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RESEARCH ARTICLE

Gender in Auditing Literature: A Bibliometric Analysis

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ABSTRACT

This paper provides a bibliometric analysis of research on gender in auditing from 1988 to 2025. Using the Scopus database and employing the Bibliometrix package in the R environment for analysis and mapping of bibliometric networks, this study identifies the most influential authors, journals, countries, research themes, and collaboration networks in this field. The results indicate that research on gender in auditing over the past four decades initially experienced a relatively stagnant period and then a phase of rapid growth, focusing primarily on gender, corporate governance, audit committees, women on boards, audit report quality, and audit fees. Other findings of the bibliometric analysis indicate that Kris Hardies is recognized as the top author, the *Managerial Auditing Journal* as the leading journal, and the article by Ittonen et al. (2013) as the most-cited paper in the field of gender in auditing. Finally, using a thematic map, we discuss key insights and suggested pathways for future research.

Introduction

The study of gender has been the subject of debate for several years, as has its relationship with accounting and auditing. Understanding a given topic requires comprehending the concepts involved in the discussion; therefore, it is necessary to address the first part of the relationship–gender. This clarification is especially important in this topic, since it is crucial to distinguish between terms often used synonymously but which, at their core, have different connotations. This is the case with the distinction between gender and sex (Haynes, 2017). Sex refers to the biological distinction between men and women, while gender is understood as a social construct. However, over the years, despite the binary nature of the term "gender", the focus has been on the position of women, since they have historically been comparatively more subject to discrimination and oppression (Haynes, 2017). Thus, understanding the history of the relationship between gender and auditing allows us to understand its present, in its various dimensions, and to envision its future.

Women are unable to attain top positions due to the glass ceiling effect, such as unfair promotion practices (Neugart & Zaharieva, 2025; Cohen et al., 2020; Brands & Fernandez-Mateo, 2017), lack of trust in the abilities of women employees (Shaji et al., 2025), sex discrimination, and national culture (Taparia & Lenka, 2025; Hammond, 2025; Liu et al., 2022), as well as working within the old boys' network (Lalanne & Seabright, 2022) and constraints imposed by religion and family obligations (referred to as the "glass chain") (Arifeen & Gatrell, 2020). Nevertheless, the introduction of gender quotas has helped to break the glass ceiling effect by increasing the number of women in top positions (Huang et al., 2020; Nekhili et al., 2020).

According to Grant Thornton's 2025 report, women currently hold 34% of senior management positions in global mid-market firms, indicating a gradual increase in their appointment to roles such as Chief Executive Officer (CEO), Chief Financial Officer (CFO), and Chief

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Marketing Officer (CMO) compared to the global figure of 32% in 2022 and 21% in 2012 (Grant Thornton, 2025).[†] However, this progress remains slow, and if the current trajectory continues, achieving full parity will not occur until 2051. As more women advance into leadership roles, gender-focused research in accounting and auditing gains increasing relevance, particularly given that gender has been a prominent subject of discussion in the field for decades. In light of the growing significance of gender-related themes in accounting and auditing literature, conducting a bibliometric analysis of existing studies is essential to systematically trace the intellectual evolution of the field, identify influential contributions, and uncover emerging research trends. Such analysis not only consolidates scholarly insight but also provides an empirical foundation for standard-setting bodies and regulators to enhance audit frameworks, refine ethical guidelines, bolster the overall efficacy and enhance public trust in the audit profession.

Accordingly, the primary objective of this study is to provide a comprehensive overview of the dynamic state of research on gender in auditing, to enhance understanding through the identification of core areas, and to propose future research directions based on developments in this field over the past four decades. Specifically, the research questions are as follows: What is the trend of studies conducted in the field of gender research in auditing? Which are the most influential articles, authors, journals, and research institutions in the field of gender in auditing? Which topics constitute the knowledge base of gender research in auditing? Which topics in this field are sufficiently developed, and which are emerging or require further investigation? What is the nature of collaboration networks among authors, research institutions, and countries in this field?

This study provides a comprehensive literature review based on bibliometric analysis of gender studies in auditing. Using bibliometric analysis and literature review, the results indicate that this topic has attracted the attention of researchers not only in developed countries but also in developing countries. However, collaboration among authors from different countries is limited. Research related to gender in auditing has mainly focused on corporate governance, audit committees, women on boards, audit report quality, and audit fees. This study contributes to the existing literature in several respects. First, it provides a comprehensive bibliometric overview of research related to gender in auditing, offering insights into the evolution of scholarly works over the past decades. Second, by identifying dominant themes and emerging research trends, it helps to identify underexplored areas. Finally, by examining the evolution of gender at the level of auditing, this study offers practical implications that can assist policymakers in developing and implementing more inclusive policies for gender (women's) participation in the auditing profession and in governance and regulatory mechanisms.

The structure of this paper is as follows: Section 2 reviews the literature; Section 3 presents the data and methodology employed; Section 4 summarizes the findings; and Section 5 is devoted to the conclusion of the paper, the discussion of theoretical and practical implications, as well as limitations and suggestions for future research.

Literature Review

Research on gender in auditing has increasingly attracted researchers' attention. This is because gender, as an individual-level variable, can influence various aspects of audit performance. The examination of the role of gender in auditing has been conducted from different perspectives, including audit quality, audit team composition, audit fees, and the position of women within governance and supervisory structures such as boards of directors and audit committees. The field of gender in auditing not only illuminates professional issues, but also raises discussions about discrimination, equal opportunities, and the impact of demographic characteristics on professional performance.

In the auditing literature, the relationship between auditors' gender and the quality of audit services has been one of the topics of interest. In systematic analyses, preliminary evidence has shown that some studies have examined the relationship between gender and audit quality and have reported complex or contradictory results. For instance, Saeed (2023) indicated that the relationship between gender and audit quality is complex and context-dependent; although sometimes men display higher quality in certain scenarios, this effect depends in many cases on other factors such as competence, professional ethics, and gender stereotypes. Haghbin et al. (2022) examined the effects of occupational stress and gender on audit quality. The results showed that stress generally reduces audit quality, and the negative effect of stress on audit quality was greater for women than for men, indicating an interaction between gender and professional psychological factors.

