

AI-Empowered Gender Diversity in Executive Leadership: Quantitative Insights into Barriers, Innovation, and Organizational Transformation

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Abstract

Corporations find themselves at a pivotal juncture amid the evolving landscape of diversity and societal expectations. The spotlight on gender diversity is not merely a matter of optics but a strategic imperative. As organizations navigate this terrain, the presence of women in executive leadership roles is gaining momentum. This synthesis of current research dissects the multifaceted facets of gender diversity within corporate boardrooms. It reveals that even as the corporate world evolves, male-dominated boardrooms and profoundly ingrained gender biases persist, casting shadows on women's ascent to executive summits. Yet, a ray of hope shines through the gloom. The research shows no significant disparity exists in the long-term financial performance of companies led by men versus women. Furthermore, an intriguing revelation emerges – more excellent female representation at the helm can catalyze innovation. In essence, the barriers women face in reaching the upper echelons of corporate leadership are not rooted in a shortage of skills or competencies. Instead, they are rooted in systemic biases and discriminatory practices. This article serves as a clarion call for equilibrium in the composition of corporate boards, a blend of gender diversity driven by merit. It is not merely about meeting quotas but about capitalizing on the wealth of perspectives and talents that both genders bring. In doing so, organizations can unlock a reservoir of potential and steer towards a future where diversity isn't just a buzzword but a driving force behind success and innovation.

Keywords: Gender Diversity; Executive Leadership; Artificial Intelligence; Organizational Transformation; Innovation

1. Introduction

Gender diversity in corporate leadership has made significant progress; however, persistent stereotypes, biases, and negative perceptions toward female directors continue to hinder true equality. This article delves into the current problems facing women in corporate leadership, identifies the barriers they encounter, presents the rationale for this research, and explores novel perspectives. *Challenges and Barriers*: Joecks et al. (2019) reveal that women directors are often perceived as more focused on social issues and risk management than financial performance and strategic decision-making. Male respondents and those in male-dominated industries tend to hold traditional views of gender roles, perpetuating these stereotypes. *Perceptions of Gender Equality*: Nielsen and Huse (2010) found that women directors' decision-making and strategic involvement are influenced by their perception of gender equality within the company. This perception significantly impacts their willingness to contribute to these areas. *Media Portrayals*: Celia de Anca et al. (2014) highlight the impact of media coverage, which tends to focus on personal characteristics rather than professional qualifications. Adverse media exposure reinforces gender stereotypes and affects women directors' career progression. *Investor Bias*: Peggy et al. (2007) reveal that investors may react negatively to female CEO appointments, associating them with lower returns and increased shareholder activism. Gender biases play a role in shaping these reactions. *Intragroup Dynamics*: Heather et al. (2013) explore the effects of a female CEO announcement on other female executives within organizations. While it can lead to increased motivation, it may also foster competition and scrutiny, depending on the organizational context.

The persisting gender biases and stereotypes in corporate leadership hinder progress toward gender equality. These issues have real-world implications for women's career advancement, shareholder reactions, and intragroup dynamics. Understanding and addressing these challenges is crucial for achieving diversity and inclusion in the corporate world. This paper presents significant contributions to the literature on gender diversity and women's roles in corporate leadership:

Navigating Generational Differences: Our discussion of leadership prototypes and the generation gap emphasizes the importance of considering cultural preferences and generational distinctions when promoting gender diversity in leadership. This contribution underscores the need for tailored diversity initiatives that account for these variations. *Enhancing Organizational Outcomes*: We explore the positive impact of female board representation, emphasizing how it can promote corporate philanthropy, reduce gender wage gaps, and foster a more diverse and inclusive organizational culture. This insight encourages policymakers, organizations, and individuals to recognize the broader benefits of gender diversity in corporate boards.

Perceptions of Gender Equality: Nielsen and Huse (2010) emphasize the importance of women directors' perception of gender equality within the company as a critical factor influencing their involvement in decision-making. This highlights the need for companies to foster an inclusive culture. *Media Impact*: Celia de Anca et al. (2014) shed light on the damaging effects of media coverage on women directors, emphasizing the importance of shifting the narrative from personal characteristics to professional accomplishments. *Investor Bias*: Peggy et al. (2007) reveal the existence of investor bias against female CEOs, raising questions about the need for broader

cultural and systemic changes in corporate governance. *Intragroup Dynamics*: Heather et al. (2013) provide insights into the complex dynamics within organizations following a female CEO appointment, underscoring the importance of organizational context in shaping reactions.

This paper contributes to the growing body of knowledge on gender diversity in corporate management by providing a holistic understanding of the challenges and opportunities related to women's roles in corporate boards (Kakabadse et al., 2015; Khushk et al., 2023). It offers actionable strategies for fostering greater inclusion and diversity in industries that rely on innovation and creative problem-solving for sustainable growth and success (Oliveira-Duarte et al., 2021). Moreover, this review paper advances the literature in two respective aspects:

Optimizing Decision-Making Dynamics: We delve into the intricate relationship between diversity and decision-making processes, seeking to balance promoting diversity and ensuring efficient decision-making (Farshi, 2023; Fernandez & Thams, 2019). This contribution offers valuable insights into managing diverse teams effectively. *Unleashing the Potential of Female Directors*: By examining the influence of female directors on innovation-driven strategies and overall firm performance, we identify specific areas where their unique decision-making styles and perspectives can positively impact organizations (Lin et al., 2023; Francoeur et al., 2008). We also address the factors contributing to their under-representation in top management positions.

Table 1. Origination and Expression of Stereotypes

Stereotype Origin	Demonstration
External Perceptions	Women are perceived as less strategic decision-makers.
	Women are perceived as more focused on social operations.
	Firms react negatively to the appointments of female board members.
	Women are believed not to possess the necessary qualities to properly run a firm.
	Female executives are thought to deteriorate the competitive edge of firms.
Financial Performance	Women-led firms are perceived to perform worse than those led by men.
	Women are believed to be less skilled than men at running firms.
	Women are considered risk-averse, leading to a worse long-term business model.
	Benefits attributed to female directors are believed to also be found in male directors (implying no unique value from women).
	Women are perceived to prioritize non-financial goals, potentially compromising the firm's financial objectives.

