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A systematic literature review of studies on women at the top of firm hierarchies: critique, gap analysis and future research directions

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Abstract

Purpose – This study aims to holistically explore the academic literature on female leaders to identify the key topics and dynamics of the field.

Design/methodology/approach – The authors systematically review 532 papers to explore the research on female leaders; based on objective and replicable criteria, the authors identify relevant papers and thus ensure the quality of the analysis. The bibliometric analysis and visualization support us in recognizing trends in this topic.

Findings – This study outlines the state of the art over the past decade by synthesizing theoretical contexts and critically discussing the main streams of research on sustainability, firm outcomes and barriers preventing women from reaching the upper echelons. The authors also explore empirical issues and highlight areas that entail new paths for future scholars.

Practical implications – The research provides novel evidence of the attempt internationally to increase female participation at the top of the firm hierarchy by analyzing firm outcomes, sustainability and the constraints faced by women in achieving these careers.

Social implications – The results show that the participation of women in leadership roles is not (only) a matter of compliance with current regulations. Through their ability to monitor key social and environmental

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issues from a long-term perspective and their attention to the internal control systems, companies more effectively pursue their financial and nonfinancial aims.

Originality/value – Using bibliographic and narrative analyses, this study reviews the literature on women at the top of the firm hierarchy with a focus on business research. The authors extend prior studies by investigating a larger pool of firm roles to provide a comprehensive understanding of this widely discussed topic.

Keywords Women directors, Gender diversity, Systematic literature review

Paper type Research paper

1. Introduction

Female participation in the upper echelons of firms has garnered a significant amount of attention from academics and policymakers over the past decade (Cumming *et al.*, 2015; Bhattacharya *et al.*, 2022). This study presents a systematic literature review concerning the influence of women in C-suites positions (e.g. CEOs, CFOs, COOs), executive and nonexecutive directors, committees and top management team (TMTs) members on firm outcomes and decisions.

We argue that investigating gender diversity in the higher levels of firms' hierarchies is timely and critical for several reasons. First, the topic has significantly developed over the past decade, as several countries have acknowledged the necessity of regulating female participation on boards of directors. Norway paved the way in this area in 2008 by requiring that firms ensure that 40% of the directors they appoint are female (Teigen, 2016). Other countries followed the Norwegian gender quota law, mandating a range of 30%–40% for female board representation (e.g. Belgium, Denmark, France, Germany, Italy, Malaysia and Spain) or requiring the presence of at least one female director (e.g. Finland, India, Israel and the United Arab Emirates) (Kent-Baker *et al.*, 2020).

Despite these novel policies, the benefits of increasing the number of women in the upper echelons of firms remain controversial. The literature suggests that female directors positively influence the monitoring of earnings management practices and the informativeness of share prices (Gul *et al.*, 2011; Damak, 2018). However, García Lara *et al.* (2017) find that female directors enhance the quality of financial reporting in firms with male-dominated boards. Furthermore, scholars provide evidence suggesting that female managers decrease a firm's risk exposure (Faccio *et al.*, 2016), while others have found a positive or null relationship in this area (Sila *et al.*, 2016; Seebeck and Vetter, 2021). Finally, some researchers support the view that women are more able to access the upper echelons when firms experience financial distress (Mulcahy and Linehan, 2014; Elsaid and Ursel, 2018), while others fail to find evidence supporting this perspective (Cook and Glass, 2014).

In light of the unclear results presented in existing studies, this study sheds light on this topic by synthesizing the state of the art, analyzing leading studies and offering future research directions.

Consequently, we attempt to answer the research question of how gender diversity research has developed following the enactment of the first gender quota law, the main strands of gender diversity research in top corporate positions and the possible trends and topics that can be proposed for further research.

To answer this research question, we analyze 532 articles published between 2010 and 2022 by applying a mixed (bibliometric and manual) approach. Consistently, we explore the key characteristics of the papers published, the current publication trends and the most influential publications. We also examine the research methodologies, countries and types of firms investigated, as well as the keywords most frequently used by academics researching gender diversity in top corporate positions. In addition, our study uses a systematic approach alongside a bibliometric methodology, which allows us to highlight potential developments in existing research strands and remaining gaps in the literature. Supported by the use of VOSviewer software, we identify three main streams of research. The first stream of research considers articles investigating how women's personal traits influence the decision-making process when they enter the upper echelons. This cluster mostly synthesizes studies in the accounting and finance fields. The second cluster – female directors and sustainability – is used to specifically investigate whether women on boards of directors influence corporate social responsibility (CSR) and environmental, social and governance (ESG) disclosure. The third stream of research primarily investigates the conditions for women to access a leadership career. This cluster links the other two lines of research by exploring the existence of the glass ceiling and glass cliff as the main constraints.

Our study makes three main contributions. First, our study extends the existing knowledge by providing a systematic framework for qualitative and quantitative approaches used to investigate gender diversity in corporate roles. We contribute to research on the topic by linking existing knowledge on gender diversity in individual positions with a comprehensive map of the body of knowledge on the convergence of these studies on women in leadership roles.

Second, this study contributes to the literature on gender diversity by investigating a greater pool of firm roles to provide a more comprehensive understanding of the state of the art on this topic. Specifically, we find three main clusters that shed light on female behavioral traits, women's contributions to sustainability when they serve on the board of directors and the obstacles that they face to achieve leadership positions. Consistently, the topic of gender diversity has been analyzed to define the state of the art from multiple perspectives. Given the prevailing studies that focused on these research areas, we define mixed findings in the existent debates and potential areas for development to suggest future research avenues that could fill gaps in the current literature.

Third, our study enables policymakers, managers and stakeholders to improve tools that compensate for the shortage of women in decision-making roles. On the one hand, our results highlight how the literature has addressed gender diversity since the introduction of the first gender quota law. This allows us to assess the progress made. On the other hand, our results highlight the need for more attention to women's participation in other corporate roles. In this way, the invisible barriers highlighted in the third cluster can either decrease or be lowered.

The manuscript is structured as follows. The following section summarizes the theoretical framework, while Section 3 outlines the steps and protocols followed for our review. Section 4 reports the findings of the bibliometric review method and Section 5 shows the results of the systematic review approach. Section 6 suggests future direction for this research field and Section 7 concludes.

2. Theoretical contexts

Upper echelons theory (Hambrick and Mason, 1984) suggests that managers' social and psychological attitudes are reflected in the firm's decision process when they are employed in leadership positions. Accordingly, gender is one of the observable factors that capture these attitudes, as men and women are found to differ in their nature (Croson and Gneezy, 2009). The literature in psychology and behavioral economics found that men and women differ in their experiences, overconfident attitudes, risk tolerance and information access. Consistent with predictions related to upper echelons theory, the scholarly literature has investigated whether and how firm outcomes and decisions change when women are in leadership positions. Much of the attention of recent studies has specifically focused on female directors. Studies focusing on women on boards are predominantly supported by agency theory (Jensen and Meckling, 1976) and resource dependence theory (Pfeffer and Salancik, 2003).

Agency theory outlines the relationship between the ownership and management of a firm. Based on a contract, management runs the firm according to the interests of its shareholders, which is mainly to create value (Jensen and Meckling, 1976). However, the divide between ownership and control generates information asymmetry because managers possess more information than shareholders. In the event of information asymmetry, managers have more discretion and are relatively likely to pursue their own interests rather than those of shareholders. Consequently, shareholders are incentivized to activate control mechanisms to decrease information asymmetry and reduce agency costs (Fama, 1980; Jensen and Meckling, 1976).

The board of directors reduces agency costs by monitoring managers' behavior and aligning managers' actions with shareholders' interests. Existing literature has established that women on boards increase board efficiency and independence through monitoring activities (Cumming *et al.*, 2015). Female directors are less prone to commit financial fraud, and they reduce agency costs through transparency. Efficiency improvement in monitoring activities also enhances the quality of the financial reporting system, preventing earnings management practices (Gul *et al.*, 2011; Srinidhi *et al.*, 2011; García Lara *et al.*, 2017; Zalata *et al.*, 2022). Female directors reduce managers' opportunistic operations by monitoring an extra level of cash holdings (Atif *et al.*, 2019) and dividend payouts (Chen *et al.*, 2017), consequently decreasing managers' discretion in the use of these resources. Overall, following the agency theory perspective, women directors are found to bring heterogeneity, increased independence, more control and different viewpoints.