Empirical research on audit quality has also concluded that the gender composition of the audit team can play an important role in audit outputs, although this issue is not synonymous with individual gender and does not lead to definitive conclusions across all contexts (Bona-Sánchez et al., 2024). In another study on the effects of auditor gender on audit quality, results indicated that gender differences did not have a significant impact on audit quality in measures such as independence or risk, but could affect problem-solving ability (Alavi Tabari et al., 2012). Drawing on evidence from Iran's patriarchal context with significant gender disparity, Oradi et al. (2025) found that female audit partners positively influence audit quality. Analyzing Tehran Stock Exchange data (2011-2020) within its dual-signature audit system, they demonstrate that female engagement partners are associated with higher audit quality, evidenced by more modified audit opinions, fewer audit failures, and higher audit fees. Overall, the existing evidence suggests that the relationship between auditors' gender and audit quality is not directly linear and may yield different results depending on sample characteristics, the context of examination, and other professional factors.

Another area of research on gender in auditing is the gender composition of audit teams. Recent studies show that the gender composition of audit teams can affect variables such as audit quality, audit fees, and audit outcomes. These studies focus on how the presence or proportion of women in audit teams is related to performance outcomes. Perry et al. (2023) showed that audit teams with higher gender diversity perform significantly better in terms of audit quality compared to single-gender teams. Findings indicate that mixed-gender audit partner pairs, compared with same-gender pairs, deliver better audit quality, and this relationship is explained by an increased effort to gather evidence and detect errors. At a more operational level, they showed that increasing the proportion of women in audit teams not only raises

[†] Based on the 2025 report, the highest regional proportion of women in senior management is observed in South America at 37.2%, followed by Asia-Pacific at 32.9%, the European Union near the global average, and North America with a similar percentage (Grant Thornton, 2025). Notably, certain economies such as Thailand (43.1%) and South Africa (with a strong focus on human resources roles) outperform the global average.

quality but may also be associated with more cautious professional behaviors, leading to improved overall team performance. These findings are credible from the perspective that the interaction of different genders within a team can bring broader and diverse viewpoints to the audit process and consequently produce more accurate and efficient outputs.

Khavis et al. (2025) examined the gender composition of personnel in audit teams and showed that audit firms with a higher proportion of female auditors (particularly at senior ranks) are associated with higher audit quality and lower audit costs. According to the evidence from this study, this relationship is also stronger in firms with a supportive work environment, indicating the role of gender composition at different team levels. Overall, the existing evidence indicates that gender diversity in audit teams—especially when it includes a substantial proportion of female auditors—can be associated with improved audit quality and reduced costs, although results may vary depending on the professional environment and team structure.

Another important strand in the gender-and-auditing literature is the presence of different genders within governance structures, including audit committees. Researchers have examined its relationship with financial reporting quality, compliance with standards, and the quality of financial oversight. In this area, evidence shows that the gender composition of audit committees and governance structures can have a significant impact on regulatory and reporting outcomes.

Some studies have emphasized that gender composition in governance structures such as audit committees can, under certain conditions or together with other supervisory characteristics (e.g., level of expertise), lead to reductions in accrual or real earnings management; however, these effects may vary depending on context and the level of firm oversight (Kusnadi & Rudyanto, 2025). Another recurring finding in the literature is that gender diversity in audit committees affects not only reporting quality but also other governance variables such as audit fees. Omar (2023) showed that gender diversity in audit committees can be associated with higher audit fees, which may reflect increased effort and greater rigor in reporting matters.

Based on the results of Attia Elhadary and Amin (2025), gender diversity on boards—especially in audit committees—is positively related to the level of IFRS 7 disclosure in financial statements. That study also showed that audit quality moderates the relationship between gender diversity and disclosure level positively, suggesting that gender in governance structures can improve oversight and reporting compliance. Yahaya (2025) likewise found that the presence of female members in audit committees can affect the quality of financial reports, such that women's presence in audit committees was associated with reduced accounting deviations and improved reported earnings quality. This finding indicates that diverse gender composition in governance structures is directly linked to improved financial reporting quality and helps strengthen committees' supervisory role. Al Naim & Alomair (2025), in a systematic review, emphasized that gender diversity in audit committees can enhance corporate governance oversight and better shape managerial behavior. This effect is particularly evident in both developed and developing markets, the presence of female members on supervisory committees can increase monitoring effectiveness. Nurrahmi et al. (2025), in a study in Indonesia, also showed that increasing gender mix in audit committees can be associated with improved reporting processes and reduced delays in audit reports. Kazemi Oloumi & Abdi (2019) reported that the presence of at least one woman on the audit committee is associated with improved earnings quality and can positively influence oversight and financial reporting processes, although in the same study board gender diversity alone did not have a significant effect.

In contrast, some research on audit committees has concluded that gender diversity alone does not have a significant effect on audit and reporting quality, and the effects of gender diversity in audit committees may differ across countries and measurement approaches. Alhababsah & Yekini (2021) found that legal and industry expertise variables in audit committees are more important than gender diversity, and that gender diversity in this context did not have a significant direct impact on financial reporting quality. Ariapanah et al. (2023) showed that gender diversity in audit committees does not have a significant effect on financial reporting quality or internal controls, reflecting the complexity of the relationship between gender and audit performance. Moreover, these contradictions in findings may stem from research conducted in different markets and institutional environments, such that samples from developed and developing countries may exhibit different patterns of the role of gender in auditing.

Identifying the most important scholarly contributions in the field of gender in auditing has become a time-consuming and subjective process due to the increasing volume of research in this area. Therefore, this study aims to overcome these difficulties and objectify the results by conducting a bibliometric analysis.

Research Methodology

In this study, bibliometric analysis was used to answer the research questions. Given the expansion of research on gender in auditing, this approach allows researchers to systematically identify, organize, and analyze published works in this area.

Review studies (literature reviews) are conducted with the aim of delineating the boundaries of existing knowledge and posing questions to extend that knowledge (Tranfield et al., 2003). Within this framework, bibliometrics has been introduced as a quantitative and statistical approach to the measurement of scientific literature (Pritchard, 1969). This method enables the researcher to identify the main research topics, influential articles and authors, and the temporal evolution of the literature (Ozdagoglu et al., 2020; Donthu et al., 2021). Moreover, bibliometrics is an efficient tool in the early stages of mapping emerging areas, for charting scientific outputs and discovering pathways for future research (Cheng et al., 2024).