Table 1 - Origination and Expression of Stereotypes, details the common negative perceptions and ingrained stereotypes that surround women in corporate leadership positions, particularly

concerning their decision-making prowess and overall impact on financial performance. These pervasive beliefs, despite often lacking empirical support, significantly contribute to the enduring barriers women face in ascending to and thriving in top-tier organizational roles. Specifically, the table delineates how external perceptions often cast women as less strategic decision-makers, suggesting they are more inclined towards social operations rather than core business objectives. There is a deeply rooted assumption that women do not inherently possess the requisite qualities to effectively manage a firm, leading to the belief that female executives might even erode a company's competitive edge. Consequently, firms appointing women to their boards can sometimes encounter negative market reactions, underscoring a prevailing market bias. Furthermore, a substantial segment of these stereotypes directly implicates financial performance, with the perception that women-led firms consistently underperform their male-led counterparts. This is often attributed to the belief that women are less skilled at running businesses and are inherently risk-averse, which is thought to result in less optimal long-term business models. Compounding this, any benefits potentially offered by female directors are frequently dismissed as being equally attainable by male directors, thereby negating any unique value women might bring. Lastly, women are commonly perceived as prioritizing non-financial goals, which is often framed as a potential compromise to the firm's paramount financial objectives. Collectively, these stereotypes underscore the profound, often unsubstantiated, biases influencing the perception of women's leadership styles, strategic acumen, and financial contributions, posing significant challenges that require active confrontation in the pursuit of genuine gender diversity in corporate management.

This study makes three primary contributions. First, it introduces a novel AI-based analytical framework to systematically evaluate the strategic influence of gender diversity in executive leadership. Second, it integrates established theories to build a conceptual model explaining how gender representation drives innovation and organizational transformation. Third, the study contributes empirical evidence on how AI-enhanced measures of gender-driven innovation correlate with both financial and non-financial performance outcomes. Accordingly, this paper addresses the following research questions:

RQ1: How does gender diversity in executive leadership influence innovation and strategic transformation through AI-detected decision dynamics?

RQ2: What theoretical mechanisms explain the relationship between female representation and firm performance in the age of digital transformation?

RQ3: How can AI-based models improve the accuracy and transparency of gender diversity impact assessments compared to traditional approaches?

2. Key Factors Correlated with Female Representation

(1) Resistance to Change and the Glass Cliff in the Digital Era

While earlier studies (Ryan & Haslam, 2005) identified the “glass cliff” as a precursor to female board appointments in times of corporate distress, recent research demonstrates that this phenomenon has intensified in response to digital disruption and ESG pressures (Adams &

Kirchmaier, 2022; García-Sánchez et al., 2023). Firms often appoint women during periods of strategic uncertainty to signal compliance or transformation, yet these roles come with heightened risks and limited institutional support. Aleksandra et al. (2021) argue that board resistance is no longer solely cultural—it is also technologically embedded, as AI-based board selection algorithms trained on historical male-dominated data inadvertently perpetuate exclusion.

(2) Leadership Prototypes and Generational Shifts

Gendered leadership expectations continue to influence perceptions of board effectiveness. Lori et al. (2009) found gendered biases in leadership traits, but recent evidence suggests a generational shift in leadership expectations. Millennials and Gen Z stakeholders increasingly favor collaborative, inclusive leadership styles traditionally associated with female directors (Zhu et al., 2024; Deloitte Global Board Diversity Report, 2023). However, this shift is uneven: while digital-native firms demonstrate greater openness to female leadership, legacy corporations retain rigid, male-centric prototypes (Ting & Zhang, 2023). This indicates that generational change is a moderating factor rather than a direct catalyst of board diversification.

(3) Gendered Occupational Roles and Structural Inequity

Although early literature highlighted occupational segregation (Jacobs, 1992), contemporary studies reveal how digital transformation reshapes these roles. AI-augmented performance assessment tools have been shown to reinforce hierarchical biases by overvaluing financial outcomes associated with traditionally male roles and undervaluing stakeholder engagement metrics where women often excel (Huang et al., 2022). Doering & Thébaud's (2017) findings are supported by newer studies demonstrating that structural bias and compensation disparities persist despite policy reforms (Fernández-Temprano & Tejerina-Gaite, 2020), indicating the need for redefining corporate governance metrics beyond financial control to capture strategic and innovation-focused contributions by women.

(4) Perceptions of Appointed Leaders and Cultural Legitimacy

Perception-based barriers remain one of the most significant determinants of female representation. While Burton (2015) noted that female leaders are evaluated through stereotypical heuristics, recent AI-enabled sentiment analysis of media narratives shows systematic undermining of women's credibility in comparison to male counterparts (Lee & Chang, 2023). Bilimoria's earlier insights are supported by empirical evidence that firms with greater stakeholder engagement expectations tend to value female leadership more positively (Houston et al., 2022). This shift from skepticism to legitimacy is particularly evident in ESG-driven firms, where female board members are strategically positioned as signals of ethical governance and innovation orientation (Zhang et al., 2024).

(5) Synthesis Insight

Taken together, these findings confirm that gender diversity on boards is not determined by a single variable but by the interdependence of institutional governance models, technological systems, cultural leadership paradigms, and emerging societal expectations. The literature from 2020–2025 highlights that firms embracing digital transformation and ESG accountability tend to

integrate female directors as strategic assets, while traditional sectors perpetuate tokenism and glass cliff appointments. Achieving meaningful gender parity thus requires reconfiguring selection mechanisms, board evaluation criteria, and leadership models to reflect innovation, stakeholder engagement, and long-term resilience—key dimensions where female leaders are empirically shown to create value.

