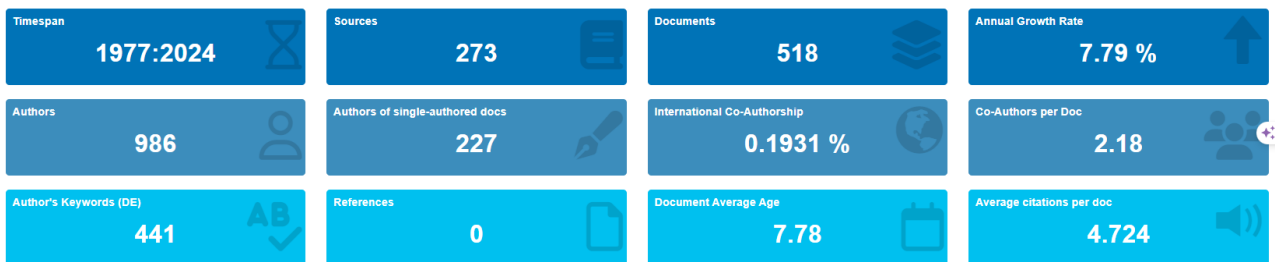


Figure 2. Main information.

Figure 3 illustrates the publication trend of articles in PFM from around 1975 to 2025. It shows a clear evolution in research output over time. During the initial period from 1975 to about 2000, publication activity was minimal, with fewer than five articles published annually. Around 2000, a noticeable increase in publications began, signaling growing interest in the field. From 2010 onwards, there was a dramatic acceleration in research output, culminating in a peak of over 50 articles published in a single year around 2020. This peak represents the height of research activity in the observed timeframe. Following 2020, the graph depicts significant year-to-year fluctuations in publication numbers, suggesting a dynamic and possibly volatile research environment. Overall, the visualization portrays a field that has transformed from a niche area of study to a mainstream research topic, with exponential publication growth over the past two decades, particularly in the last ten years.

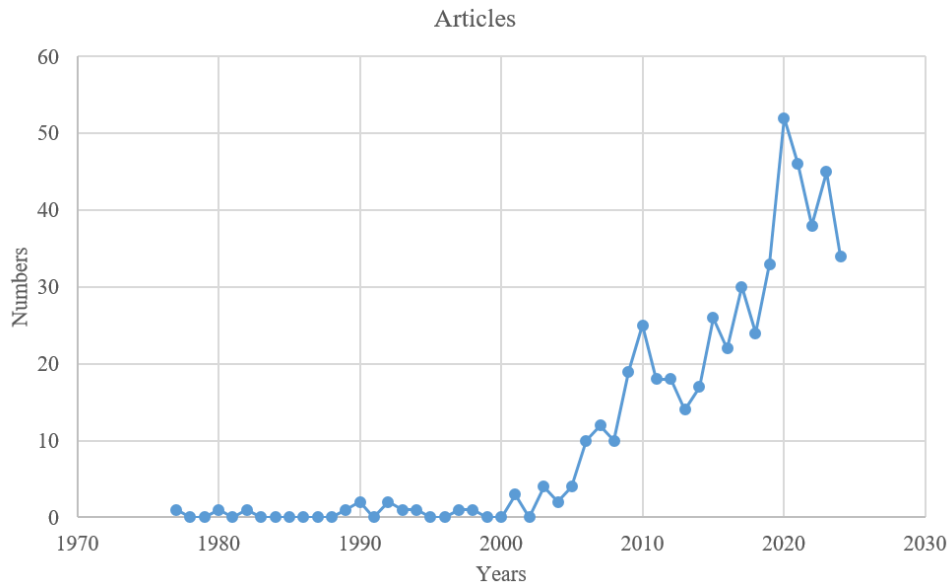


Figure 3. Publication trend analysis.

Table 1 shows publication output in terms of total articles and fractional contributions. Hélène Barroy leads with six articles, though her fractionalized contribution is 1.34, suggesting significant collaborative work. Matthew Andrews follows with five articles and a higher fractionalized score of 3.75, indicating more independent or lead authorship. Andreas Bergmann, Sanjeev Gupta, Filip HRŮZA, and Clay G. Wescott each have four articles with varying degrees of fractional contribution. HRŮZA and Wescott show high fractionalized scores relative to their article count, suggesting they often take primary authorship roles. The list continues with authors who have published three articles each, including Ehtisham Ahmad, Tania Ajam, Azad Singh Bali, and Josephine Borghi, with Tania Ajam having the highest fractionalized contribution among this group at 2.50. This data provides insight into the quantity and nature of authors’ contributions to the PFM.

Table 1. Most relevant authors.