Findings of recent studies indicate that bibliometric analysis provides a more comprehensive view of trends and hot topics in a field compared to traditional literature reviews, and it can map the conceptual and thematic structure of that field (Kilic & Uyar, 2022; Ding et al., 2001; Faraji et al., 2022). Furthermore, in the analysis of scientific networks, the concepts of nodes and edges are used to represent authors and citation or co-authorship links (Wasserman & Faust, 1994; Vanaki et al., 2021).

After defining the research topic, the Scopus and Web of Science databases were examined as the primary options for data extraction. Considering the extensive coverage of Scopus, the ability to extract structured data, and the large number of documents, Scopus was ultimately selected as the reference database. This database, launched by Elsevier in 2004, contained more than 99 million documents from over 7,000 publishers and about 2.4 billion citations by early 2025, and its coverage extends back to 1788 (Elsevier, 2024; Zhu & Liu, 2020).

The Scopus search was limited to research articles published in academic journals in the fields of accounting and auditing, in English, in final publication stage, and within the subject areas of Accounting and Management. No prior time restriction was applied to the search. The earliest relevant article dates to 1988 and the latest dates to 2025; therefore, the examined period is 1988–2025. The search query was defined as follows:

TITLE-ABS-KEY (gender OR women OR woman OR female OR male) AND TITLE-ABS-KEY (audit*)

In the first stage, 321 articles were retrieved. Then, by reviewing titles and abstracts (and full texts when necessary), only those works that simultaneously included a gender component and were related to auditing were retained. Articles that dealt solely with gender or solely with auditing without gender components were excluded, and finally 255 articles were selected for analysis.

After finalizing the corpus of articles, the data were imported into the R environment and all bibliometric analyses were performed using the Bibliometrix package. This package enables trend analysis, citation analysis, co-occurrence and co-authorship analysis, and the plotting of science maps and collaboration networks (Aria & Cuccurullo, 2017).

Findings

Publication Trend Analysis

The publication trend of articles related to gender in auditing over the 37-year period (1988–2025) was examined, as shown in Figure 1. Among the 255 final articles identified, we observe a clear pattern: a relatively stagnant period followed by a phase of gradual but accelerating growth. Prior to the 2010s, the number of published articles was notably limited.

Starting in 2015, a substantial and pronounced shift in the publication trend is evident. From this year onward, a sustained upward trend in scholarly output emerged. This trend is not only continuous and statistically meaningful but also characterized by an increasing growth rate. Approximately 65% of the total articles (166 out of 255) were published during the period 2015–2025. Moreover, it is expected that this upward trend will continue as research areas related to gender in auditing further expand.

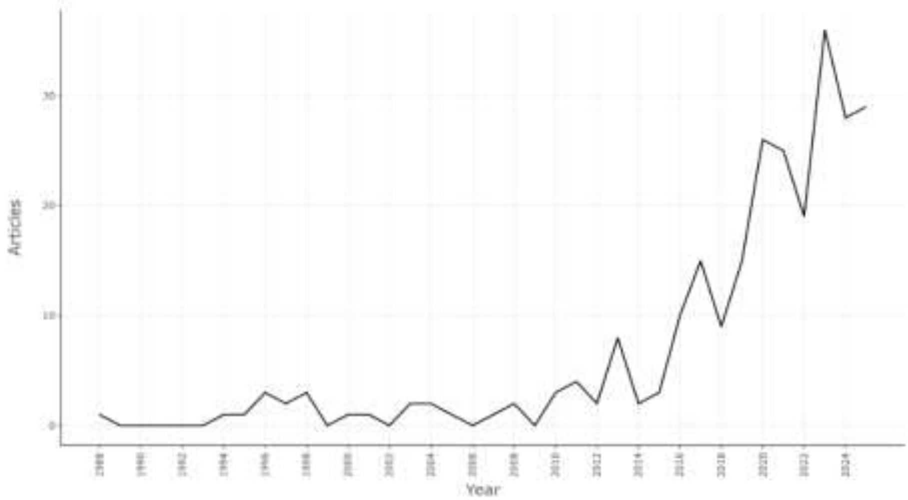

Figure 1. Temporal trend of article publications

Top-Cited Documents

Among the 255 final articles identified in the field of gender in auditing, the ten most-cited articles based on total citations are presented in Table 1. At the top of this list is the article "Female Auditors and the Quality of Accruals" published by Ittonen et al. (2013) in the journal *Accounting Horizons*. This article has received 215 citations (an average of 16.54 per year) and examines whether auditor gender is associated with the quality of accruals. The results of this article indicate that firms whose financial statements are audited by female auditors have significantly higher accrual quality, reflecting greater professional diligence and conservatism. This finding empirically confirms, for the first time, a direct and positive relationship between auditor gender and the quality of audit outputs, and it became a cornerstone of the literature.

A content review of the top ten articles shows that the primary focus lies on two core areas: first, audit and financial reporting quality; and second, audit fees and auditor selection. This pattern indicates that the literature on gender in auditing has largely developed to explain the economic and behavioral consequences of women's presence in the profession.

Table 1. Most influential articles

Article Title	Journal Name	Authors	Total Citations	Average Annual Citations
Female auditors and accruals quality	*Accounting Horizons*	Ittonen et al. (2013)	215	16.54
Board Gender Diversity, Auditor Fees, and Auditor Choice	*Contemporary Accounting Research*	Lai et al. (2017)	195	21.67
The Impact of Audit Committee Characteristics on CSR Disclosure: An Analysis of Australian Firms	*Australian Accounting Review*	Appuhami & Tashakor (2017)	149	16.56
Do (Fe)Male Auditors Impair Audit Quality? Evidence from Going-Concern Opinions	*European Accounting Review*	Hardies et al. (2016)	148	14.80
Gender-diverse boards and audit fees: What difference does gender quota legislation make?	*Journal of Business Finance & Accounting*	Nekhili et al. (2020)	144	24.00
The Effect of Audit Experience on Audit Fees and Audit Quality	*Journal of Accounting, Auditing & Finance*	Cahan & Sun (2015)	143	13.00
Female directors and earnings management in high-technology firms	*Pacific Accounting Review*	Gavious et al. (2012)	143	10.21
Mothering or auditing? the case of two Big Four in France	*Accounting, Auditing & Accountability Journal*	Dambrin & Lambert (2008)	141	7.83
How do the ownership structure and board of directors' features impact earnings management? The Spanish case	*Journal of International Financial Management & Accounting*	Saona et al. (2020)	140	23.33
The contagion effect of low-quality audits at the level of individual auditors	*The Accounting Review*	Li et al. (2017)	140	15.56

Leading Authors

The leading authors are shown in Table 2. Based on citation analysis and using multiple impact indicators, Kris Hardies from Ghent University (Belgium), with 361 citations and 6 articles, was identified as the most influential author in the field of gender-related research in auditing. The author's h-index indicates the sustained impact of his works. His h-index of 5 indicates that at least five of his articles have each received at least 5 citations, reflecting the sustained impact of his works.