Table 2. Synthesizing Research on Gender, Leadership, and Organizational Outcomes

Name/ Reference	Summary and Specialty	Dataset
Aleksandra et al. (2017)	<p>Some corporations maintain traditional board structures through their director selection process, possibly impacting the representation of women on boards.</p> <p>Boards with diverse male members may have fewer female directors, but it's unclear if this is due to discrimination or a desire to retain critical competencies.</p> <p>The paper suggests that gender diversity on boards should be complemented by policies ensuring transparency in board changes to avoid sidelining other diversity dimensions.</p>	Data from publicly listed Nordic corporations over 8 years are analyzed.
Ryan & Haslam (2005)	<p>Women face a "glass ceiling" while men benefit from a "glass escalator."</p> <p>Companies appointing women to boards had worse performance in a declining stock market compared to those appointing men.</p> <p>Reveals an additional, less visible challenge for women in the workplace.</p> <p>Discusses implications for evaluating women leaders and suggests future research directions.</p>	Archival study of FTSE 100 companies before and after appointing male or female board members.
Lori et al. (2009)	<p>Female managers tend to prefer participative, team-oriented, and charismatic leadership dimensions more than males.</p> <p>Both genders equally value humane-oriented leadership.</p> <p>Gender egalitarianism and industry type affect the relationship between gender and leadership prototypes.</p> <p>Gender egalitarianism increases females' preference for participative leadership.</p> <p>Prototype differences between genders are more</p>	

	pronounced in the finance and food industries.	
Holden & Raffo (2014)	<p>The study did not find significant differences based on gender conditions, likely due to the methodology used.</p> <p>Generation X members valued competency and honesty more than Generation Y, while Generation Y members admired ambitiousness and determination more.</p> <p>This research is relatively novel, and the study contributes to understanding how generations relate to attitudes toward leadership, potentially shedding light on evolving views of female leadership.</p>	<p>Participants from Generation X (born 1961-1980) and Generation Y (born 1981-2000) rated 10 leadership descriptor words related to Kouzes and Posner's admired leadership characteristics.</p> <p>Participants were divided into three gender conditions: rating a male leader, female leader, or gender-neutral leader.</p>
Aleksandra et al. (2017)	<p>Gendered expectations become deeply ingrained in occupational roles, particularly after managers exercise authority by disciplining borrowers.</p> <p>The study highlights how gendered norms persist in roles and suggests potential factors contributing to gender disparities in the workplace.</p>	Data from a Central American microfinance bank is used to analyze how working with a male or female loan manager initially affects borrowers' compliance with future managers.
Jacobs (1992)	Findings show that the gender pay gap among managers decreased during this time, while the gap in authority remained constant.	Data from three sources are used to analyze earnings and authority differences between male and female managers during this period.
Burton, L. J. (2015)	<p>mines various levels of research to understand this issue: macro (institutionalized gender practices), meso (stereotyping, discrimination, and gendered cultures), and micro (women's expectations, career intentions, and symbolic interactionism).</p> <p>The research highlights the need for increased focus on gender equity in sports leadership and identifies areas for future research and recommendations to address this underrepresentation.</p>	

Table 2 - Synthesizing Research on Gender, Leadership, and Organizational Outcomes, this collection of research highlights the multifaceted influence of gender on leadership roles, board representation, and organizational dynamics. The studies collectively reveal persistent challenges

and evolving perceptions related to gender in the workplace.

Several papers examine gender representation and its implications on corporate boards. Aleksandra et al. (2017) point out that traditional board structures and the director selection process may hinder female representation, even suggesting that diverse male boards might have fewer women. Ryan & Haslam (2005) introduce the "glass ceiling" and "glass escalator" phenomena, noting that companies appointing women to boards might see worse performance in declining markets, adding another layer to the challenges women face in leadership evaluations. Jacobs (1992), looking at a historical period, found that while the gender pay gap among managers decreased, the authority gap remained constant, indicating that women's increased presence didn't necessarily equate to equal power.

The research also delves into gendered leadership styles and expectations. Lori et al. (2009) found that female managers often prefer participative, team-oriented, and charismatic leadership more than males, with industry type and gender egalitarianism influencing these preferences. Aleksandra et al. (2017) (a separate paper by the same lead author) illustrate how gendered expectations are deeply ingrained in occupational roles, showing that borrowers initially paired with female loan managers were less compliant with subsequent managers, regardless of the new manager's gender. This underscores how gender norms can persist and impact compliance, especially after managers exert authority.

Finally, the summaries touch on generational differences and the broader context of gender equity. Holden & Raffo (2014) explored how Generation X and Y perceive leadership traits, finding some generational differences in valuing competency, honesty, ambition, and determination, which could subtly influence views on female leadership. Burton (2015) provides a comprehensive review, emphasizing that despite increased opportunities, women remain underrepresented in sports leadership. The review identifies macro, meso, and micro-level factors contributing to this disparity, advocating for greater focus on gender equity in sports.

This research is guided by three core theoretical lenses: Glass Ceiling Theory (Ryan & Haslam, 2005), which explains structural barriers that prevent women from accessing top leadership roles; Social Role Theory (Eagly, 1987), which describes how gendered expectations shape perceptions of leadership suitability and influence workplace behavior; and Resource Dependence Theory (Pfeffer & Salancik, 1978), which positions gender diversity as a strategic organizational resource that enhances innovation, stakeholder legitimacy, and decision-making effectiveness.

3. Gender Diversity and its Influence on Financial Performance

3.1. Gender Diversity on Boards and in Leadership Positions

Despite the challenges women face in reaching top corporate positions, research suggests that having more women on boards of directors can positively impact various aspects of corporate governance:

Corporate Philanthropy and Social Responsibility: R. J. Williams' study (2003) on Fortune 500 companies found that higher female board representation is associated with increased corporate

philanthropy. This could be attributed to women directors bringing different perspectives and values to board decision-making, emphasizing social responsibility and community engagement. *Leadership Styles*: Studies by Eagly and Johnson (1990) and Eagly et al. (2003) suggest that women leaders exhibit more democratic, participative, and transformational leadership styles. These styles may contribute to improved organizational performance and employee satisfaction. *Reduction in Sex Segregation*: A higher percentage of female leaders is associated with decreased sex segregation in job assignments, as found in Stainback's research (2012). Female leaders actively promote diversity and create a more participatory and egalitarian organizational culture. *Gender Wage Gap*: Cohen et al. (2007) found that a higher percentage of female managers is linked to reducing the gender wage gap, particularly in industries with many female workers. Female managers are more sensitive to gender bias in wage settings and advocate for equal pay for female workers. *Succession Planning*: Rink et al. (2019) discovered that female leaders tend to prioritize interpersonal fit when selecting potential successors. This may lead to more diversity in leadership positions over time. *Diversity in Leadership Positions*: Bilimoria's study (2006) suggests a positive relationship between female board representation and the number of women in executive officer positions, especially in companies with diverse boards.