Authors	Articles	Articles Fractionalized
Hélène Barroy	6	1.34
Matthew Andrews	5	3.75
Andreas Bergmann	4	2.08
Sanjeev Gupta	4	1.25
Filip HRŮZA	4	3.00
Clay G. Wescott	4	3.33
Ehtisham Ahmad	3	1.08
Tania Ajam	3	2.50
Azad Singh Bali	3	1.17
Josephine Borghi	3	0.54

Table 2 lists the top ten papers’ titles, DOIs, and citation metrics. The most cited paper is “Caught in an Evaluatory Trap: A Dilemma for Public Services under NPFM”

by Olson et al. (2001), with 116 total citations. The second most cited is “Good government means different things in different countries” by Andrews (2010) with 102 citations. Interestingly, some papers with fewer total citations greatly impact other metrics. For example, the paper by Shpektorenko et al. (2021) on the legal bases of public administration in Ukraine has the highest total citations per year (TP) at 19.00, suggesting it is a recent, highly impactful publication. The Normalized Total Citations (NTC) column provides context for citation impact across different publication years. Andrews’ 2010 paper leads in this metric with 18.61, followed by Shpektorenko et al. (2021) at 14.81. The table covers various topics within public financial management, including government accounting reforms, budgeting systems, and financial accountability. Publication years span from 2001 to 2022, indicating the PFM’s ongoing development and relevance. This data helps identify key papers and trends in the field of public financial management research, highlighting both long-standing influential works and recent high-impact publications.

Table 2. Most global cited documents.

Paper	DOI	TC	TP	NTC
Caught in an evaluatory trap: a dilemma for public services under NPFM (Olson et al., 2001)	10.1080/09638180126799	116	4.83	2.54
Good government means different things in different countries (Andrews, 2010)	10.1111/j.1468-0491.2009.01465.x	102	6.80	18.61
Legal bases and features of public administration in the budget sphere in Ukraine and foreign countries (Shpektorenko et al., 2021)	https://ep3.nuwm.edu.ua/20693/	76	19.00	14.81
The role of PFI in the UK government's modernisation agenda (Broadbent and Laughlin, 2005)	10.1111/j.0267-4424.2005.00210.x	75	3.75	1.94
The government finance database: A common resource for quantitative research in public financial analysis (Pierson et al., 2015)	10.1371/journal.pone.0130119	57	5.70	8.33
Analysis of public management change processes: the case of local government accounting reforms in Germany (Ridder et al., 2005)	10.1111/j.0033-3298.2005.00457.x	54	2.70	1.39
Accrual output based budgeting systems in Australia The rhetoric-reality gap (Carlin and Guthrie, 2003)	10.1080/1461667032000066372	53	2.41	1.86
The logical limits of best practice administrative solutions in developing countries (Andrews, 2012)	10.1002/pad.622	42	3.23	5.73
International Public Sector Accounting Standards (IPSASs): A systematic literature review and future research agenda (Schmidhuber et al., 2022)	10.1111/faam.12265	42	14.00	12.57
Aid, budgets and accountability: A survey article (De Renzio, 2006)	10.1111/j.1467-7679.2006.00351.x	41	2.16	6.31

Notes: TC = Total Citations, TP = Total Citations per Year, NTC = Normalized TC.

Table 3 presents data on scientific production and citation metrics for various countries in the PFM of study. The USA leads in scientific production (87 articles) and total citations (450), averaging 11 citations per article. Despite lower production numbers, some countries show high impact: Italy averages 13.7 citations per article from 11 publications, while Ireland averages 16 citations from just two articles. China and the UK have significant production (33 and 39 articles) but lower citation averages. India, Australia, and Korea show moderate production and citation levels. The United Arab Emirates and Finland have fewer publications but maintain respectable citation averages. This data suggests varying levels of research output and impact across countries, with some producing high volumes of research and others achieving notable impact with fewer publications.

Table 3. Scientific production and citations.

Country	Scientific Production	Total Citations	Average Article Citations
USA	87	450	11.00
INDIA	13	46	7.70
ITALY	11	41	13.70
KOREA	3	37	12.30
AUSTRALIA	19	27	9.00
CHINA	33	24	2.20
UNITED KINGDOM	39	19	6.30
UNITED ARAB EMIRATES	1	17	8.50
FINLAND	7	16	8.00
IRELAND	2	16	16.00