Agency theory is frequently combined with resource-based theory, with the latter focusing on the function of the board of directors in supporting and advising top management. Resource-based theory (Pfeffer and Salancik, 2003) argues that businesses exchange resources with their external environment, leading to a dependence on key external actors. This dependence may risk the survival of the firm. Consequently, a firm's performance and survival are reliant on the board's ability to connect with its external environment. Directors create relationships through advice and counsel, legitimacy and information communication channels (Liu *et al.*, 2014). This theory argues that a board's independence can be observed through the ability of its directors to create connections with outside parties to obtain resources and information for the firm.

Accordingly, female directors increase firm value through their networking and socialization skills. A woman's ability to create connections with her external environment reduces inclinations toward opportunistic behavior (Chen *et al.*, 2017) and facilitates the acquisition of external resources and funding to fulfill a firm's needs (Atif *et al.*, 2019; Liu *et al.*, 2014). Studies developed on resource-based theory demonstrate that female directors enhance CSR (Bear *et al.*, 2010; McGuinness *et al.*, 2017), increase financial performance (Liu *et al.*, 2014; Post and Byron, 2015) and exert more control over executives' compensation (Lucas-Pérez *et al.*, 2015).

Finally, we report on tokenism theory (Kanter, 2008), which is a theoretical approach widely adopted in the papers reviewed in this study. Tokenism theory discusses the notion that minorities (e.g. in terms of gender and ethnicity) in top management positions can be treated as "tokens" or "solos" when the demographic group is represented by only a few individuals. The minority representation of women in leadership roles reinforces social gender stereotypes. Women may be treated as "tokens" and marginalized in male-dominated environments, such as on boards of directors (Kanter, 2008). Consequently, female managers are not numerically significant in regard to exerting their power and influencing the firm's decision-making process. However, this remains the case until women reach a critical mass that allows them to no longer be treated as a minority. Bear *et al.* (2010), Torchia *et al.* (2011) and Liu *et al.* (2014) find that this critical mass is reached with at least three female directors.

3. Research methodology

We adopt a systematic literature review supported by a bibliometric analysis to assess the state of the art on gender diversity at the top of the firm hierarchy (Massaro *et al.*, 2016; Bellucci *et al.*, 2022). This systematic literature review is based on a rigorous plan to identify relevant articles and thus assure the quality of the analysis (Garanina *et al.*, 2021). The bibliometric visualization supports us in recognizing the prevailing trends on this topic, considering the large final sample (Amorelli and García-Sánchez, 2021; Bellucci *et al.*, 2022). Accordingly, we set objective and replicable criteria to document the procedures adopted during the analysis, as in Garanina *et al.* (2021) and Manetti *et al.* (2021). We then provide a narrative discussion of our results. We use the following parameters to select publications:

- We include only English-language publications to attempt to avoid biases arising due to language limitations (Manetti *et al.*, 2021).
- We select articles in the social sciences field (Manetti *et al.*, 2021) published in peer-reviewed journals.
- We include papers published between 2010 and 2022 that investigate the topic of gender diversity after the first gender quota law was introduced. The Norwegian gender quota legislation for corporate boards was applied to a broad range of companies: the boards of public limited companies, intermunicipal businesses and state enterprises. Cooperative and municipal companies were included from 2008 to 2009 (Teigen, 2016). To avoid sample selection bias, our analysis starts from 2010.
- We collect articles focusing on women in C-suites positions, executive and nonexecutive directors, committees and TMTs members by identifying the main research questions of each paper.

3.1 Research design

We use the Scopus database due to its reputation for providing comprehensive access to international journals across multiple disciplines along with their corresponding citations (Manetti *et al.*, 2021). The resultant query is validated by a group of management and accounting experts. Multiple revisions are made to identify the most relevant keywords to be included with the purpose of conducting a search as widely as possible to collect any available manuscripts. Following Kirsch (2018), we identify articles by searching in keywords, abstracts and titles a combinations of “women,” “gender,” “female*” and “woman” keywords and keywords related to upper echelons positions such as “CEO*,” “CFO*,” “top management team*,” “board*,” “director*” or “committee*.”

We search for documents published between January 2010 and December 2022, and we limit our research to those with “article” as their document type to ensure that the materials included have been subjected to a double-blind peer-review process (Bellucci *et al.*, 2022).

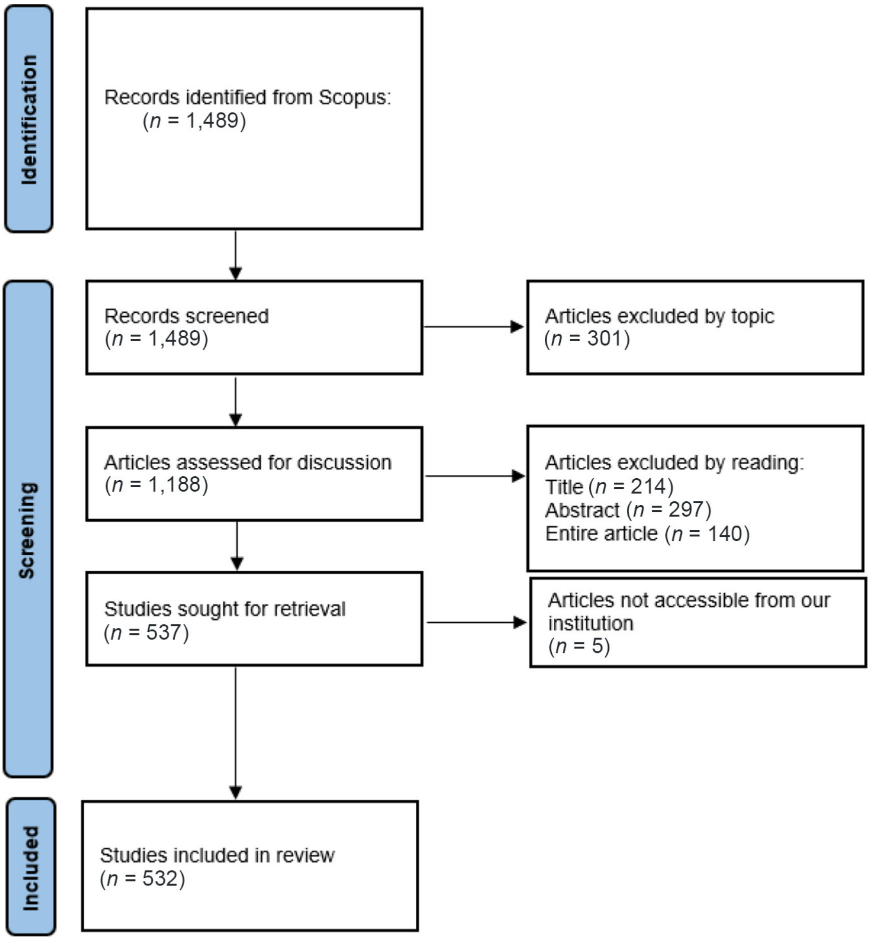
This procedure returns 1,489 potentially relevant articles. From this initial sample, we exclude any articles investigating state-owned or nonprofit entities because they do not fall within the scope of this research. We drop editorials and commentary publications characterized by a lack of empirical data (Kirsch, 2018). Additionally, an article is excluded if gender diversity is not considered in the main research question of the paper but used as a proxy to control for ESG, CSR or corporate governance consistent with existing studies revealing strong correlations between nonfinancial indicators and women at the top of the firm hierarchies (McGuinness *et al.*, 2017).

After using these exclusion (inclusion) criteria, we drop articles with titles that do not refer to women in top corporate positions, reducing the sample to 974. We exclude 297 articles after reading their abstracts and 140 after reading the entire manuscript and finding that women at the top of firms were only a marginal focus of these manuscripts.