Increasing Female Board Representation: Efforts to increase female board representation should address cultural and organizational barriers:

Barriers Faced by Asian Women: Adler (1993) highlights cultural and organizational barriers preventing Asian women from reaching leadership positions, including biases, lack of access to networks and mentors, and cultural expectations. Solutions include training, mentoring programs, and inclusive workplace cultures. *Gender-Related Occupational Stress*: Suraj-Narayan (2005) emphasizes that women face unique stressors in the workplace, such as discrimination and work-life balance challenges. Organizations should provide resources like flexible work arrangements and support networks to help women advance in their careers. *Perception of Narcissistic Leadership*: Van Gerven et al. (2022) found that people perceive narcissistic leadership behaviors differently based on gender, indicating the influence of gender biases. *Navigating Gender Biases*: Bark et al. (2022) suggest that female leaders can navigate gender biases by emphasizing team prototypicality and building strong team cultures.

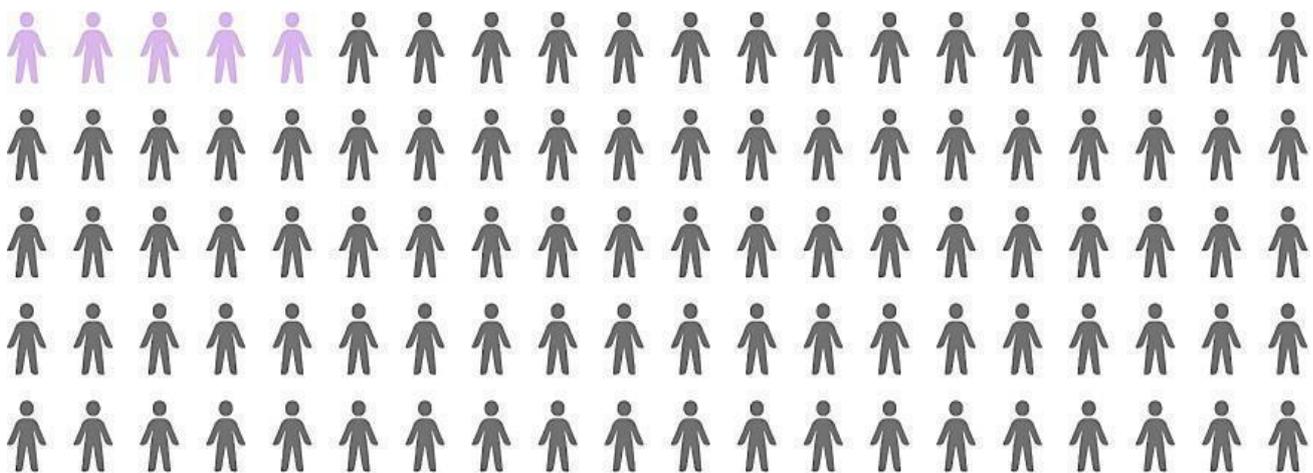


Figure 1. Approximately 5 out of 100 members of executive teams are women

Figure 1. Approximately 5 out of 100 members of executive teams are women (Shrader et al. 1997), the stark underrepresentation of women in executive teams. It uses a grid of 100 stick figures, where only 5 are highlighted, while the remaining 95 are depicted in a muted color. This provides a clear and immediate visual demonstration that a very small minority of executive team members are women, illustrating a significant gender disparity in high-level corporate leadership.

Table 3. The Influence of Gender Diversity on Corporate Boards and Management

Name/Reference	Summary and Specialty	Dataset
RJ Williams (2003)	<p>Examined the relationship between women's representation on corporate boards and charitable giving by firms.</p> <p>Firms with more women on their boards tend to engage in more charitable giving.</p> <p>No significant relationship between women on boards and corporate giving for education or public policy issues.</p>	Analyzed data from 185 Fortune 500 firms during 1991-1994.
Eagly & Johnson (1990)	<p>Women tend to adopt a more democratic and participative leadership style.</p> <p>Men tend to favor a more autocratic and directive leadership style.</p> <p>These differences held across all types of leadership studies.</p>	
Eagly et al. (2003)	<p>Female leaders engage more in contingent reward behaviors associated with transactional leadership.</p> <p>Male leaders tend to exhibit other aspects of transactional leadership (active and passive management by exception) and laissez-faire leadership.</p> <p>The differences in leadership styles between male and female leaders are small.</p> <p>These findings suggest positive implications for female leadership as the aspects where women excel are linked to leadership effectiveness.</p> <p>Conversely, the aspects where men excel have negative or neutral relations to leadership effectiveness.</p>	
Cohen et al. (2007)	<p>More women in management can reduce the gender wage gap.</p> <p>High-status female managers have a more significant impact on gender wage inequality.</p> <p>The study suggests that promoting women into high-status</p>	Data from the 2000 Census were used in three-level hierarchical linear models.

	management positions benefits all women in reducing inequality.	
Rink et al. (2019)	<p>The paper investigates gender differences in how leaders assess successor potential based on interpersonal fit.</p> <p>For female leaders, these relationships were not present, indicating that they are less influenced by interpersonal fit.</p> <p>The findings suggest gender-related differences in how leaders perceive and assess successor potential based on interpersonal fit.</p> <p>The paper discusses the theoretical and practical implications of these gendered leadership perceptions in organizations.</p>	Survey data from 185 women in high-power positions were analyzed.
Bilimoria (2006)	<p>The study explores the relationship between women on a company's board of directors and gender diversity in its top management team.</p> <p>Regression analyses were conducted, controlling for various factors.</p> <p>Findings show that the presence of women corporate directors on a Fortune 500 board is positively associated with multiple indicators</p> <p>These results highlight the significance of women board members for promoting gender diversity in top management teams.</p> <p>It suggests that companies aiming to enhance gender diversity among senior officers and create more inclusive environments for top women employees should focus on increasing women's representation on their boards of directors.</p>	Regression analyses are used, controlling for various factors like firm size, industry type, number of officers, and board members.
Adler (1993)	highlights cultural and organizational barriers preventing Asian women from reaching leadership positions, including biases, lack of access to networks and mentors, and cultural expectations. Solutions include training, mentoring programs, and inclusive workplace cultures.	
Suraj-Narayan (2005)	The study suggests that an ecological approach to stress management using a multidimensional framework is appropriate due to the impact of stress on all aspects of a woman manager's life.	The study examines these stressors during the post-apartheid transformation era and strategies used to cope with occupational stress.