5.1. Three field plot

Figure 4 presents a three-column visualization that maps the interconnected terms within the domain of public financial management. The leftmost column, DE, highlights key terms and concepts central to the field, with “public financial management” as the most prominent. Other notable terms include “finance” “world bank” “turkey” “transparency” and “accountability” alongside related concepts such as “public procurement” “financial management” and “local government” These terms reflect core components and important focus areas in public financial management. In the middle column, labeled TI_TM, broader categories or thematic areas are displayed. Here, the term “public” dominates, followed by “financial” “management” and “sector” with additional terms such as “accounting” “finance” “development” and “budgeting” indicating key themes that are widely studied within the field. The rightmost column, ID, includes more specific or detailed concepts, with “financial management” and “finance” again at the top, followed by “public sector” and “financial management systems” These terms point to the more granular elements and processes that form the foundation of public financial management practices. Connecting lines between the columns illustrate the relationships between specific terms in DE, their corresponding broader themes in TI_TM, and how they relate to detailed ideas in ID. This interconnectedness visually demonstrates how core concepts are linked to larger themes and more specific topics within the field. The color coding within the visualization reflects the prominence or frequency of the terms, with darker colors generally indicating concepts that are more significant or frequently discussed in the literature. This three-column map effectively organizes and visualizes the breadth and depth of public financial management, showcasing the complex web of related themes, specific areas of focus, and the overall interconnected structure of the PFM.

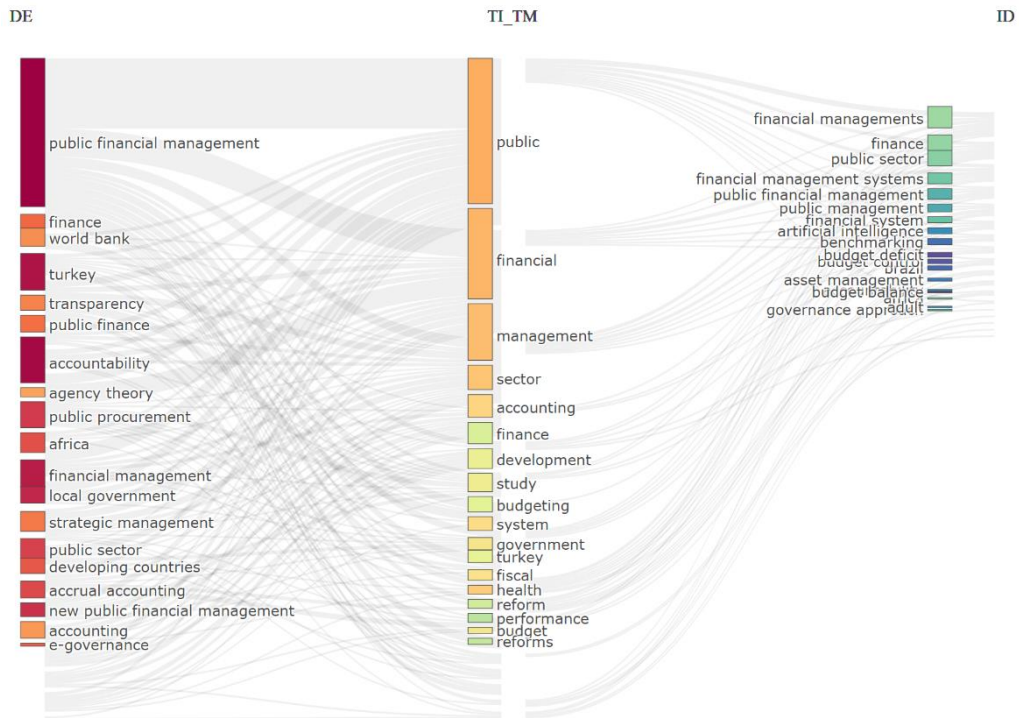


Figure 4. Three field plot.

5.2. Co-occurrence network

Figure 5 presents a co-occurrence network that visually maps the interconnected landscape of financial management, particularly within the public sector. At the heart of the network is the term “financial management” represented by the largest blue node, signifying its central and foundational role in the field. Surrounding this core concept are interconnected nodes, each differing in size and color, representing related themes and practices. The network employs a color-coded system to group concepts into thematic clusters. A dominant cluster of blue nodes encircles the central term, featuring important topics such as “public sector” “management systems” and “developing countries” This grouping underscores the significant focus on government operations and development-related aspects within financial management. To the network’s right, a cluster of green nodes concentrates on accounting-related themes, with terms like “financial reporting” and “government accounting” prominently featured. On the left, a red cluster highlights themes related to health and sustainable development, such as “health sector” “sustainable development” and “economic growth” showcasing the relationship between financial management and these vital areas of public policy. The lines connecting the nodes illustrate the relationships between these concepts, showing how different aspects of financial management are interrelated. The size of each node indicates the relative importance or frequency of the concept in the literature, with larger nodes representing more commonly discussed or influential topics. Closely related concepts are positioned near each other, creating distinct but interconnected regions within the network. This layout highlights the multidisciplinary nature of financial management, demonstrating its intersections with fields such as public administration, healthcare, economic development, and accounting. Overall, the figure provides a clear and

intuitive representation of financial management’s diverse and interwoven concepts, emphasizing its pivotal role across various sectors and disciplines. The visualization underscores how financial management serves as a crucial element in public sector operations, intersecting with a broad array of thematic areas.