Finally, after the authors independently completed this manual refinement of the initial sample, the selection procedure left us with 532 papers published in 118 journals.

The Online Appendix shows the number of papers by academic journal and related subject field (Table A1) and by authors and their affiliation (Table A2).

Figure 1 reports the research protocol following the PRISMA approach applied in Bellucci *et al.*'s (2022) research.



Notes: http://prisma-statement.org/PRISMAStatement/FlowDiagram
Source: Created by authors as an adaptation from

Figure 1.
PRISMA flow diagram

We observe that the number of publications on gender diversity in our sample grew over time, as reported in Figure 2. The annual volume of papers averages 41 publications, starting with 10 in 2010 and reaching 143 in 2022. From 2010 to 2015, the number of articles published exhibits a moderate degree of growth, but an upward trend began in 2015, which is when the UN included gender diversity as one of the sustainable development goals. Furthermore, the European Union regulated the disclosure of nonfinancial information at this time (European Directive, 2014). European Directive 95/2014 required member states to implement the disclosure of nonfinancial information to firms with at least 500 employees. Member states adopted domestic laws that required companies to publish reports starting from fiscal 2017 concerning gender equality, sustainability and CSR (European Commission, 2017; Doni *et al.*, 2019).

The regulation requires listed firms to disclose information concerning diversity policies, including gender (Cumming *et al.*, 2015). The first application was made in 2017, consistent with the increase in publications during that year, as shown in Figure 2. Aside from a slight drop in 2018, the number of publications has proliferated remarkably. Sixty-three percent of the articles in our analysis were published between 2018 and 2022. This strong increasing trend in publications highlights the renewed interest in this issue. Finally, the accounting and finance research areas publish 50% of these papers, demonstrating a special concern regarding this topic.

4. Bibliometric analysis results

In this section, we show the results of our analyzes and insights into how gender diversity studies have developed by analyzing the publications by year, journal, author, citation analysis, research methodology, country and type of firm investigated, along with the measures of gender diversity used in the literature. Finally, we investigate co-occurrence analysis using bibliometric visualization.

4.1 Articles by journal

The 532 articles in our sample were published in 118 journals. The leading journals on this topic are the *Journal of Business Ethics* (55 articles), *Journal of Corporate Finance* (32 articles), *Corporate Governance* (Bingley) (25 articles) and *Corporate Governance: An International Review* and *British Journal of Management* (17 articles each). Several journals

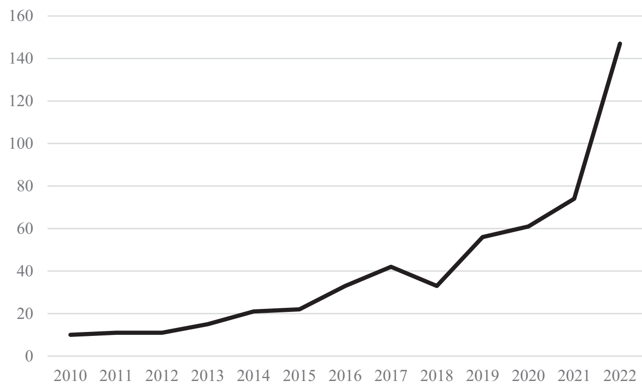


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Figure 2.
Number of articles published by year, 2010–2022

are rated 4*, 4 or 3 following the ABS classification, which reveals the increasing attention received by the best journals in the social sciences.

Considering the distribution of the papers classified in social sciences, 42% of the papers pertain to the Ethics–CSR–Management field, demonstrating a special concern in this topic. While Economics and Strategy areas denote a marginal interest, Accounting and Finance research areas publish 50% of the papers in our sample. Figure 3 shows the distribution of the 266 papers in the Accounting and Finance fields, considering the year of publication.

In the first period of the analysis, from 2010 to 2015, interest in gender diversity in top corporate positions was at its lowest level, as less than six articles per year on this topic were published in the research areas of Accounting and Finance. Consistent with the growing interest in gender diversity from the European Union and the UN, the trend in publications on gender diversity in the upper echelons started to increase in 2015 for both research areas, which usually overlap in terms of research questions, theoretical frameworks and methodology. However, although a decline is registered for 2018 in the Finance field, the growth in interest in the topic has increased rapidly over the past three years of our analysis. The number of papers published reached 34 in Accounting and 35 in Finance in 2022.

4.2 Citation analysis

The impact of research papers is mainly proxied by the overall number of citations and the number of citations per year (CPY) (Kent-Baker *et al.*, 2020). Consistently, we show the number of citations from 2010 to 2022, as reported in Figure 4. The highest peak in the number of citations was reached in 2016, and the subsequent decrease is mostly due to recently published papers, which lack the time to accumulate citations (Garanina *et al.*, 2021).

Consistent with this trend, the Online Appendix (Table A3) shows the most cited papers on gender diversity published between 2010 and 2016. Bear *et al.* (2010) accumulate the most citations with 932, followed by Post and Byron (2015) with 685 and Gul *et al.* (2011) with 657. The Accounting and Finance fields identify critical research content and findings that pertain to 70% of the ten most cited papers, followed by Ethics–CSR–Management (20%) and Strategy (10%).

Another prevailing method used to measure the influence of research publications is CPY. This analysis reveals that several recent articles have the highest CPY figures. Indeed, Faccio *et al.* (2016) recorded the highest CPY of 91.29, followed by Post and Byron (2015)

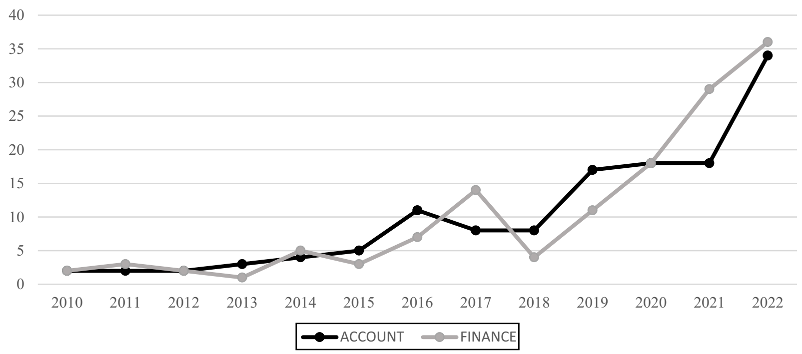

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Figure 3. Number of articles by year of publication and journal in accounting and finance

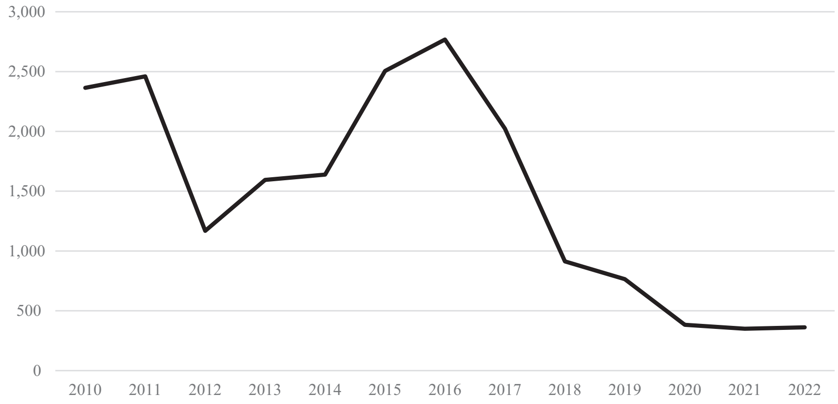

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Figure 4.
Average citations per year

with 85.63. Recent articles by Sila *et al.* (2016) and Ben-Amar *et al.* (2017) are included in the most cited papers per year category. The highest CPY for these recent papers is likely to increase over the years. The *Academy of Management Journal*, *Journal of Corporate Finance* and *Journal of Business Ethics* published the articles with the highest CPY ratings.

4.3 Research methods

From a different perspective, we consider the research methods to investigate how scholarly literature has developed, which are classified as follows (Segal *et al.*, 2021): case studies and interviews; content analyses; surveys, questionnaires and empirical methods. We split the empirical category into groups pertaining to experiments and econometric analysis, as the sample studies predominantly use quantitative research methods. We also include a literature review and meta-analysis categories.