		The sample includes 30 women managers from diverse racial backgrounds, spanning both public and private organizations.
Van Gerven et al. (2022)	<p>Especially in women leaders, narcissism tends to result in negative evaluations.</p> <p>Inconsistent leader behavior negatively impacted follower performance, especially when leader-member exchange (LMX) was low.</p> <p>The research explains the negative effects of leader narcissism on follower performance, particularly in the context of female leaders and varying levels of LMX.</p>	
Bark et al. (2022)	<p>It suggests that female leaders benefit from being seen as prototypical within their teams.</p> <p>While gender differences in authentic leadership were not consistently supported, team prototypicality was linked to more authentic leadership and trust in the leader, especially for female leaders.</p> <p>These findings suggest that high team prototypicality can help female leaders overcome role incongruity barriers and have implications for gender equality.</p>	The study involved a randomized online experiment (Study 1, N=315) and a cross-sectional survey (Study 2, N=300).

Table 3 demonstrates that gender diversity on corporate boards and in executive management plays a significant role in shaping organizational outcomes. Studies consistently show that greater female representation enhances leadership effectiveness, promotes inclusive decision-making, and contributes to positive governance practices. Evidence indicates that women leaders are associated with stronger corporate philanthropy, improved strategic oversight, and reduced gender wage disparities. Research also identifies differences in leadership styles, with women more likely to adopt collaborative and transformational approaches that support innovation and ethical governance. While barriers such as bias, perception challenges, and cultural expectations persist, emerging findings suggest that when women achieve critical representation and are viewed as central members of leadership teams, their presence strengthens organizational trust, performance, and long-term strategic resilience.

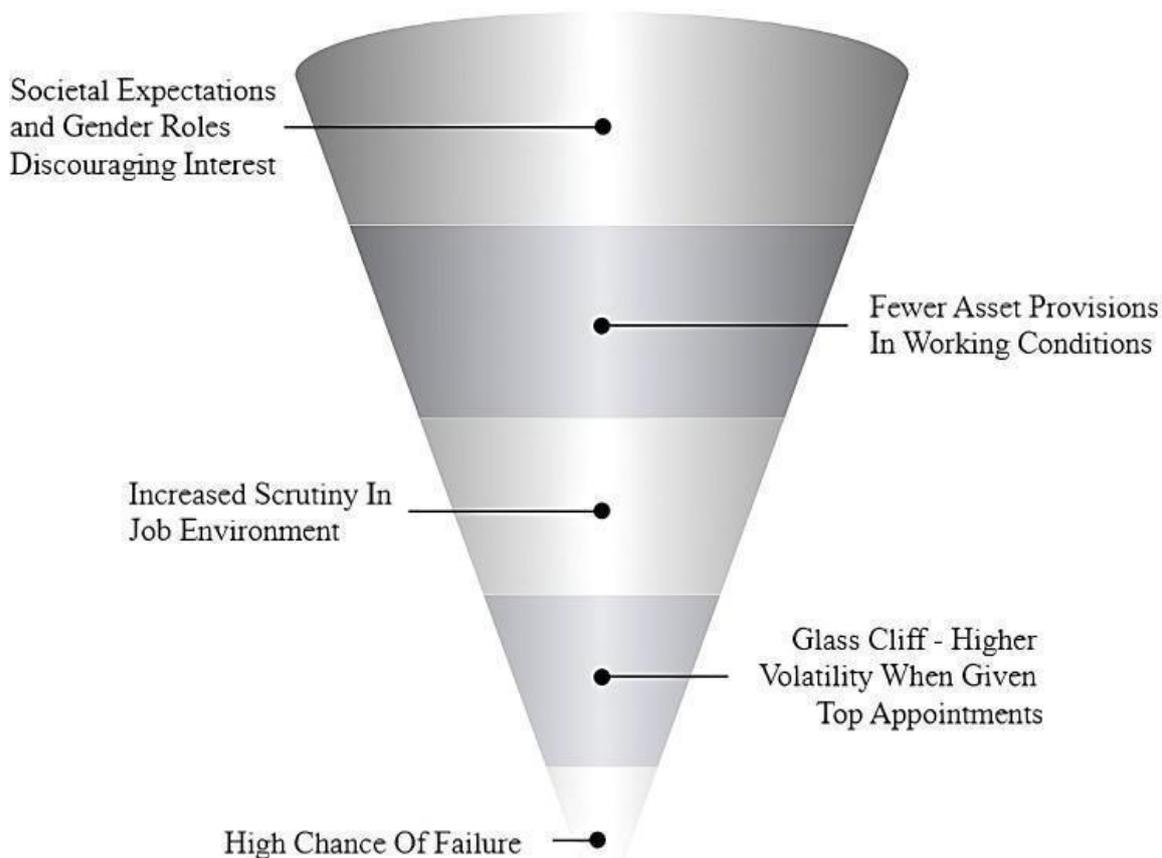


Figure 3. Diminishment of Female Influence Through Inherent Obstacles

Figure 3. Diminishment of Female Influence Through Inherent Obstacles, starting from the widest part of the funnel at the top, the obstacles begin with Societal Expectations and Gender Roles Discouraging Interest. As one moves down the funnel, these initial barriers are followed by Fewer Asset Provisions In Working Conditions. Further narrowing the path is Increased Scrutiny In Job Environment. Closer to the bottom, the Glass Cliff, characterized by higher volatility when women are given top appointments, is encountered. Finally, at the very narrow end of the funnel, the culmination of these obstacles leads to a High Chance Of Failure.