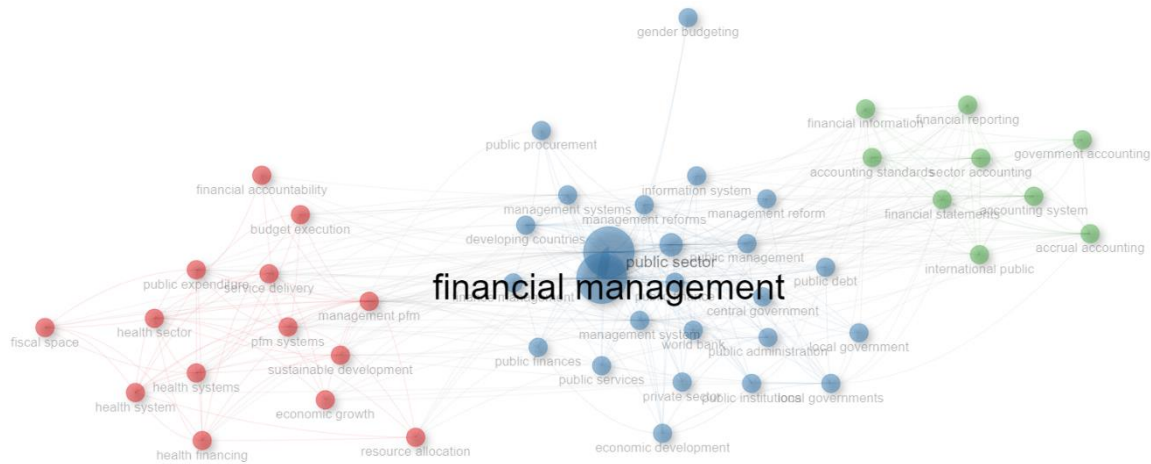


Figure 5. Co-occurrence network.

5.3. Trend topics

Figure 6 presents a detailed visualization of the evolving trends and key topics within the Public Financial Management (PFM) field from 2007 to 2023. The vertical axis lists the various topics, while the horizontal axis represents the timeline, showing when these topics were discussed. Each topic is depicted by a horizontal line, with a circle marking its most recent occurrence. The size of the circles varies, with larger ones indicating a higher frequency of discussion in the literature, suggesting greater interest or relevance. Recent and prominent topics, such as “accounting practices” “aid management” and “health insurance” are positioned at the top of the chart. With their larger circles, these topics reflect their growing significance in the field in recent years. In contrast, core topics like “financial management” and “public finance” are represented by long horizontal lines, demonstrating their consistent relevance over time. These foundational topics have maintained their importance and continue to shape the discourse in PFM. Emerging terms, such as “gender budgeting” and “universal health coverage” appear later on the timeline, indicating their rising importance in recent years. Their inclusion suggests a shift towards more contemporary public finance and policy-making issues. The largest circles on the chart correspond to central themes like “financial management” “public financial” and “public finance” underscoring their dominant role in PFM research. Some topics have shorter lines, reflecting their relevance only during a specific period. These brief spikes in attention indicate that these subjects experienced concentrated interest before fading from the literature. The chart also highlights region-specific topics like “Sri Lanka” and “oil-producing countries” illustrating a growing focus on understanding public financial management within distinct geographic or economic contexts. Overall, **Figure 6** provides a comprehensive overview of how key topics in PFM have developed over time. It identifies which themes have remained influential, which are emerging as new focal points, and which have diminished in prominence. This trend

analysis offers valuable insights into the thematic landscape of PFM, guiding both scholars and policymakers in recognizing areas of sustained importance and identifying new directions for future research.