Hardies's research in the last decade (2011–2025) has mainly focused on the role of auditor gender in audit quality, audit fees, and professional skepticism, examining the impact of auditors' individual characteristics on audit outcomes. Collectively, these articles have received more than 300 citations.

Following Hardies, Diane Breesch ranks second with 320 citations and four articles. Breesch's research mainly focuses on auditors' professional judgment and behavioral differences. Almost all of Breesch's articles were co-authored with Hardies, indicating a very strong and sustained scientific partnership lasting more than 13 years.

The three Finnish authors, Ittonen, Vähämaa and Vähämaa, rank third, fourth, and fifth, each with 318 citations. These three authors are close collaborators and published the classic article "Female auditors and accruals quality" (2013), which has 215 citations and ranks first among the most-cited articles.

Table 2. Leading authors

Rank	Author	University	Country	h-index	Total Citations	Number of Articles	Start Year
1	Kris Hardies	Ghent University	Belgium	5	361	6	2011
2	Diane Breesch	Ghent University	Belgium	4	320	4	2011
3	Kim Ittonen	University of Vaasa	Finland	2	318	2	2013
4	Emilia Vähämaa	University of Vaasa	Finland	2	318	2	2012
5	Joël Branson	VU Brussel	Belgium	3	298	3	2011
6	Collins G. Ntim	University of Southampton	United Kingdom	2	249	2	2017
7	Gaoliang Tian	Chongqing University	China	4	236	4	2017
8	Ferdinand A. Gul	City University of Hong Kong	Hong Kong	3	222	3	2017
9	Sami Vähämaa	University of Vaasa	Finland	1	215	1	2013
10	Bin N. Srinidhi	University of Texas	USA	2	210	2	2017

Leading Journals

To identify the most productive journals in the field of gender-related research in auditing, the distribution of published articles across different journals was examined (Table 3). The results show that *Managerial Auditing Journal*, with 31 articles, is the most productive journal in this area. This journal has published a considerable number of articles and has played a direct role in shaping the literature on gender in auditing.

The journal's specialized focus on auditing topics, auditor behaviour, and corporate governance has resulted in a substantial share of gender-related research being published in this outlet. This journal has not only published a large volume of articles but also achieved high impact, with 829 citations—the highest citation counts among all journals—and the highest h-index. An average of 26.73 citations per article indicates considerable impact. Geographic analysis also shows that more than 65 articles in the corpus were published in British journals.

Productive journals display a pattern of concentration and dominance. The Managerial Auditing Journal and Emerald Publishing exert significant control over the literature. However, the growth of new journals indicates that the field is diversifying and expanding geographically.

Table 3. Leading journals

Rank	Journal Name	Country	Publisher	Number of Articles	Total Citations	h-index	Average Citations / Article
1	*Managerial Auditing Journal*	United Kingdom	Emerald	31	829	17	26.73
2	*International Journal of Auditing*	United Kingdom	Emerald	14	300	9	21.43
3	*Auditing: A Journal of Practice & Theory*	USA	AAA	10	509	10	50.90
4	*Journal of Accounting in Emerging Economies*	United Kingdom	Emerald	10	350	8	35.00
5	*Journal of Applied Accounting Research*	United Kingdom	Emerald	9	129	7	14.33
6	*Accounting Research Journal*	United Kingdom	Emerald	8	92	6	11.50
7	*Int'l Journal of Accounting & Info Management*	United Kingdom	Emerald	8	271	6	33.87
8	*Journal of International Accounting, Auditing & Taxation*	USA	Elsevier	8	122	4	15.25
9	*Accounting Horizons*	USA	AAA	7	327	6	46.71
10	*Accounting, Organizations and Society*	United Kingdom	Elsevier	7	214	6	30.57

Leading Institutions

To identify the most productive universities, institutions were ranked by the number of published articles (Table 4). The results indicate that the Faculty of Economics and Management of Sfax (FSEG Sfax) in Tunisia, with 10 articles, is the most productive institution in this field. This faculty has a strong local cluster that includes two prominent authors: Imen Cherif (118 citations) and Yosra Mnif (82 citations). These two authors are close collaborators and have produced the majority of the articles. The presence of universities in developing countries indicates that gender-related research in auditing is expanding widely beyond the developed world.

Productive universities exhibit a dispersed and decentralized pattern. Unlike the strong Belgian cluster among authors and the concentration of Emerald Publishing among journals, universities do not form a clear core. This suggests the field is still in a stage of geographic expansion and that the world's top universities have not yet become significantly involved.

Table 4. Leading institutions

Rank	University	Country	Number of Articles
1	FSEG Sfax	Tunisia	10
2	Institut Supérieur d'Administration des Affaires	Tunisia	6
3	Universiti Kebangsaan Malaysia	Malaysia	6
4	emlyon Business School	France	5
5	Faculty of Commerce	Egypt	5
6	Universiti Utara Malaysia	Malaysia	5
7	Universiteit Antwerpen	Belgium	4
8	Universiti Teknologi MARA	Malaysia	4
9	University of Central Lancashire	United Kingdom	4
10	Xi'an Jiaotong University	China	4

Keyword Analysis

Across the articles retrieved for the period 1988–2025, we identified a total of 735 author keywords. To increase the precision of the analysis, prior to conducting the co-occurrence analysis, keywords that were conceptually similar but orthographically different (for example, singular vs. plural forms or synonymous expressions) were merged.

The results shown in Figure 2 indicate that the keyword "gender" forms the central core of this research field with the highest frequency (72 occurrences). It is followed by "audit quality" (41 occurrences), "audit committee" (32 occurrences), "audit fees" (31 occurrences), and "corporate governance" (31 occurrences).