Most articles on female leaders adopt a singular research method instead of combining multiple methodologies. However, mixed research methodologies have been used in certain publications.

As reported in Table 1, of the 532 studies, only 24 use case studies or interviews. Liu (2013) and Dwivedi *et al.* (2018) use the case study method, while the remaining 22 articles adopt interviews. Likewise, we find three published articles (De Amicis *et al.*, 2021; Nadeem, 2020) that adopt a content analysis method. Even the categories concerning surveys

Table 1.
Articles by research methods

Research methods	No. of articles
Econometric analysis	477
Case study/interviews	24
Content analysis	3
Experiments	2
Literature review/meta-analysis	7
Survey/questionnaire	19
Total	*532*

Source: Authors' own creation

(Schwartz-Ziv, 2017) and experiments show that these research methods are infrequently adopted, as they comprise 19 and 2 papers, respectively.

In this review, 477 articles use regression methods, and most of these studies use panel data. The empirical publications in this category adopt several regression methods, such as the generalized method of moments (Sila *et al.*, 2016), logit or probit models (Cumming *et al.*, 2015), simultaneous equations models (Adhikari *et al.*, 2019), ordinary (Friedman, 2020), generalized (Damak, 2018) or two-stage least squares (Atif *et al.*, 2019). Our analysis reveals a lack of research methods other than regression analysis, which reflects a need for deeper exploration.

4.4 Country and type of firm investigated

The most investigated countries are the USA (154 papers), followed by China (39 papers), Australia (30 papers), the UK (28 papers), Italy (21 papers), Spain (20 papers), France (18 papers) and Norway (14 papers). In this review, almost 90% of publications focus their analysis on 42 single countries. The majority of cross-country investigations are based on global and European contexts, with 37 and 30 articles each. The studies covering more countries include Memon *et al.* (2020), with 98 countries across the world, followed by Shoham *et al.* (2020), with 83 countries worldwide and Askarzadeh *et al.* (2022), with 48 countries.

An interesting point to observe is that while the research in the USA context appears consolidated by 33% of the published articles in this review, in recent years, attention has also been paid to Asian and African contexts (Erin *et al.*, 2021). For example, 19 studies analyze India (Smriti and Das, 2022) and the first paper was published in 2018.

Although the reviewed studies investigate countries across the world, the analysis mainly focuses on medium-large publicly listed firms (Carter *et al.*, 2017; García Lara *et al.*, 2017; Friedman, 2020), which pertain to 93% of the publications in this review. Eleven articles investigate privately held firms, and the remaining publications compare both public and private firms (Torchia *et al.*, 2011; Faccio *et al.*, 2016).

4.5 Gender diversity measures

According to our analysis, gender diversity is often measured as the ratio of the number of female directors to the total number of directors (Liu *et al.*, 2014; Liao *et al.*, 2015). The use of the proportion of women on a board is consistent with gender quota laws requiring a minimum percentage of female directors. This measure is also used to proxy women in TMTs (Nadeem, 2020), female participation in environmental and audit committees (Liao *et al.*, 2015; Bose *et al.*, 2022) and female executives (García Lara *et al.*, 2017; Schwartz-Ziv, 2017).

Consistent with the theory of critical mass (Kanter, 2008), the academic literature also uses indicator variables to capture gender diversity. In such cases, a dummy variable takes the value of 1 if there are at least three female directors and 0 otherwise. Existing literature also uses a dummy variable to reveal when there is at least one woman on the board (Carter *et al.*, 2017). Finally, a dummy variable is widely used to capture when the CEO or CFO of a firm is a woman (Clacher *et al.*, 2021; Doan and Iskandar-Datta, 2021).

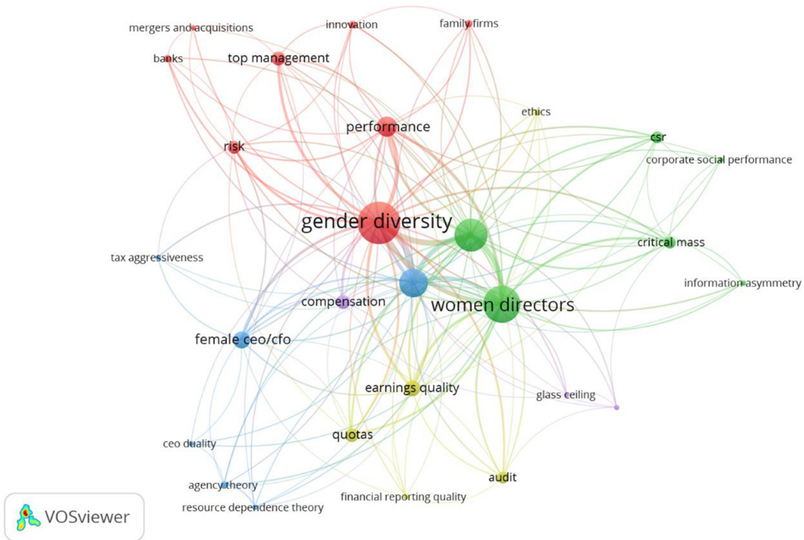
Another prevailing stream of research adopts Blau's index (Ben-Amar *et al.*, 2017; Nadeem, 2020) and Shannon's index (Mulcahy and Linehan, 2014). These indexes detect the level of diversity of a group of individuals, such as diversity in ethnicity or education. When applied to gender, Blau's index evaluates both the distribution of board members and the number of categories considered. In this case, the number of categories is an indicator variable that captures two categories: male and female. The values of Blau's index vary from 0 if there is no gender diversity to 0.5 if there are equal numbers of male and female directors. Shannon's index has properties similar to those of Blau's index (Ben-Amar *et al.*, 2017).

However, typical proxies fail to capture the intensity of the female presence. Indeed, Tyrowicz *et al.* (2020) adopt a weighted measure of gender diversity. Using novel country-level data from the global gender gap index ratings. The authors measure the institutional pressures placed on firms to achieve gender equality on their boards of directors, where higher values of the index reveal higher levels of gender equality (e.g. a lower gender pay gap).

Additionally, Adhikari *et al.* (2019) use a slightly different measure of gender diversity, which is not only based on gender differences but also captures differences between women and men that affect their decision-making. In particular, Adhikari *et al.* (2019) measure the power that women hold in a firm by considering the proportion of the pay of the top five managers of a firm allotted to female managers because compensation measures a person's power to affect firm decisions.

4.6 Bibliometric visualizations

We apply co-occurrence analysis using VOSviewer software to explore the common knowledge on gender diversity. The visualization approach is frequently used in the scholarly literature (Kirsch, 2018; Manetti *et al.*, 2021: Bellucci *et al.*, 2022), particularly when analyzing large samples, as in our study. Indeed, bibliometric visualization enables us to observe links among authors, citations, journals or keywords. In particular, the co-occurrence analysis method identifies the link between publications according to the number of documents in which the keywords are displayed together (Manetti *et al.*, 2021). Consequently, publications are clustered into bubbles according to the frequency of the authors' keywords. Figure 5 shows the authors' keyword's co-occurrence network.



Source: Author's own creation

Figure 5.
Co-occurrence analysis of the authors' keywords

The size of each cluster identifies the keywords used most often in the research paper, with a threshold of five occurrences. Further analysis suggests that gender diversity, female directors and corporate governance are the most common keywords. Gender diversity is mainly studied in the boardroom (e.g. women on the board), and its enforceability is considered a measure used to increase corporate governance (Kent-Baker *et al.*, 2020). In addition to this, keywords associated with gender diversity include theoretical frameworks (e.g. tokenism theory, critical mass theory and agency theory), empirical evidence on emerging markets and industries (e.g. banks) and the main outcomes investigated (e.g. CSR, firm value and risk). In the next section, we explore the main research streams that apply the systematic review method.