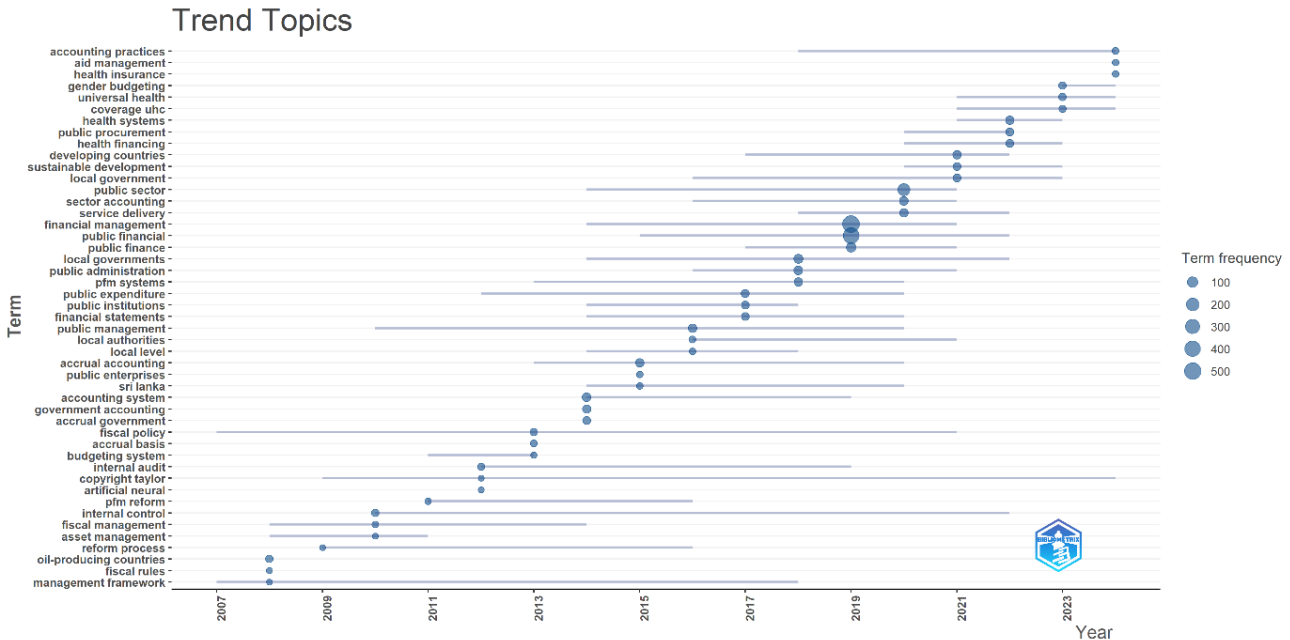


Figure 6. Trend topics of public financial management.

5.4. Thematic map

Figure 7 provides a comprehensive visualization of key concepts within the field of public financial management, organized into a four-quadrant chart based on their relevance and development. The chart is divided into four sections, each representing different types of themes within the field. In the Top-Left Quadrant, labeled “Niche Themes” specialized and context-specific concepts such as “strategic management” “gfs” (government finance statistics) and “information communication technologies” are highlighted, along with geographic focuses like “developing countries” and “egypt” indicating their relevance to particular regions or research contexts. The Top-Right Quadrant, known as “Motor Themes” contains the most influential and dynamic concepts, including “public sector” “accounting” and “public financial management” with “turkey” emerging as a significant focal point of study. This section also features critical topics like “fraud” “financial management” “accountability” and “accrual accounting” which are central to the field’s practices and issues. In the Bottom-Left Quadrant, referred to as “Emerging or Declining Themes” the chart showcases concepts such as “program budgeting” and “fiscal decentralization” which may be gaining attention or losing relevance depending on their current research or application trends. Lastly, the Bottom-Right Quadrant, labeled “Basic Themes” contains foundational concepts such as “finance” and newer technological innovations like “blockchain” which could have a significant impact on the future of public financial management. The chart’s vertical axis, representing Development Degree (Density), indicates how thoroughly developed or specialized each theme is, while the horizontal axis, representing Relevance Degree (Centrality), reflects how connected or central

each theme is to the broader research landscape. The size of the text for each term suggests its relative importance or frequency in the literature, with “Turkey” standing out prominently. Overall, this thematic map effectively captures the structure of public financial management research, highlighting central concepts, niche topics, and potential emerging areas of interest, providing valuable insights into the field’s intellectual landscape.