3.2. Benefits of Gender Diversification

Research on female directors highlights various characteristics and differences compared to their male counterparts:

Age and Experience: Ahern and Dittmar (2012) found that newly appointed female managers were, on average, younger than their male counterparts and had less previous executive experience. Younger managers, regardless of gender, tend to be more willing to undertake organizational changes and engage in higher-risk activities.

Insider Ownership: Horváth and Spirollari (2012) suggest that male directors may be preferred in firms with higher levels of insider ownership, as males hold a majority of shares in many companies. This preference is due to the influence of shareholders with

insider interests.

Signal of Legitimization: Dezso and Ross (2012) propose that in firms with more female managers, women in middle management may view this as a signal of legitimization for their participation in more critical firm tasks.

Diversity by Industry: Brammer et al. (2007) found that sectors with higher consumer interaction, like retail and media, tend to have more female managers. In contrast, sectors with less consumer interaction, such as engineering, have fewer female managers.

Homogeneity and Conflict: Campbell and Minguez-Vera (2008) argue that homogenous management groups have fewer differences in opinions, which can lead to more agreement and fewer conflicts. However, increasing diversity can stimulate innovation.

Monitoring and Ethical Bounds: Female directors may play a role in monitoring firm activities and enforcing stricter ethical boundaries, as suggested by Post and Byron (2015), Pan and Sparks (2012), and Isidro and Sobral (2015).

Risk Preferences: Palvia et al. (2015) found that women were more active in trading during the 2008 financial crisis, suggesting that female directors may not be risk-averse.

Table 4. Gender Diversity in Corporate Governance and Firm Performance

Name/Reference	Summary and Specialty	Dataset
Ahern, Kenneth R., and Amy K. Dittmar (2012)	<p>In 2003, a Norwegian law required 40% of corporate directors to be women, up from just 9%.</p> <p>Effects included younger, less experienced boards, increased leverage and acquisitions, and declining operating performance.</p>	<p>The study uses pre-quota data to analyze the quota's impact.</p>
Horváth, Roman and Persida Spirollari (2016)	<p>The paper examines the relationship of selected Board of Directors' characteristics and firm's financial performance, and found that the degree of insider ownership positively influences firm performance, because it reduces agency problems.</p> <p>Younger board members are more risk-tolerant and open to structural changes.</p> <p>Independent directors tend to reduce firm performance, especially during financial crises performance.</p>	<p>The study uses a sample of large U.S firms in 2005-2009</p>
Dezső, Cristian L., and	<p>Increased female representation in top</p>	<p>The study validates this theory</p>

<p>David Gaddis Ross (2012)</p>	<p>management enhances informational and social diversity.</p> <p>This enrichment leads to improved managerial behaviors across the organization and motivates women in middle management.</p> <p>The outcome is enhanced managerial task performance and, consequently, better firm performance.</p> <p>Improved firm performance due to female representation is particularly notable in firms with innovation-focused strategies, where gender diversity's benefits and associated behaviors are most impactful.</p>	<p>using 15 years of panel data on S&P 1,500 firms' top management teams.</p>
<p>Brammer, Stephen, Andrew Millington, and Stephen Pavelin (2010)</p>	<p>The paper examines the ethnic and gender diversity of corporate boards in UK companies.</p> <p>Limited diversity is found in both ethnicity and gender, with executive positions having slightly less diversity.</p> <p>The evidence suggests that proximity to consumers influences board diversity more than the female presence in the industry's workforce.</p> <p>The study argues that board diversity is influenced by a firm's external business environment and the need to reflect customer diversity.</p>	
<p>Campbell, Kevin, and Antonio Mínguez-Vera (2008)</p>	<p>The gender composition of the board can affect the quality of the monitoring role performed by the board of directors and thus the financial performance of the firm.</p> <p>While prior research often focuses on the U.S., this study examines gender diversity and firm performance in Spain</p> <p>The study suggests that Spanish investors do not penalize firms for increasing female board membership, and greater gender diversity may lead to economic gains.</p>	
<p>Post, Corinne, and Kris</p>	<p>Female board representation is positively related to</p>	

Byron (2015)	<p>accounting returns.</p> <p>Female board representation is positively related to the fulfillment of boards' primary responsibilities, including monitoring and strategy involvement.</p> <p>The relationship between female board representation and market performance is closer to zero overall.</p>	
Palvia, A., Vähämaa, E., & Vähämaa, S. (2015)	<p>Banks led by female CEOs maintain higher levels of capital even when considering asset risk and other factors.</p> <p>Smaller banks with female CEOs and board chairs were less likely to fail during the financial crisis, suggesting gender-based behavioral differences impact corporate decisions.</p> <p>The study's findings highlight the importance of considering gender diversity in corporate leadership and its potential influence on financial outcomes.</p>	

Table 4 - Gender Diversity in Corporate Governance and Firm Performance, synthesizes research examining the multifaceted impact of gender diversity, particularly women's representation, on corporate boards, top management teams, and ultimately, firm performance and strategy. The studies present a mixed but largely positive picture of gender diversity's influence, while also highlighting potential challenges and specific contexts.

Ahern and Dittmar (2012) provide a notable case study on the impact of mandated gender quotas, using Norway's 2003 law requiring 40% female corporate directors. Their analysis suggests that while the quota increased female representation significantly (from 9%), it also led to younger, less experienced boards, increased leverage and acquisitions, and a decline in operating performance, indicating potential downsides when diversity is externally imposed without sufficient internal adaptation.

However, other research generally points to the benefits of increased female representation. Dezső and Ross (2012) argue that more women in top management enhance both informational and social diversity, leading to improved managerial behaviors, motivating middle management, and ultimately boosting firm performance, especially in innovation-focused companies. Post and Byron (2015) found a positive relationship between female board representation and accounting returns, as well as improved fulfillment of boards' primary responsibilities like monitoring and strategy involvement. Campbell and Mínguez-Vera (2008), focusing on Spain, suggest that increased female board membership does not penalize firms and can even lead to economic gains. Palvia et al. (2015) specifically found that banks led by female CEOs maintain higher capital

levels and that smaller banks with female CEOs and board chairs were less likely to fail during the financial crisis, suggesting a gender-based behavioral difference that positively impacts financial stability. The studies also touch on related aspects of board composition and diversity. Horváth and Spirollari (2016) examined broader board characteristics, noting that insider ownership can positively influence performance by reducing agency problems, and that younger board members are more risk-tolerant. Brammer et al. (2010) explored both ethnic and gender diversity on UK corporate boards, suggesting that proximity to consumers influences board diversity more than the female presence in the industry's workforce, implying that firms may seek diversity to reflect their customer base.