5. Systematic literature review results

We relied on VOSviewer software due to the large size of our sample. This latter facilitated an initial screening of potentially correlated papers based on bibliographic coupling. Thus, the software analyzes the relationship between publications based on shared references and creates clusters. The use of VOSviewer was useful for the initial screening of the 532 articles but was not comprehensive enough considering the potential risk of error. To test the robustness of our findings, we also used Bibliometrix software. After applying Bibliometrix visualizations to our data, we observed that the results were consistent with our main findings. Therefore, we manually conducted a systematic literature review by identifying which publications were the most relevant in terms of their quality, the scope of their contribution, their ability to theoretically improve our understanding of gender diversity and their popularity among researchers in terms of their citations or original applications (Manetti *et al.*, 2021). Figure 6 reports the VOSviewer analysis.

5.1 Red cluster: female behavioral traits and firm outcomes and decisions

The red cluster includes studies built on a behavioral economics and psychology framework, which reveal that men and women differ in terms of risk tolerance, confidence,

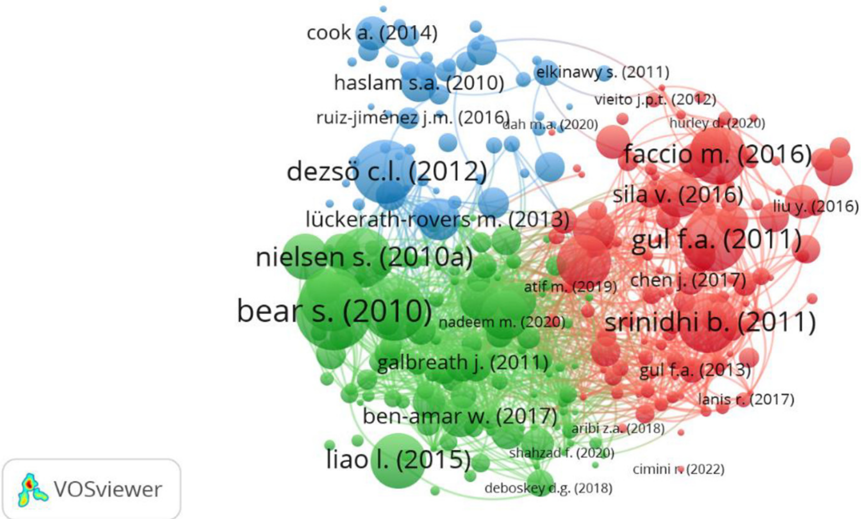


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Figure 6. VOSviewer results

attitudes and experience (e.g. Cook and Glass, 2014). However, the male–female characteristics observed in the general population may not be equally reflected in the upper echelon, where advanced skills and experience are prerequisites (Faccio *et al.*, 2016). Given that, the red cluster investigates the effect of female leadership characteristics on firm outcomes.

Faccio *et al.* (2016), Perryman *et al.* (2016) and Sila *et al.* (2016) consider gender diversity in the context of the risk-taking debate. Faccio *et al.* (2016) is one of the few studies investigating both public and private firms in a European context. Their study shows that firms that are led by female CEOs exhibit lower degrees of leverage and earnings volatility. Furthermore, through time series analysis, the authors find that an increase (decrease) in firm risk-taking is associated with female-to-male (male-to-female) CEO transitions. Perryman (2016) provides similar results by expanding this analysis to include female executives who are members of TMTs, while Ciappei *et al.* (2023) found that female pervasiveness within the company to reduce firm risk-taking.

However, less risky investment policies might deteriorate a firm's competitive position in the market. In line with this, the study of Sila *et al.* (2016), which is one of the most cited articles in this area, finds that companies with relatively strong female representation on the board of directors report total equity risks, systematic risks and idiosyncratic risks that are neither higher nor lower than those of firms with more male directors. Indeed, the authors do not identify risk aversion as a potential explanation for the relationship between female directors and company value. Finally, according to Seebeck and Vetter (2021), having a more diverse board with more female directors is associated with an increase in firm risk disclosure. Nevertheless, the study also highlights that a significant number of women on the board is necessary to influence the decision regarding risk disclosure.

Moreover, several studies have discussed the role of women in top corporate positions alongside the quality of financial reporting and earnings management practices. Because CFOs are primarily responsible for financial reporting systems, early studies investigated systematic differences in the decisions made by male and female CFOs with regard to accounting conservatism (Francis *et al.*, 2015). Studies by Gul *et al.* (2011) and Srinidhi *et al.* (2011) promptly followed, extending this investigation to female directors. Greater board independence facilitates better control of the performance of managers, and gender diversity has been found to improve the discussion of new issues, broadening expertise, enhancing board experience and the quality of decisions and increasing the effectiveness of boards (Gul *et al.*, 2011). Consequently, gender diversity improves communication and information transparency for firm stakeholders. Female directors seem to meet investors' demands for proper governance by improving confidence in financial reporting (Srinidhi *et al.*, 2011). Therefore, investors have more confidence in the financial reports of female directors, and if there is a fraud allegation, investors' negative reactions are minimized because women are considered more conservative and ethical than men (Cumming *et al.*, 2015; Francis *et al.*, 2015). García Lara *et al.* (2017) reveal that independent female directors practice less earnings management than their male counterparts. However, their findings reveal that discrimination in access to the top echelons of firms influences the relationship between women on boards and the quality of accounting.

5.2 Green cluster: female directors and sustainability

The publications in this cluster explore the mechanism by which female directors create value, identifying sustainability as one of the main channels. The presence of women on the board of directors delivers a positive message to the public regarding the ethical behavior of firms (Terjesen *et al.*, 2016). Gender-diverse boards are more independent and effective because such directors contribute diverse resources and experiences to firms' strategic decisions (Nielsen and Huse, 2010; Ramon-Llorens *et al.*, 2020).

In recent years, sustainability has become a major part of strategic decision-making (Galbreath, 2011). Firms need to respond to information demands from various stakeholders beyond those with an economic interest, such as employees, the community and customers. With the aim of satisfying these different expectations, board composition has become a critical aspect of firm sustainability governance. Galbreath (2011) suggests that there are three key areas to consider about sustainability: economic growth, social responsibility and environmental quality.

Although the relationship between female directors and financial performance is still an open debate that has generated mixed results, Post and Byron (2015) offer a meta-analysis of previous studies. These authors find that female directors increase firm value by improving financial performance and monitoring activities in countries with stronger levels of stakeholder protection where gender equality is more advanced. Likewise, Terjesen *et al.* (2016) find that women on boards increase firm performance. Independent female directors, in particular, are also associated with higher performance levels on gender-diverse boards.

Social responsibility is the second element of sustainability s (Byron and Post, 2016; Arayssi *et al.*, 2020; Erin *et al.*, 2021). Female directors have been found to improve social performance because they positively influence CSR and firm reputation by giving more attention to different stakeholders (Bear *et al.*, 2010; Byron and Post, 2016). Female directors are more community oriented and can, therefore, contribute to CSR enhancement through their participative leadership style, increasing awareness and engagement through social activities. Consequently, such a firm's reputation among different stakeholders increases (Bear *et al.*, 2010). McGuinness *et al.* (2017) and Ramon-Llorens *et al.* (2020) support findings that argue that female directors increase CSR awareness because they devote more attention to qualitative outcomes and are more socially sensitive than their male counterparts. Considering stakeholders' increasing demand for ESG information, Manita *et al.* (2018) find that the presence of female directors increases the frequency with which this information is disclosed.

Finally, according to Galbreath's (2011) approach, the final aspect of sustainability is environmental quality, which is affected by a firm's behavior. Environmental protection is, therefore, a firm responsibility. Female directors, by virtue of being more community-oriented, voluntarily provide more environmental information and increase their firms' transparency (Liao *et al.*, 2015). Furthermore, female directors have been found to discuss environmental issues in the boardroom more frequently than male directors (Ben-Amar *et al.*, 2017). Consistently, Liao *et al.* (2015) and Ben-Amar *et al.* (2017), and Hollindale *et al.* (2019) explore greenhouse gas emission disclosure. Their results concur in revealing that female directors increase voluntary disclosure and improve the transparency of environmental information. Finally, Atif *et al.* (2021) find that independent female directors increase renewable energy consumption if the critical mass of at least two female directors is achieved. The authors find that this relationship positively influences firm performance.