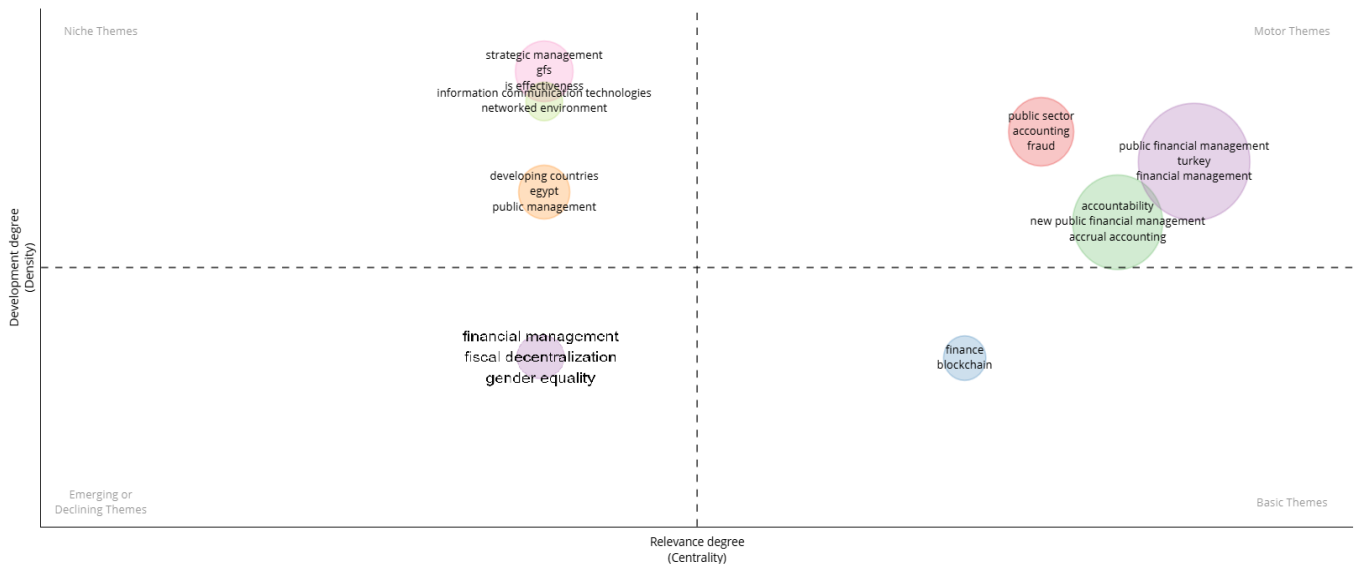


Figure 7. Thematic map of public financial management.

5.5. Collaboration network

Figure 8 illustrates a complex network of collaborative relationships between academic institutions engaged in public financial management. Georgia State University is at the network’s core, which is depicted with the largest circle and boldest text, signifying its prominent role as a central hub for partnerships and joint research efforts. Its position suggests that Georgia State University is key in fostering collaborations and leading numerous research initiatives. The State University of New York is a significant collaborator close to this institution, reflecting a strong partnership, possibly through joint projects or academic exchanges. Other notable connections include the University of Illinois and Peking University, which are linked and represent the global nature of collaboration, particularly between the United States and China. Similarly, a partnership between the London School of Economics and Fudan University highlights another transnational collaboration between institutions in the United Kingdom and China, further emphasizing the global reach of research in public financial management. The use of different colors in the network distinguishes the various collaborative groups, making it easier to identify clusters of academic cooperation. These visual markers highlight the diversity and extent of partnerships across multiple countries. Overall, this visualization underscores the international scope of research collaboration, particularly the significant connections between institutions from the United States, China, and the United Kingdom. Georgia State University is a leading institution, central to many academic exchanges and research activities. The network as a whole showcases the importance of international

collaboration in advancing research and knowledge in public financial management, reinforcing the idea that partnerships across borders are vital to progress in this field.



Figure 8. Collaboration network.

5.6. Factor analysis

Figure 9 presents a Conceptual Structure Map created using the Multiple Correspondence Analysis (MCA) method, which visually represents the relationships between various concepts in the field of public financial management. The map is structured along two dimensions, with the first dimension accounting for nearly 60% of the variance in the data. Concepts are spread across the map, with some clustering that suggests relationships and thematic connections. Central terms like “financial management” “public sector” and “public administration” are positioned near the center, indicating their importance as core concepts in the field. In contrast, specialized areas are evident in specific regions of the map: for example, terms like “sector accounting” and “accounting standards” are grouped in the upper right, while “management reform” “developing countries” and “world bank” cluster in the upper left, hinting at a focus on international development and reform. Additionally, operational aspects of public financial management, such as “public expenditure” “service delivery” and “management pfm” are grouped in the lower left, emphasizing practical application. Broader foundational concepts, such as “public finance” and “finance management” are located at the bottom, reflecting their overarching importance in the field. The interconnectedness of these concepts is represented by red shading across the map, signifying how various ideas within public financial management are interrelated. The map provides a comprehensive visual summary of the intellectual landscape in the field, highlighting the balance between operational, theoretical, and specialized concepts.