The high frequency of these concepts suggests that gender-in-auditing research has mainly focused on the consequences of women's presence in firms' supervisory structures (such as audit committees and boards of directors). Researchers have also examined the effects of this presence on audit quality, audit costs, and corporate governance mechanisms. Furthermore, the frequencies of "earnings management" (21 occurrences) and "audit partner" (15 occurrences) reflect researchers' attention to the role of gender in reducing managerial opportunistic behaviours and in auditors' professional decision-making.

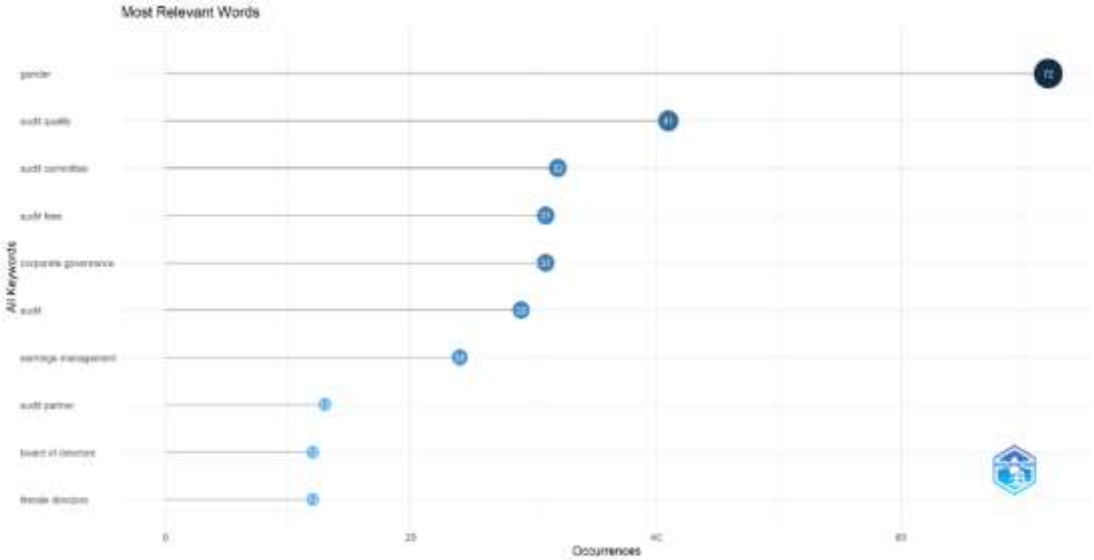

Figure 2. Keyword frequency

The word-cloud visualization (Figure 3) likewise confirms this pattern.

Figure 3. Word cloud

Trending Topics

To identify the temporal dynamics of research topics, we extracted trending topics based on the year of first appearance, the median year, and the last year of occurrence of keywords. This approach allows us to identify persistent, emerging, and declining topics.

According to Table 5, the findings show that the keyword “audit” has been established as one of the stable concepts in this field since around 2010 and has continued up to recent years (2025). This keyword is the most fundamental term.

Topics such as “ethics” and “audit report” entered the literature from the late 2000s and the mid-2020s, respectively, indicating a gradual researcher interest in ethical and reporting dimensions of auditing. However, since 2019 (for "ethics") and 2025 (for "audit report"), these keywords have been used less frequently.

On the other hand, the keyword “auditor gender”, which first appeared in 2025, reflects a more recent focus of research on auditors’ individual characteristics and the direct role of gender in judgments and audit outcomes. This topic remains active through 2025.

Overall, these results indicate that gender-in-auditing research has moved from an initial focus on general auditing concepts such as “audit” and “ethics” toward more specialized topics such as audit quality, audit committee, earnings management, and auditors’ individual characteristics — a trend that reflects the field’s gradual maturation and conceptual deepening.

Table 5. Trend topics

Hot topic	First year of appearance	Median year	Last year
Audit	2010	2016	2025
Professional ethics	2009	2016	2019
Audit report	2016	2018	2025
Auditor gender	2017	2018	2025
Gender	2017	2020	2025
Audit fees	2019	2020	2025
Board of directors	2016	2020	2022
Audit committee	2019	2021	2023
Corporate governance	2018	2021	2023
Audit partner	2019	2021	2025

Conceptual Structure Analysis of Gender-in-Auditing Research

Conceptual structure analysis enables the identification of relationships among key concepts and highlights dominant and emerging streams in a research field (Aria & Cuccurullo, 2017). In this study, to delineate the conceptual structure of the gender-in-auditing literature, a co-occurrence analysis of keywords was employed. Figure 4 displays the keyword co-occurrence network, where the size of each node represents the frequency of the keyword in the articles and the proximity of nodes indicates their simultaneous use in different studies.

The conceptual structure of this field can be identified in the form of three distinct clusters, each representing a specific research stream:

Cluster 1: Red individual–behavioral stream, whose central keywords are: gender, audit, women, ethics, diversity. This cluster is the center of the network and the largest cluster. The keyword gender lies at the core and is linked with concepts such as auditing, diversity, women, and professional ethics. This cluster represents the primary focus on the role of gender as an individual characteristic and its behavioral and ethical consequences.

Cluster 2: Blue quality–economic stream, whose central keywords are: audit quality, audit fees, audit partner, financial reporting quality. This cluster is formed around audit quality and audit costs. It examines the impact of auditor gender and the audit partner on output quality and costs. The presence of concepts such as “female audit partner” and “audit report delay” indicates that a substantial portion of the literature considers gender an influential factor in professional judgment.

Cluster 3: Green institutional–governance stream, whose central keywords are: corporate governance, audit committee, board of directors, earnings management. This cluster is organized around institutional and governance concepts. It focuses on the role of gender diversity in audit committees and boards and its effect on monitoring and the reduction of opportunistic behaviors. The presence of keywords such as “female directors” and “board gender diversity” shows that researchers’ attention has shifted from the individual level to the institutional level.

Overall, the network indicates that research on gender in auditing has a multidimensional structure: on the one hand, it focuses on auditors’ individual characteristics; on the other hand, it examines the role of gender in corporate governance mechanisms. This pattern reflects the field’s gradual maturation and its shift from initial descriptive topics—such as whether women are present in the profession—to deeper institutional and behavioral analyses that emphasize how women create differences within organizational systems and auditing decision-making.