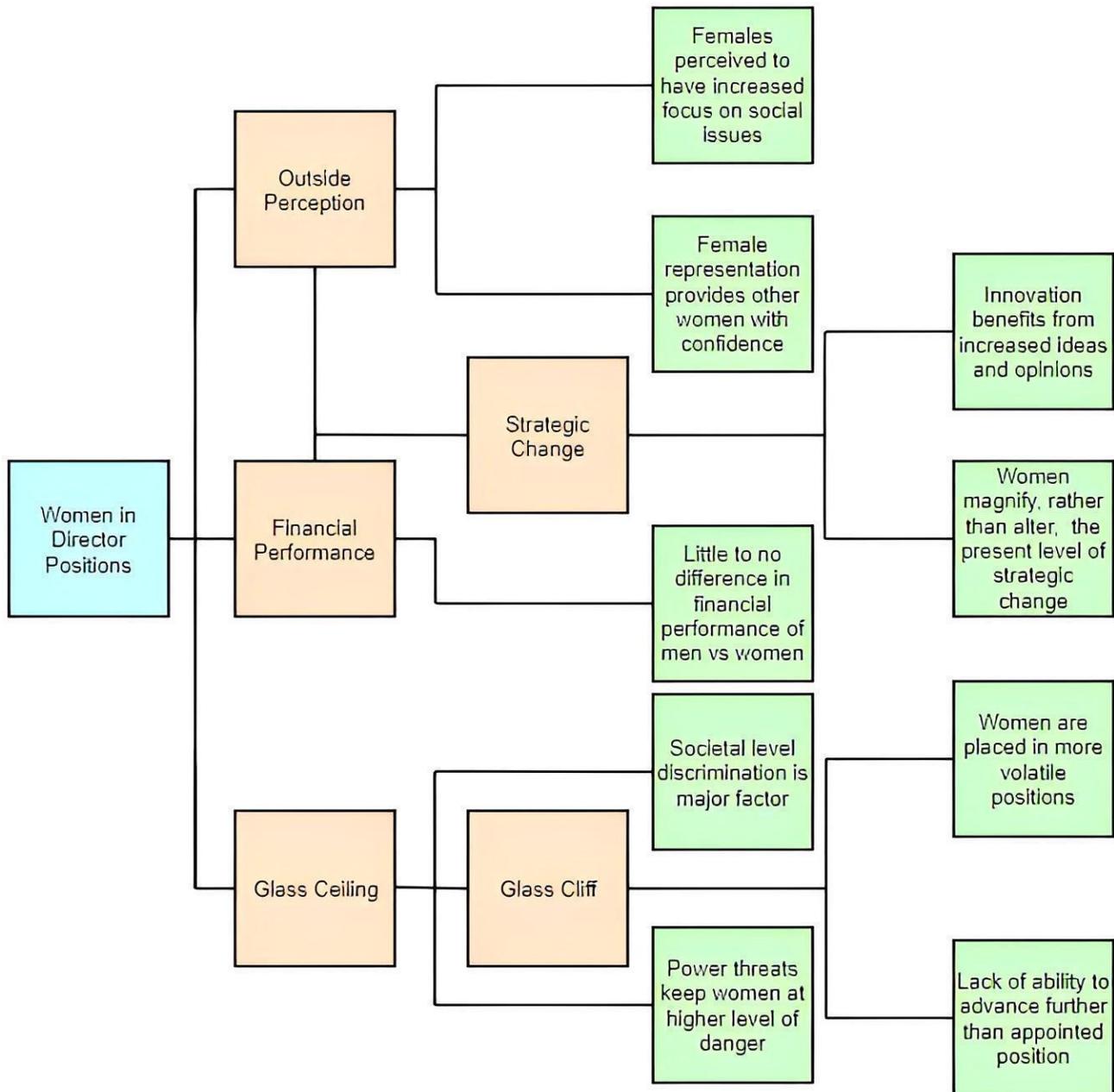


Figure 3. Trends Within Female Executive Influence

Figure 3. Trends Within Female Executive Influence, functions as a comprehensive flowchart or mind map, meticulously illustrating the various factors that both influence and are, in turn,

influenced by the presence of "Women in Director Positions." Originating from this central point on the left, the diagram elegantly branches out to delineate three primary areas of impact. Firstly, "Outside Perception" leads directly to the observation that females are often perceived as having an increased focus on social issues. Secondly, when considering "Financial Performance," the diagram indicates that there is "Little to no difference in financial performance of men vs women," suggesting that a firm's financial outcomes are not significantly altered by the gender composition of its leadership. Thirdly, "Strategic Change" is highlighted as a domain where female representation plays a role; it fosters increased confidence among other women and leads to innovation benefiting from a wider array of ideas and opinions, with the nuanced point that women tend to magnify, rather than fundamentally alter, the existing level of strategic change. Below these primary impacts, the figure also delves into the significant and persistent obstacles represented by the "Glass Ceiling" and "Glass Cliff" phenomena. The "Glass Ceiling" is shown to directly contribute to the "Glass Cliff," where societal-level discrimination emerges as a major contributing factor. This "Glass Cliff" then manifests in practical consequences: women are frequently placed in more volatile positions, and power threats actively keep them at a higher level of danger, ultimately leading to a lack of ability to advance beyond their initially appointed positions. In essence, the figure provides a concise and interconnected overview of how women in director roles navigate and influence external perceptions, contribute to financial and strategic outcomes, and crucially, confront enduring systemic barriers that limit their professional ascent and often position them in precarious leadership roles.