5.3 Blue cluster: glass ceiling and glass cliff phenomena for women at the top of the hierarchy

The blue cluster aggregates articles investigating how women gain access to the top of a firm hierarchy. Focusing on the "glass ceiling" and "glass cliff" phenomena, these papers are concerned with understanding women's contributions to firm performance and whether a gender pay gap exists when women enter the upper echelon of a firm. From a summary of the results, it can be observed that a strong influence of women in the upper echelons on firm performance tends to be found only when such women are numerous enough to have broken through the "glass ceiling" and not be treated as tokens (Kanter, 2008; Torchia *et al.*, 2011).

Previous literature describes the "glass ceiling" as a result of discrimination against women, tokenism, a lack of quality in mentoring and the expectation that women are not qualified managers (Haslam, 2010; Elsaid and Ursel, 2018). However, although these barriers exist, career advancement is accessible under certain conditions. Women who break the "glass ceiling" barrier are concerned with external stakeholders and are characterized by empathy, interpersonal skills and a stronger collaborative style. These soft skills allow women to be better performers in modern business contexts (Cook and Glass, 2014; Mulcahy and Linehan, 2014).

Furthermore, scholarly literature has found that women succeed when firms are experiencing financial distress or risk failure. As women are exposed to more criticism and judgments than men when they break the "glass ceiling" barrier, they may be more willing to accept leadership roles in firms in distress because they have fewer opportunities than their male counterparts (Elsaid and Ursel, 2018). This phenomenon is referred to as the "glass cliff," which arises when women are allowed to achieve leadership roles only when they are exposed to precarious and risky situations. This phenomenon can also be considered a warning to investors because whenever a woman achieves a power role, it may be considered reflective of a state of crisis in a company (Haslam, 2010; Mulcahy and Linehan, 2014).

The "glass cliff" phenomenon has been explored in the context of firm performance as an indicator of a firm's precarious situation. Accordingly, Haslam (2010) provides evidence that firms with new female directors experience a decline in stock market performance from the previous period when compared to firms that appoint a male director. However, the author finds that in the months following such an appointment, this male-female difference disappears. In contrast, Mulcahy and Linehan's (2014) study supports "glass cliff" predictions and finds that female directors are more likely to be represented in precarious firms, which they define as firms that suffer severe losses.

According to "glass cliff" predictions, women are expected to ascend to the position of CEO when firms exhibit poor performance. Cook and Glass (2014) find little evidence to support these "glass cliff" predictions with regard to CEO positions. The authors report that few women are promoted to the office of CEO in crisis firms in the USA context and that performance under the previous CEO does not predict the likelihood of the next CEO appointed being a woman. However, the authors identify a positive relationship between female directors and the likelihood of appointing a female CEO. Contrasting results are found by Elsaid and Ursel (2018), who observe that female CEOs are appointed in failing firms. These studies show that women can break the glass ceiling and that gender diversity in different leadership roles allows women to mitigate these barriers. Consequently, lowering glass ceiling barriers allows women to avoid token treatment, enabling them to move away from stereotypical behaviors and social prejudices. This positively influences firm performance. Dezsö and Ross (2012) found that including a single woman on a TMT increases profit by $40m when compared to firms with no women on their TMTs.

The remaining articles in this cluster also investigate the conditions under which women break through the glass ceiling while considering other elements that influence firm performance. Specifically, these studies explain the relationship between women and performance while considering gender pay differences at the top of the firm hierarchy. Male managers are given larger bonuses than women to increase firm performance (Kulich *et al.*, 2011). Kulich *et al.* (2011) also show that the compensation of male executives is more responsive to performance than that of women executives, creating a gender pay gap of 23%

(Geiler and Renneboog, 2015). Once these glass ceiling barriers are broken, the only role in which women do not experience a pay gap is that of the CEO (Geiler and Renneboog, 2015).

The studies in this cluster demonstrate the difficulties that women face both in breaking barriers and dealing with issues once these barriers are broken, such as being placed in precarious situations or experiencing unequal pay (with the exception of those in CEO roles). According to some authors, these results are due to character differences (Wang *et al.*, 2019). According to others, they are due to discrimination or a company's propensity toward gender equality (García Lara *et al.*, 2017).

6. Discussion

Our findings can be clustered in terms of their specific concerns and their concentration within the broader body of knowledge in the field. The main topics identified in each prevailing stream are summarized in Table 2.

However, economic results and firm outcomes depend on how management decisions are made, the decision-makers involved and the diversity of the group. The examined literature uses a limited number of measures to capture gender diversity as the percentage of women directors in a firm, the absolute number of female directors or dummy variables (Damak, 2018). Studies on gender diversity in the accounting and finance field need to consider the interaction and cooperation of women, especially in the upper echelons.

Clacher *et al.* (2021) find that social connections between members of the same gender allow for more private information to be accessed and shared. Moreover, Corwin *et al.* (2022) reveal that companies led by female CEOs appoint fewer women to TMTs. However, this relationship is weaker when female CEOs have more power. These results suggest that gender diversity in top roles not only depends on individual roles but is also influenced by women's participation in the upper echelons of a firm. Therefore, future research could consider the influence women have over business decisions in addition to the role they play. Other unexplored issues are the appointment of male and female members to the upper echelons of a firm, the resource of power and the ways in which men and women use this power to influence business decisions.

The literature also suggests that the recruitment of women into the board of directors acts as a motivation for female managers at lower levels of the hierarchy because female

Red cluster: *Female behavioral traits and firm outcomes and decisions*		Green cluster: *Female directors and sustainability*		Blue cluster: *Glass ceiling and glass cliff phenomena for women at the top of the hierarchy*	
Topic	No. of studies	Topic	No. of studies	Topic	No. of studies
Firm risk	26	Critical mass/Quota	22	Cross-role study	23
Accounting fraud	9	Disclosure	15	CEOs	22
Earnings management	23	CSR	16	TMTs	17
Performance	12	Social performance	17	Directors	18
Audit	9	Institutions	10	Male-female comparison	16
Compensation	9	Social characteristics (e.g. religiosity, family)	7	Female-female relationship	15
Investments/capital allocation	9	Environment	11	Gender pay gap	4

Source: Authors' own creation

Table 2. Results of the cluster analysis

employees are encouraged to excel when they believe that they may be able to reach upper-level positions (Dezsö and Ross, 2012). Given that the existing knowledge on this topic is scarce, exploring the responsibility of women and their relations at the lower levels of TMTs or within a company would be fruitful areas for future research, as such efforts would enable the exploration of gender diversity at the top of firms. However, these measures lack in-depth knowledge on whether there is parity in senior roles, as they instead numerically assess female participation. Such research is crucial to understanding the various benefits and drawbacks of gender diversity (Ciappei *et al.*, 2023). Future research could provide novel proxies to capture gender diversity.

Furthermore, existing studies draw on agency and resource-based theories to support predictions about women in the upper echelons by revealing that female managers are more attentive to actors outside the company. Empirical evidence from our sample reveals that interdisciplinary studies (e.g. Accounting and Management) are successfully uncovering new critical aspects of gender diversity and the importance of evaluating the role of institutional theory in the progress of gender diversity research. Firms are social entities influenced by their institutional environments (Meyer and Rowan, 1977). The institutional environment of a country is represented by its social and cultural characteristics. Consistently, the upper-echelon management of a firm and its gender composition are influenced by the firm's external institutional environment. Therefore, gender diversity in these positions could also be influenced by the institutional contexts in which firms operate.

Friedman (2020) shows that in countries with lower gender parity, funds invest less in companies with more women on their boards, which suggests how gender bias influences portfolio choices. However, other relevant stakeholders, such as managers, employees, the media, lenders, consumers and communities, remain largely unexplored, even though their strategic choices may be influenced by gender equality in top management roles. Thus, future research should consider how women's representation influences the choices of social groups and how the collaboration of different disciplines and theories facilitates a deeper understanding of the topic of gender equality.