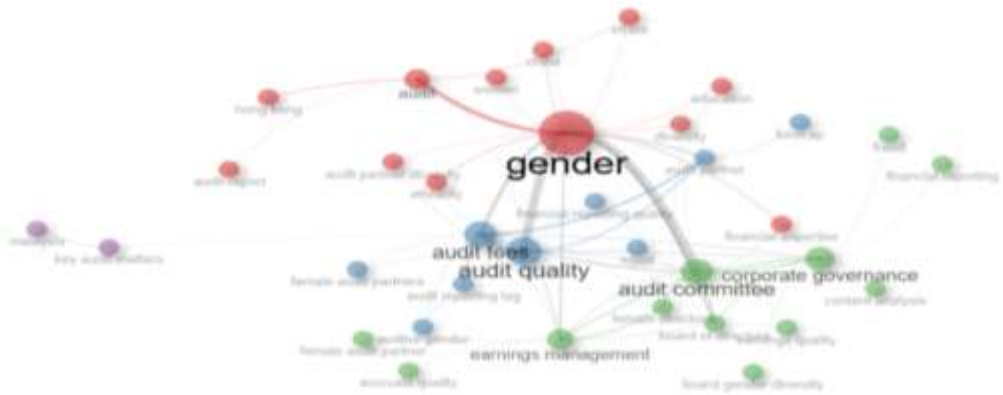

Figure 4. Keyword co-occurrence network

Thematic Map

One complementary approach for identifying the conceptual structure is the development of a thematic map. This map is constructed based on co-occurrence analysis and uses two indicators: centrality and density. Centrality indicates the importance of a theme and its degree of interaction with other themes, whereas density reflects the internal level of development of each theme.

These two indicators form a four-quadrant matrix in which themes are positioned as follows:

According to the Figure 5, motor themes are located in the upper-right quadrant. These themes exhibit both high centrality and high density, indicating that they are conceptually well developed and play a key role in structuring the literature. In this study, concepts such as audit report, key audit matters, and audit firm fall within this quadrant, suggesting that research has paid significant attention to formal audit outputs and the role of auditing institutions. Themes such as COVID-19, employee turnover, and women are also located close to this quadrant.

In the upper-left quadrant, we observe highly developed and isolated themes. These themes show high density but limited connections with other themes. Concepts such as earnings management, auditor gender, and gender differences are positioned in this area, indicating a strong focus of specialized research on the effects of auditor gender on managerial behavior and professional judgment; however, these themes have not yet been fully integrated into the mainstream literature. Themes such as audit partner, diversity, and internal audit are also located in this quadrant.

In the lower-left quadrant, we find emerging or declining themes. In this study, concepts such as corporate governance mechanisms appear in this area, reflecting their limited development and relatively lower importance in the current literature. These themes are either in early stages of development and may expand in the future, or they are gradually losing researchers' attention. Evidence suggests that the theme of corporate governance mechanisms is in decline.

Finally, basic themes are located in the lower-right quadrant. These themes have high centrality but are not yet fully developed in terms of density. In this study, concepts such as gender, audit committee, and board of directors fall within this quadrant. This indicates that these concepts form the theoretical and conceptual foundations of gender-in-auditing research and, despite their high importance, still offer substantial potential for further research development. Themes such as corporate governance, female directors, and board gender diversity are also located in this quadrant.

Overall, the thematic map shows that the literature on gender in auditing is grounded in fundamental themes related to gender and corporate supervisory structures. At the same time, it is moving toward more applied topics such as audit reporting, audit firms, and the behavioral consequences of gender in the auditing profession. This pattern reflects the conceptual dynamism and gradual maturation of this research field.

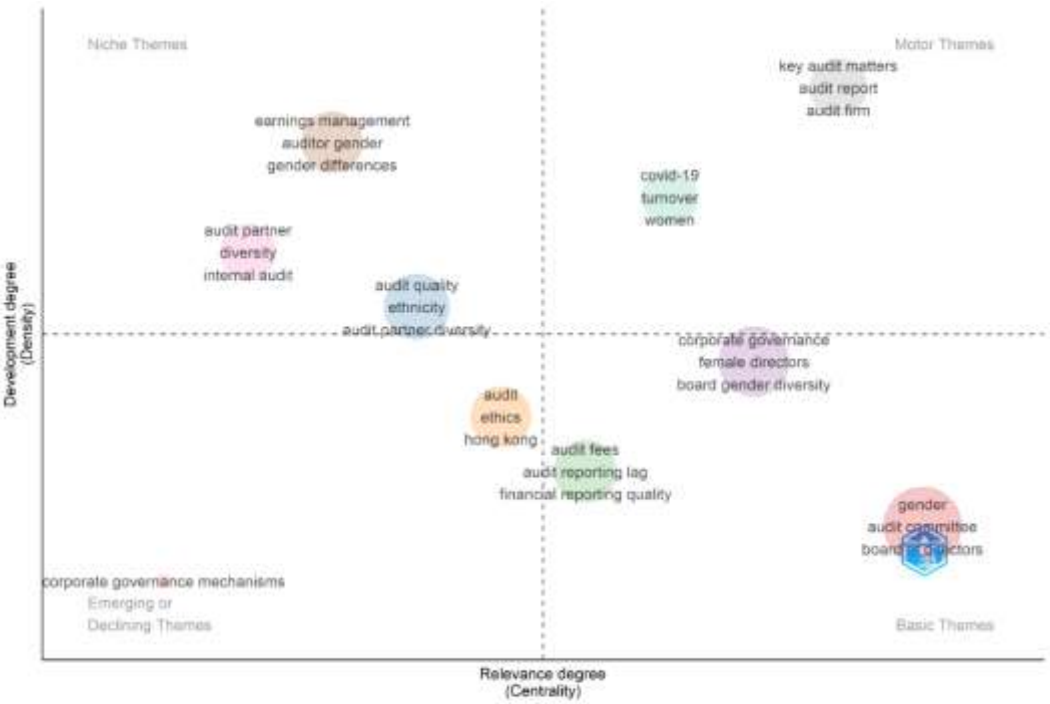

Figure 5. Thematic map

Analysis of the Collaboration Structure of Gender-in-Auditing Research

Social structure analysis examines patterns of scientific collaboration among authors, research institutions, and countries, and by mapping social networks, it reveals the relationships among the main actors in a research field. In these networks, nodes represent authors, institutions, or countries, while edges indicate co-authorship or scientific collaboration relationships among them. Analyzing these networks helps to better understand knowledge production flows, identify active scientific cores, and explain pathways of idea diffusion within a research field (Ding et al., 2001).