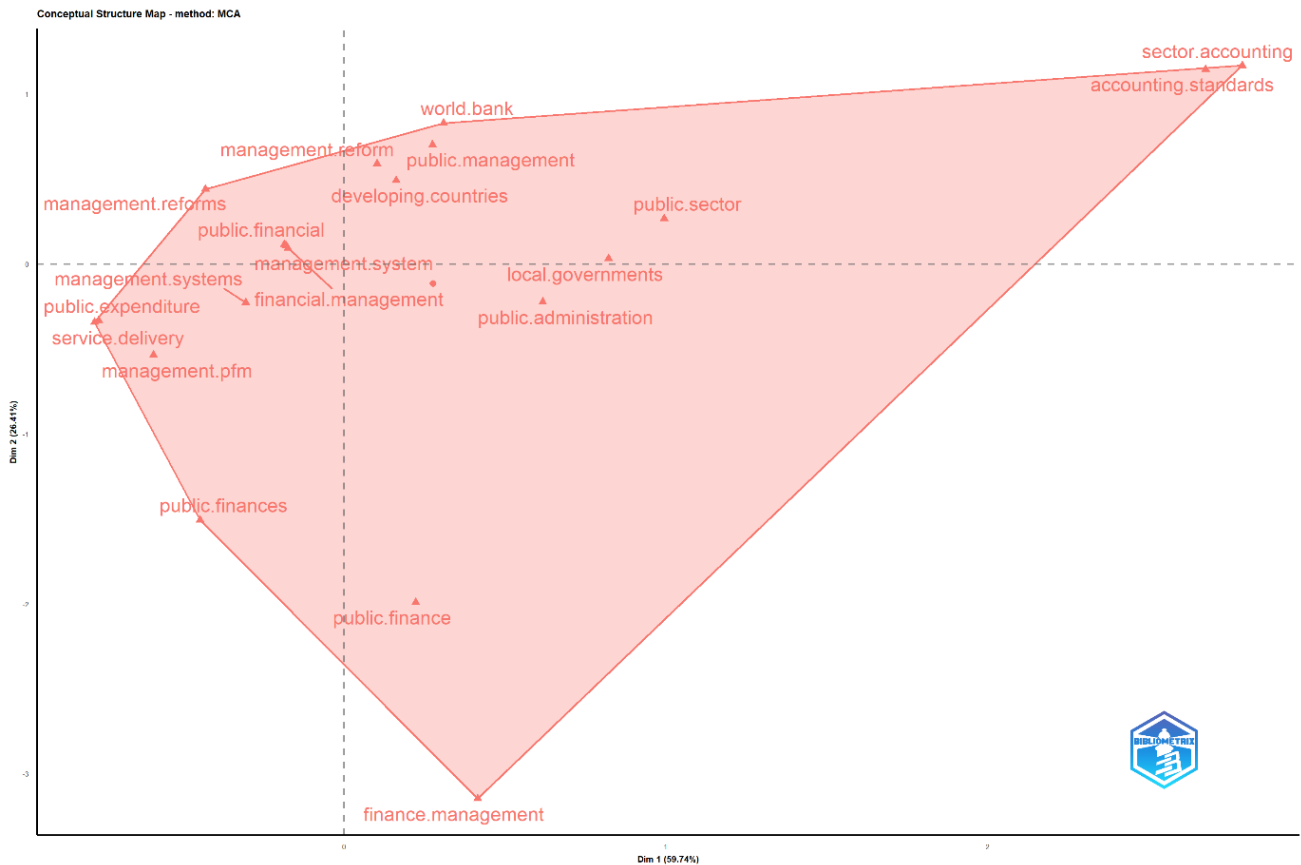


Figure 9. Factorial analysis by MCA.

6. Discussion

This study provides a comprehensive public financial management (PFM) analysis, using bibliometric techniques to uncover trends, patterns, and gaps within the research field. The key findings reveal a steady growth in PFM research output, particularly after 2010, with significant contributions from countries such as the United States, the United Kingdom, and China. Therefore, international cooperation is driven by shared global challenges, economic interdependence, technological advancements, and the desire for greater political influence and security. However, it faces conflicting national interests, sovereignty concerns, economic disparities, political instability, and cultural differences. Facilitators of cooperation include shared goals, multilateral institutions, economic integration, diplomatic agreements, and technological connectivity. To promote more transnational collaboration, policies should focus on inclusivity in global governance, equitable economic benefits, capacity-building for developing nations, standardizing global regulations, incentivizing scientific collaboration, and establishing effective conflict resolution mechanisms. These strategies can enhance cooperation and address common global issues. The most prominent themes in the literature revolve around financial management, accounting, and transparency, with a growing focus on governance, fiscal decentralization, and sector-specific issues such as health and aid management. Interpretation of the results highlights that PFM research is evolving to address contemporary challenges such as public sector reform, transparency, and