Furthermore, the academic literature continues to investigate developed market contexts, such as the USA and the EU (Friedman, 2020; Clacher *et al.*, 2021). Another stream of research has shown that developing markets with different regulations, alternate stock market settings and varied investment behaviors could offer a wide range of future options for future scholars. Given the different degrees of women's participation in top positions across different countries, cross-national evidence would be useful for policymakers in regard to determining whether gender diversity should be mandatory. The findings could indicate which types of gender diversity should be regulated in leadership positions and which problems would benefit from less regulated market structures. For low-income countries that are increasing the number of women at the top of their firm hierarchies, it might be critical to understand the potential for socially responsible investments to have an impact on business and household culture.

Additionally, extant literature shows that women on boards improve sustainability reporting quality, which is strongly evaluated by stakeholders when making investment decisions (Ramon-Llorens *et al.*, 2020; Erin *et al.*, 2021). The findings by Arayssi *et al.* (2020) show that female directors play a significant role in improving social responsibility and a firm's positive image.

Furthermore, previous literature extensively uses econometric analysis data to investigate female participation at the top of firm hierarchies. Although the use of annual quantitative data continues to be prevalent in research, allowing for the analysis of large samples and time periods, studies are beginning to include other methodologies. For example, De Amicis *et al.* (2021) investigate the positive or vague tones of executive women during earnings conference calls. Nadeem (2020) also uses content analysis to measure the intellectual capital categories of Chinese companies. However, this literature assumes that women's behaviors and traits are the same and do not vary across different women. Therefore, we recommend combining qualitative and quantitative results and methods to aid the clarification of specific female traits or positions that actually influence company performance. Different methodologies and approaches, such as interviews or focus groups, might be adopted to shed light on the internal mechanisms of the empowerment between women.

7. Conclusions

The aim of this study is to holistically explore the literature on gender diversity in top corporate roles. To this end, a systematic literature review was conducted supported by a bibliometric approach to collect publications, analyze the main theoretical frameworks and categorize the main research streams according to their research questions. The analysis of 532 articles published between 2010 and 2022 reveals a growing interest in this topic from business areas of research. Specifically, we identify three main streams of research.

In the first cluster, academics explore the distinctive features of women in powerful roles and their influence on firm outcomes. Although these papers are developed according to different theoretical frameworks, it can be inferred that women, through alternate distinctive channels, increase audit quality (Bose *et al.*, 2022) and improve communication and information transparency (Gul *et al.*, 2011). Therefore, female directors seem to meet investors' demands for proper governance with regard to financial reporting (Srinidhi *et al.*, 2011).

Second, in the green cluster, researchers mostly focus on the relationship between female directors and sustainability. Overall, these studies concur that female managers increase the sustainability of companies in terms of social performance, CSR and environmental disclosure (Atif *et al.*, 2021; Erin *et al.*, 2021).

Third, in the blue cluster, the two previous research streams are combined by extending the investigation to the entire firm's upper echelons, establishing the conditions under which women assume leadership roles. Indeed, this strand of research seems to be expanding due to the limited number of papers it comprises in comparison with the other two clusters and the recent publication of the included articles. The included publications investigate roles other than those on boards of directors and explore female leaders hired in firms under precarious situations, assessing the conditions they are subjected to when pursuing these leadership roles. Furthermore, since the blue cluster discusses the phenomena of the "glass ceiling" and the "glass cliff," considering the COVID-19 outbreak would provide an interesting analysis scenario to further extend this strand of research.

Although the academic focus is predominantly on European Union, the USA and China, our results show that the exploration of gender diversity is also shifting to other countries in Africa and Asia. In addition, our results contribute to the literature on the topic by providing an overview of the main theories and proxies of gender diversity used by quantitative studies and by summarizing the main relationships investigated. Our findings reveal that the existing literature lacks consideration of other angles of gender diversity. The power to influence firm decisions and outcomes varies according to an individual's role and responsibility and the number of members in their social group, as suggested by critical mass theory (Kanter, 2008; Ciappei *et al.*, 2023). Our analysis reports that the literature on gender diversity lacks consideration of empowerment mechanisms among women managers and between women managers and female employees. This perspective might explain why the previous studies shows conflicting results. We call for future research to further investigate these factors to help provide an understanding of the current roles of women in companies.

Furthermore, this study uncovers relevant incentives for collaboration between researchers from different disciplines. Considering the critical development of the topic in recent years, this study suggests adopting novel proxies and qualitative methodologies to uncover the dynamics and perceptions of women when they hold top corporate roles. Indeed, the use of qualitative methodologies can highlight the difficulties perceived by women in attaining positions of power or can emphasize the difficulties perceived by women. In addition, the utilization of multiple theoretical frameworks also allows for a broader understanding of the phenomenon in terms of sustainability and the effect of regulations.

According to the primary mapping performed using the bibliometric methodology, we manually developed a systematic literature review to conduct a comprehensive analysis of the topic, exploring articles that most clearly defined the strands of research on gender diversity and recommending future research directions. Our findings inform that the literature has predominantly analyzed the role of women in board and executive positions, missing a deep understanding of other corporate positions. However, although our analysis covered publications up to 2022, only a few studies consider COVID-19 in their reviews (Almer *et al.*, 2022). This result leaves an open call for future research on whether women in senior roles have been penalized or whether, consistent with the "glass cliff" perspective, they have had more opportunities during this crisis period. Considering the COVID-19 pandemic also allowed us to analyze women's situations before and after this period, enabling us to identify the factors that have driven potential changes.

7.1 Contributions

This study makes three contributions to the knowledge of gender diversity. First, we add to the literature by organizing the main studies and providing a systematic framework which may support qualitative and quantitative studies on this topic. Specifically, our research draws attention to all top management roles previously neglected by reviews on this topic. Moreover, the methodologies and tools adopted in this study set a useful precedent by drawing a road map for future researchers to follow.

Second, supported by the use of VOSviewer software, we extend the existing knowledge by identifying and three main streams of research. These strands have been deeply analyzed to highlight existing gaps in the literature and define further research directions.

Third, our study might be useful for policymakers and stakeholders considering its timeliness, which is emphasized by the increase in gender diversity regulations that has occurred in recent years. More than two decades after the first law regulating gender diversity in corporate boards was introduced, concerns over its effectiveness and the need for legal mechanisms are being revisited. The gender pay gap regulation introduced in the UK in 2017 and European Union member states' increasing focus on transparency and disclosure about women's participation and their role in companies (Ciappei *et al.*, 2023) represent confirmation of the growing public concern over the behavior of international companies. In this sense, the results of the study enable policymakers to make informed regulatory decisions and industry practitioners and civil society actors to understand key corporate outcomes (e.g. performance, financial and nonfinancial disclosure and sustainability) and the perceived difficulties of increasing women in top management.

Considering the ongoing international debate over the regulation of women's participation in top management, our results shed light on their willingness to enhance firm value. Hence, women are found to be more likely to engage in sustainable, social and environmental activities (Ramon-Llorens *et al.*, 2020; Erin *et al.*, 2021). For example, Qiu *et al.* (2022) found that female participation on the board of directors is positively associated with social trust, an important channel to increase ESG disclosures. In addition, once they reach critical mass, women are able to contribute to the firm decision-making process by bringing different angles and skills. In fact, it has been found that women increase the quality of financial disclosures and the level of monitoring, including improving the efficiency of the board of directors (Gul *et al.*, 2011; Srinidhi *et al.*, 2011). Therefore, significant social implications emerge from our results because gender diversity could improve social engagement and could be used to safeguard corporate performance and pursue positive social, environmental and sustainability impacts.

7.2 Main limitations

We recognize that our research strategy is not without limitations. First, we investigated articles published after the introduction of the first gender quota law between 2010 and 2022, excluding previous publications. However, the topic of gender diversity has been extensively studied in sociological research strands in recent decades. We narrowed the sample of analysis from the first law on women on the board of directors. This law determined an important change in the world's perception of women's role in business (Terjesen *et al.*, 2016). This allowed us to investigate the phenomenon with particular reference to business studies.