Author Collaboration Network

Figure 6 presents the author collaboration network of gender-related research in auditing. The results indicate that the social structure of this field consists of several relatively distinct collaboration clusters, each representing a group of authors who have either collaborated directly with one another or are connected through shared collaborators. The larger size of certain clusters reflects a higher level of scholarly activity and research cohesion compared to other clusters.

Among the identified clusters, the largest and most influential cluster includes authors such as Kris Hardies, Diane Breesch, and Joël Branson. The primary focus of this cluster's studies is on topics such as auditor gender, audit quality, professional judgment, and the behavioral consequences of women's presence in the auditing profession. The high density of connections within this cluster indicates that this research stream has played a central role in shaping the literature on gender in auditing.

The results of the analysis show that scientific collaborations are predominantly regional—meaning that collaborations mainly occur within the same geographic regions (e.g., Europe, Asia, and the Middle East). Intercontinental collaborations are relatively limited and therefore exhibit substantial potential for further development.

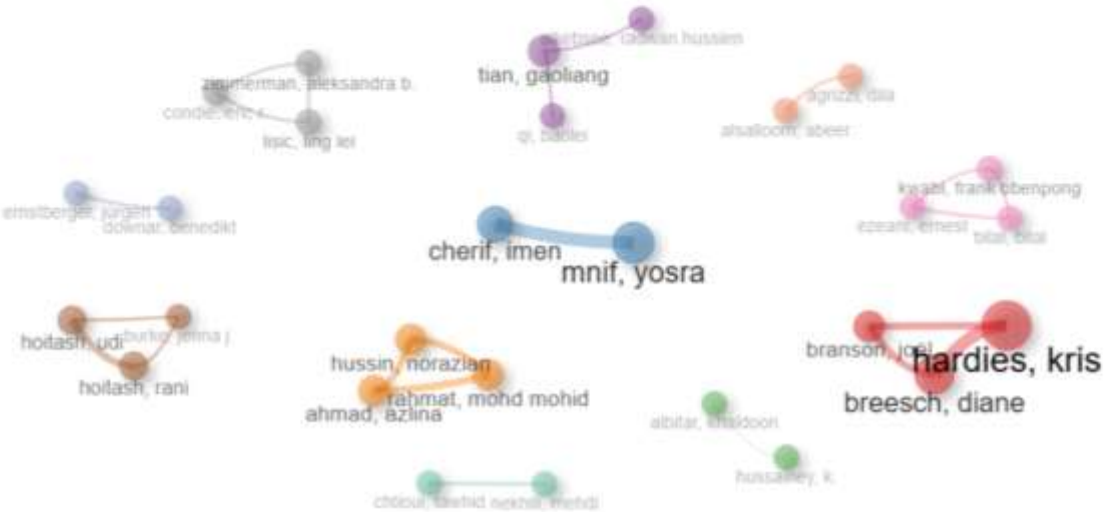

Figure 6. Author collaboration network

Institution Collaboration Network

Figure 7 shows that several academic institutions are the main knowledge-production hubs in this field. Among them, institutions such as Institut Supérieur d'Administration des Affaires and the Faculty of Economic Sciences and Management of Sfax in Tunisia exhibit higher scientific cohesion and stronger collaborative links, and are positioned at the centers of collaboration clusters.

In addition, academic institutions in Europe, Australia, and Southeast Asia have played a prominent role in the production and exchange of knowledge related to gender in auditing. The presence of distinct clusters suggests that scientific collaboration in this field has largely developed at the regional or institutional level, while intercontinental collaboration still has substantial potential for further expansion.

Figure 7. institution collaboration network

Country Collaboration Network

Finally, Figure 8 presents the country collaboration network. In this network, darker-colored countries indicate a higher volume of scientific output in the field of gender in auditing, while thicker connecting lines represent higher levels of scientific collaboration between countries.

The results show that the United States, the United Kingdom, Australia, China, and Malaysia are among the most active countries in terms of both research output and scientific collaboration. Among these countries, the United States and the United Kingdom play more central roles in the collaboration network and maintain the highest number of direct connections with other countries.
Moreover, we observe notable collaborations among Asian and Middle Eastern countries, including China, Malaysia, Saudi Arabia, the United Arab Emirates, and Egypt, indicating the gradual expansion of gender-in-auditing research in these regions. Overall, the analysis of the social structure shows that research on gender in auditing is characterized by a multi-centered network, in which active scientific cores in developed countries such as the United States, the United Kingdom, and Australia play leading roles, while the participation of developing countries such as China, Malaysia, and Saudi Arabia is gradually increasing. This pattern reflects the dynamic nature of the social structure of this field and its high potential for the future development of international scientific collaboration.