accountability, all of which are critical for ensuring efficient management of public resources. Notably, emerging themes such as gender budgeting and blockchain reflect an increasing interest in more innovative approaches to PFM, indicating a shift toward more modern, technology-driven solutions. Compared to the existing literature, our findings align with previous studies emphasizing the importance of transparency, accountability, and financial control in PFM systems (Kioko et al., 2011; Lawson, 2015). However, our analysis further identifies recent emerging topics, such as gender-sensitive budgeting (Nitiwatthana and Prabpala, 2024) and health insurance management, which have not been as prominently featured in prior studies. This study has its limitations. The bibliometric analysis was confined to publications from two major databases, Web of Science and Scopus, which may only capture some relevant studies in the field, particularly those published in non-English or regional journals. Additionally, while citation-based analyses provide insight into the influence of specific papers, they may need to fully account for the quality or practical impact of the research. The increasing application of public financial management (PFM) research results in policy formulation is essential for enhancing the practical impact of academic studies. Specifically, the implementation of emerging trends such as gender budgeting and blockchain technology demonstrates how these innovations can transform financial management practices in different regions and fields. For example, gender budgeting has been adopted in various countries to ensure that financial policies promote gender equality, particularly in sectors like healthcare and education. Its implementation provides insights into how budgetary allocations can be more inclusive, leading to more equitable resource distribution and improved social outcomes. By analyzing how gender budgeting impacts policy across regions, policymakers can refine strategies to make financial management more responsive to social needs. Similarly, blockchain technology is revolutionizing PFM by enhancing public resource management's transparency, accountability, and efficiency. For instance, blockchain can improve the traceability of government transactions, reduce corruption, and increase public trust. Countries implementing blockchain in public procurement or welfare distribution sectors have observed positive effects in reducing inefficiencies and fraud. Analyzing the specific implementation outcomes of these trends in diverse fields helps illustrate how emerging technologies and methods bridge the gap between theory and practice, making PFM research more applicable to real-world policy challenges. Exploring both the theoretical potential of these trends and their practical implementation across different geographic, economic, and political contexts is crucial to enhancing the policy guidance of PFM research. This focus on implementation effects provides valuable feedback for policymakers, enabling them to adopt best practices and tailor policies based on concrete results, enhancing the article's relevance to scholars and practitioners. Future research should broaden the scope of bibliometric analysis by including more diverse data sources and examining how emerging trends, such as technology and gender-sensitive budgeting, impact the effectiveness of PFM systems across different regions. This study by incorporating additional databases beyond Web of Science and Scopus, as this study only focuses on these two. Including other databases, such as Google Scholar, may provide access to important literature not covered by WOS or Scopus. This would supplement the existing research data and contribute to a more comprehensive and well-rounded set

of results. Additionally, interdisciplinary studies integrating insights from economics, political science, and technology could provide more holistic approaches to improving PFM practices. Moreover, future research could explore additional metrics beyond citations to assess the impact of articles more comprehensively. While citations are valuable, they may not fully reflect the quality or broader influence of the research. Incorporating metrics such as Altmetric scores, social media mentions, and other diversity metrics would provide a more well-rounded evaluation of an article's impact. Future studies should consider integrating these alternative measures to enhance the assessment of research influence and offer a more balanced perspective. In conclusion, this study contributes to the growing body of public financial management knowledge by mapping key themes' evolution and identifying new research directions. Its bibliometric approach highlights the dynamic nature of PFM research and its increasing relevance to contemporary governance challenges. There is considerable scope for future studies to explore emerging trends and to develop innovative solutions for enhancing public finance management systems worldwide.

7. Limitations of the study

This study has several limitations that should be acknowledged. First, the research relies primarily on citations to assess the impact of articles, which may not fully capture the broader influence or quality of the research. Incorporating additional metrics, such as Altmetric scores or social media mentions, could provide a more comprehensive evaluation. Second, the study's focus on a specific set of databases (Web of Science and Scopus) may have resulted in the omission of relevant research published in other databases or non-English sources, limiting the scope of the literature review. Third, the selection of keywords and research topics may not fully encompass all areas of interest in public financial management (PFM), potentially leaving out important studies. Lastly, the inclusion of projections for 2024 introduces the risk of temporal biases, as future trends may not fully align with current predictions. Future research should address these limitations by expanding the range of databases and metrics, refining keyword selection, and clearly distinguishing forecasted data from actual findings.

8. Conclusion

This research provides a comprehensive bibliometric analysis of public financial management (PFM) analysis, offering valuable insights into the evolution of key themes, influential publications, and emerging trends. By analyzing data from two major databases, Web of Science and Scopus, this study identifies the central role of financial management, accountability, and transparency in the field while highlighting the increasing relevance of contemporary issues such as gender budgeting, health sector management, and technological innovations like blockchain. The findings suggest that PFM research has grown significantly over the past two decades, reflecting a heightened global focus on effective public sector governance and fiscal responsibility. Emerging themes point to a shift toward more innovative and inclusive approaches to managing public resources, which is critical for addressing modern governance challenges. Additionally, the study emphasizes the need for more

interdisciplinary and globally collaborative research to strengthen PFM practices further. Despite the contributions of this study, it also recognizes limitations, particularly regarding the scope of databases used and the exclusion of non-English publications. Future research should expand this scope and delve deeper into the practical impacts of emerging trends within PFM. Overall, this study contributes to the ongoing discourse on public financial management by outlining key research areas and offering new perspectives on the future of PFM. As countries face complex fiscal challenges, the need for practical, transparent, and innovative PFM systems will remain paramount. This research lays a foundation for future studies aimed at enhancing the efficiency and accountability of PFM systems globally.

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