Second, our manual systematic literature review was supported by the bibliometric technique of identifying the prevailing streams of research. Indeed, the use of the bibliographic coupling method can be misleading since VOSviewer connects articles based on citation matches. However, we used this software as an initial screening aid, given the large number of articles in our sample. To limit this caveat, we controlled for the relative effect of using specific software by using alternative software (e.g. Bibliometrix). The results remain robust with the application of both software programs. Furthermore, we conducted a manual search that was validated by the research team and allowed the clusters to be investigated as deeply as possible.

In light of these challenges, future research has the potential to enhance existing literature on gender diversity studies by adopting a multidisciplinary approach. This involves investigating advancements in other social disciplines and examining their application within the realm of business research strands.

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Appendix

Journal Subject field	Journal title	No. of articles
Ethics–CSR–Management	*Journal of Business Ethics*	55
	British Journal of Management	17
	Journal of Management and Governance	16
	Journal of Business Research	16
	Management Decision	11
	Cogent Business and Management	10
	Review of Managerial Science	8
	Academy of Management Journal	7
	Gender, Work and Organization	7
	European Management Journal	6
	Journal of Management	6
	Management Research Review	6
	International Journal of Business Governance and Ethics	5
	European Management Review	4
	Business and Society	4
	Business Ethics	4
	Australian Journal of Management	4
	Journal of Intellectual Capital	4
	Business Horizons	4
	BRQ Business Research Quarterly	3
	Gender in Management: An International Journal	3
	Journal of Management and Organization	2
	Eurasian Business Review	2
	Social Responsibility Journal	2
	Global Business Review	2
	International Journal of Gender and Entrepreneurship	2
	Journal of Family Business Management	2
	Problems and Perspectives in Management	2
	Feminist Economics	1
	FIIB Business Review	1
	Canadian Journal of Administrative Sciences	1
	Journal for Global Business Advancement	1
	Scandinavian Journal of Management	1
	Africa Journal of Management	1
	Journal of Management Studies	1
	Journal of Global Responsibility	1
	Emerald Emerging Markets Case Studies	+1
		224
Accounting	*Accounting and Finance*	13
	Managerial Auditing Journal	9
	Meditari Accountancy Research	7
	Pacific Accounting Review	7
	Journal of Contemporary Accounting and Economics	6
	International Journal of Disclosure and Governance	6
	Australasian Accounting, Business and Finance Journal	6
	Accounting Research Journal	6

(*continued*)

Table A1. Number of papers by academic journal and related subject field

Journal Subject field	Journal title	No. of articles
	Journal of Applied Accounting Research	5
	International Journal of Accounting and Information Management	5
	British Accounting Review	4
	Contemporary Accounting Research	4
	Asia-Pacific Journal of Accounting and Economics	4
	Accounting Horizons	3
	Sustainability Accounting, Management and Policy Journal	3
	Journal of Business Finance and Accounting	3
	Review of Accounting Studies	3
	Advances in Accounting	3
	Journal of Accounting, Auditing and Finance	3
	China Journal of Accounting Studies	3
	Journal of Accounting and Economics	3
	Asian Review of Accounting	2
	Journal of Accounting and Economics	2
	Journal of Accounting and Public Policy	2
	Journal of Accounting in Emerging Economies	2
	China Journal of Accounting Research	2
	Accounting Forum	2
	International Journal of Accounting	2
	Accounting Review	2
	Journal of International Financial Management and Accounting	1
	Revista de Contabilidad-Spanish Accounting Review	1
	Auditing	1
	Accounting and the Public Interest	1
	Accounting, Auditing and Accountability Journal	1
	Journal of the American Taxation Association	1
	Australian Accounting Review	1
	Journal of International Accounting, Auditing and Taxation	1
	Journal of Islamic Accounting and Business Research	1
	Journal of Accounting Research	1
	Critical Perspectives on Accounting	1
	Journal of International Accounting Research	1
	European Accounting Review	+1
		132
Finance	*Journal of Corporate Finance*	32
	Corporate Governance (Bingley)	25
	Corporate Governance: An International Review	17
	Managerial Finance	16
	International Journal of Finance and Economics	6
	Research in International Business and Finance	5
	Journal of Financial Reporting and Accounting	5
	Journal of Sustainable Finance and Investment	4
	Review of Quantitative Finance and Accounting	3
	Journal of Financial and Quantitative Analysis	3
	Review of Financial Studies	3

(*continued*)

Table A1.

Journal Subject field	Journal title	No. of articles
	Journal of Economics and Business	2
	Journal of Financial Research	2
	European Financial Management	2
	International Journal of Managerial Finance	2
	Journal of Financial Research	2
	Quarterly Journal of Finance	2
	International Journal of Islamic and Middle Eastern Finance and Management	1
	Financial Management	1
	Review of Behavioral Finance	1
	Journal of Financial Economics	1
	Finance	+1
		134
Strategy	*Strategic Management Journal*	14
	Long Range Planning	4
	Management Review Quarterly	1
	Strategic Change	1
	Strategic Organization	1
	Journal of Strategy and Management	+1
		22
Economics	*Managerial and Decision Economics*	6
	Economics and Business Letters	3
	Economics and Sociology	2
	Economic Inquiry	1
	Global Economic Review	1
	Economics of Innovation and New Technology	1
	European Journal of Law and Economics	1
	Journal of Economic Behavior and Organization	1
	Journal of Economic Issues	1
	Journal of Business Economics	1
	Business Economics	1
	Labour Economics	+1
		20
	Total	*532*

Source: Authors' own creation

Table A1.

Table A2.
Papers by authors and their affiliation

Authors	Organization	No. of articles	No. of citations
Ahmed, Ammad	Zayed University	6	65
Huse, Morten	BI Norwegian Business School	5	1,141
Nekhili, Mehdi	Le Mans Université	5	242
Terjesen, Siri	Florida Atlantic University	5	242
Post, Corinne	Villanova University	4	1,319
Gul, Fernand A.	Deakin University	4	1,056
Srinidhi, Bin	University of Texas at Arlington	4	978
Liu, Yu	University of Texas Rio Grande Valley	4	434
Hasan, Iftekhar	Fordham University	4	251
Wu, Qiang	Hong Kong Polytechnic University	4	251
Vähämaa, Sami	University of Vaasa	4	242
Gimeno, Ricardo	Banco de España	4	200
Francoeur, Claude	HEC Montreal	4	165
Vähämaa, Emilia	Hanken School of Economics	4	136
Nadeem, Muhammad	University of Otago	4	62
Usman, Muhammad	Ghulam Ishaq Khan	4	59
Gabaldon, Patricia	IE Business School	4	35
Atif, Muhammad	Macquarie University	4	33
Jiraporn, Pornsit	Pennsylvania State University	4	5

Source: Authors' own creation

Authors	Title	Year	Source title	Cites
Bear *et al.*	The Impact of Board Diversity and Gender Composition on Corporate Social Responsibility and Firm Reputation	2010	*Journal of Business Ethics*	932
Post and Byron	Women on boards and firm financial performance: A meta-analysis	2015	*Academy of Management Journal*	685
Gul *et al.*	Does board gender diversity improve the informativeness of stock prices?	2011	*Journal of Accounting and Economics*	657
Torchia *et al.*	Women Directors on Corporate Boards: From Tokenism to Critical Mass	2011	*Journal of Business Ethics*	654
Faccio *et al.*	CEO gender, corporate risk-taking, and the efficiency of capital allocation	2016	*Journal of Corporate Finance*	639
Dezsö and Ross	Does female representation in top management improve firm performance? A panel data investigation	2012	*Strategic Management Journal*	629
Liao *et al.*	Gender diversity, board independence, environmental committee and greenhouse gas disclosure	2015	*British Accounting Review*	572
Srinidhi *et al.*	Female directors and earnings quality	2011	*Contemporary Accounting Research*	566
Nielsen and Huse	The contribution of women on boards of directors: Going beyond the surface	2010	*Corporate Governance: An International Review*	545
Liu *et al.*	Do women directors improve firm performance in China?	2014	*Journal of Corporate Finance*	503

Source: Authors' own creation

Table A3. Top 10 papers by total number of citations

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