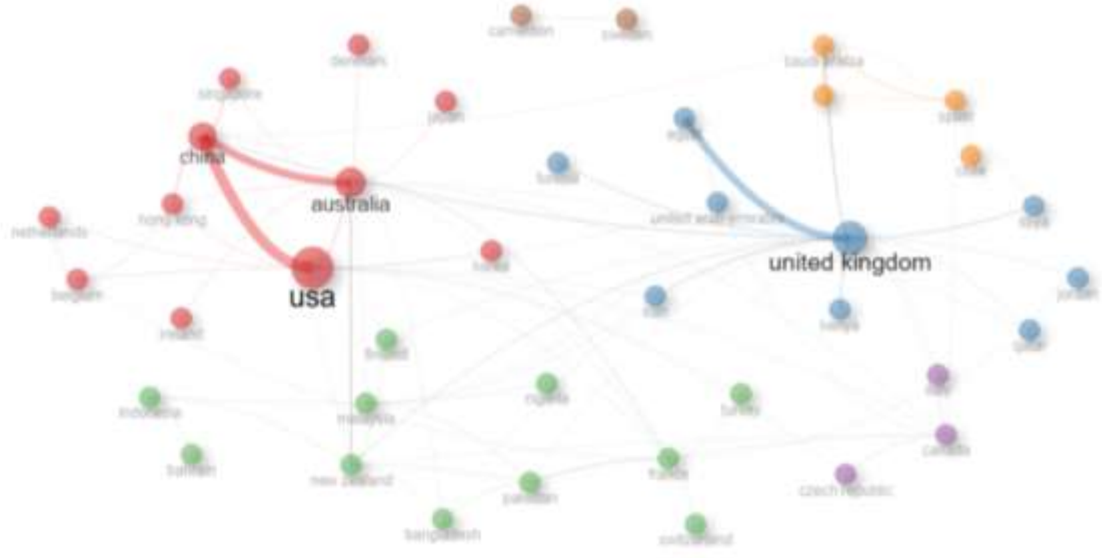

Figure 8. Country collaboration network

Conclusion and Discussion

Given the large number and diversity of articles published on gender in auditing, conducting a study aimed at providing a comprehensive review of this valuable literature can offer useful guidance for researchers and practitioners. This study is conducted to obtain a broad and comprehensive perspective on research related to gender in auditing. It evaluates the trends and impacts of studies on this topic, along with the conceptual, intellectual, and social structures of this body of research over the period 1988–2025. To achieve this objective, a corpus of articles related to gender in auditing was extracted from the Scopus database and analyzed using bibliometric methods through the Bibliometrix package in the R environment.

The findings addressing the first research question regarding trends in scientific production in the field of gender in auditing indicate an upward trajectory, with the number of publications reaching its peak during the 2015–2025 decade, such that approximately 65% of all articles belong to this period. It is expected that the volume of research in this field will continue to increase in the coming years. This accelerated growth can be explained in light of the increasing attention of policymakers and professional bodies to gender diversity and the enactment of gender quota regulations in various countries.

The results addressing the second research question concerning the evaluation of influential publications in the field of gender in auditing show that the article by Ittonen et al. (2013), with 215 citations, is the most influential paper. Kris Hardies from Ghent University, with 361 citations and 6 articles, is identified as the most influential and productive author. Managerial Auditing Journal, with 31 articles and 829 citations, is the most influential journal, and the Faculty of Economic Sciences and Management of Sfax in Tunisia, with 10 articles, is the most productive research institution. The dominance of these entities in terms of authors, journals, and research institutions reflects a relative concentration of the literature in this field.

In response to the third research question concerning the identification of key topics and the conceptual structure of gender-in-auditing research, the results show that, in addition to the keyword “gender,” concepts such as “corporate governance,” “audit committee,” “earnings management,” “internal controls,” and “financial reporting quality” are among the most frequently used keywords in this field. The recurrence of these concepts emphasizes the positioning of gender within a robust corporate governance structure and highlights its role in strengthening internal controls, curbing managerial misconduct, and ultimately enhancing transparency and the quality of financial reporting. The results of the keyword co-occurrence network analysis confirm these findings and identify the aforementioned keywords as shaping the conceptual structure of gender in auditing.

With respect to the fourth research question, the results of the analyses indicate that “earnings management,” “audit quality,” and “corporate governance” are hot topics that have attracted particular attention from researchers and academics, and future studies are expected to gravitate toward these themes. Moreover, the analysis of the thematic map of keywords in the field of gender in auditing highlights the significant role of “accountability” in enhancing audit quality and its strong potential for further development and growth in future research.

To address the fifth research question concerning the identification of the intellectual and social structure of gender-in-auditing research, the results of the social structure analysis indicate that the highest level of collaboration occurs among Kris Hardies, Diane Breesch, Joël Branson, and other authors. Kris Hardies is the most influential author within this network, and the studies of this group are primarily focused on auditor gender, audit quality, and professional judgment. In addition, universities such as Ghent, Vaasa, and Brussels in Belgium and Finland form the largest collaboration networks among research institutions in the field of gender in auditing.

Finally, the global map of country-level collaboration in gender-in-auditing research shows that the highest levels of scientific collaboration are associated with several developed countries (the United States, the United Kingdom, and Australia) as well as developing countries (China, Malaysia, Tunisia, and Saudi Arabia). Gender in auditing appears to hold particular importance for researchers and practitioners in these countries, reflecting the global geographic expansion of this research topic.

Theoretical Implications

This study contributes to the existing literature in several ways. First, it represents a comprehensive bibliometric study in the field of gender in auditing that systematically maps the conceptual, social, and evolutionary structures of this research domain. Second, the identification of three main clusters (the individual–behavioral stream, the quality–economic stream, and the institutional–governance stream) demonstrates that gender-in-auditing research has a multidimensional structure that has evolved from early descriptive topics toward deeper institutional and behavioral analyses. Third, this study shows that the literature on gender in auditing has progressed from foundational topics (gender, audit committee, board of directors) toward more applied themes (audit report, key audit matters, audit firm), indicating the gradual maturation of the field.

Practical Implications

The findings of this study can be useful for policymakers, professional bodies, and researchers. First, policymakers can draw on the results of this study to design more effective policies aimed at promoting gender diversity in the auditing profession and corporate governance mechanisms. Second, professional bodies can consider the central role of auditor gender in audit quality when designing training and professional development programs to enhance audit quality. Third, researchers can identify emerging topics and research gaps to guide future research agendas.

Limitations and Directions for Future Research

This study is subject to several limitations. First, the data were extracted solely from the Scopus database; future research may incorporate other databases such as Web of Science to achieve broader coverage. Second, this study was limited to articles published in academic journals; future studies may include conference papers and books in their analyses. Third, the analysis focused exclusively on articles published in English; future research may examine publications in other languages.

Based on the findings of this study, we propose the following directions for future research. First, foundational topics such as “gender,” “audit committee,” and “board of directors” still offer substantial potential for further development, and future studies may explore new dimensions of these themes. Second, given the increasing participation of developing countries, future research may conduct comparative analyses of gender-in-auditing research between developed and developing countries. Third, considering the importance of motor themes such as “audit report” and “key audit matters,” future studies may examine the role of gender in the disclosure of key audit matters and the quality of audit reporting.

Overall, this study demonstrates that gender-in-auditing research has evolved from an emerging area into one of the main streams of the accounting literature and continues to offer significant potential for further development and expansion. We hope that the findings of this study will contribute to the advancement of scientific knowledge in this field and support the formulation of more effective policies.

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