3.3. Relationship Between Gender Diversity and Financial Performance

Research on the relationship between gender diversity and financial performance shows mixed results (Gordini & Rancati, 2017; Lee-Kuen, Sok-Gee, & Zainudin, 2017). While increased gender diversity can be associated with lower levels of strategic change (Triana, Richard, & Su, 2019), its impact on financial performance varies depending on the context. Gender diversity may lead to increased conflict in decision-making, which can hinder strategic change (Yarram & Adapa, 2023; Boukattaya, Ftiti, Ben Arfa, & Omri, 2022). Cohen and Broschak (2013) suggest that female managers' preference for same-sex hiring may impact job creation patterns (Cabrera & Thomas-Hunt, 2007). Although female-led firms perform well on financial indicators (Davis, Babakus, Englis, & Pett, 2010), achieving a "critical mass" of female leaders in male-dominated firms is necessary for their influence on strategic decisions (Saggese, Sarto, & Viganò, 2021). The glass ceiling report by the U.S. Department of Labor highlights challenges women face in accessing top management positions (Ballenger, 2010), which can impact their ability to drive change. Dezsó and Ross (2012) indicate that increasing the percentage of women in top management teams can improve management task performance, particularly in firms with innovation-focused strategies.

In summary, while gender diversity on boards and in leadership positions can lead to various positive outcomes (Adams, de Haan, Terjesen, & van Ees, 2015; Campbell & Mínguez-Vera, 2008), the relationship between gender diversity and financial performance is influenced by multiple factors, including organizational context and industry-specific dynamics. Additionally, achieving a critical mass of female leaders may be necessary to realize the full potential benefits

of gender diversity. In this section, AI methods play a crucial role in quantifying and substantiating the impact of gender diversity on various aspects of a company's performance. Here's a summary of the AI methods applied in each domain:

(1) Innovation and Creativity:

Diverse Perspectives Drive Innovation: Gender-diverse teams bring together individuals with different life experiences, cultural backgrounds, and ways of thinking. This diversity can lead to a broader range of ideas and approaches to problem-solving. When team members challenge each other's assumptions and viewpoints, it fosters a culture of creativity and innovation (Pless & Maak, 2004). In industries where innovation is critical, such as technology or research and development, this diversity can result in the development of groundbreaking products or services that drive financial success.

Competitive Advantage: In fast-paced industries, staying ahead is essential. Gender diversity can give companies a competitive advantage by enabling them to adapt quickly to changing market conditions (Thomas & Ely, 1996). Diverse teams tend to spot emerging trends and capitalize on new opportunities, leading to a stronger market position and higher financial performance.

Enhanced Problem-Solving: Gender diversity can improve problem-solving capabilities (van Knippenberg et al., 2004). When faced with complex challenges, diverse teams can draw on a broader range of skills and perspectives to develop innovative solutions. This ability to address complex issues effectively can result in cost savings, improved processes, and increased efficiency, all contributing to financial success.

(2) Customer Insights:

Targeted Marketing: Gender-diverse teams have a better understanding of diverse customer segments (Herring, 2009). This understanding enables companies to tailor their marketing strategies to specific demographics, ensuring that products and services resonate with a wide range of customers. By reaching these diverse segments effectively, companies can increase market share and revenue.

Consumer-Centric Products: Diverse teams are more likely to anticipate and meet customer needs (McDonough III et al., 2001). Companies can design products and services that align closely with customer preferences by considering a more comprehensive range of perspectives. This customer-centric approach increases customer satisfaction and loyalty, increasing sales and sustained financial performance.

Market Expansion: Gender diversity can help companies expand into new markets (Ramaswami et al., 2009). When a company's leadership team reflects the variety of its target markets, it can navigate cultural nuances and adapt marketing strategies effectively. Understanding different needs can lead to successful market entry and growth, positively impacting financial results.

(3) Talent Attraction and Retention:

Competitive Recruitment: Companies prioritizing gender diversity often attract a more diverse pool of job applicants (Flory et al., 2021). This competitive advantage in recruitment allows them to choose from a broader talent pool, selecting the best candidates for each position. Access to a diverse talent pool enhances workforce capabilities and contributes to overall business success.

Employee Satisfaction and Productivity: Inclusive workplaces foster higher employee satisfaction and productivity (Brimhall & Mor Barak, 2018). Employees who perceive that their organization values diversity are more likely to be engaged and motivated in their roles. Higher engagement and motivation translate into improved productivity, positively affecting financial performance.

Reduced Turnover Costs: Companies prioritizing gender diversity experience lower turnover rates (Annabi & Lebovitz, 2018). High turnover can be costly due to recruitment, training, and lost productivity. Gender-diverse organizations create environments where employees feel valued and included, reducing the likelihood of turnover and associated costs.

Table 5. Impact of Gender and Broader Diversity on Organizational Performance and Workplace Dynamics

Name/ Reference	Summary and Speciality	Dataset
Gordini, N., & Rancati, E. (2017).	<p>This study aims to analyse the relationship between board gender diversity and firm financial performance in Italy</p> <p>The findings show that gender diversity, as measured by the percentage of women on a board and by the Blau and the Shannon indices, has a positive and significant effect on Tobin’s Q, while the presence of one or more women on the board per se has an insignificant effect on firm financial performance.</p>	<p>Panel data analysis was used of 918 Italian listed companies during the years 2011-2014.</p>
Lee-Kuen, I. Y., Sok-Gee, C., & Zainudin, R. (2017).	<p>This study aims to investigate the relationship between gender diversity in a firm’s board of directors and financial performance of firms listed on Bursa Malaysia for the period between 2009 and 2013.</p> <p>This study suggests that a higher degree of female representation on the board increases a firm’s financial performance.</p>	<p>Using unbalanced panel data analysis</p> <p>Four different proxies for gender diversity are employed (the dummy variable for women, the percentage of women on the board, the Blau index, and the Shannon index) to provide a more comprehensive measure of gender diversity.</p>

<p>María del Carmen Triana, M., Richard, O. C., & Su, W. (2019).</p>	<p>The study shows that both inter-organizational strategic alliance formation intensity and TMT educational background diversity positively moderate the relationship between senior management gender diversity and strategic change.</p>	
<p>Yarram, S. R., & Adapa, S. (2023).</p>	<p>The authors find no evidence of board gender diversity impacting business performance.</p> <p>Consideration of sectoral differences and economic cycles in the empirical analyses yielded additional insights.</p> <p>In particular, gender diversity has a beneficial association with performance for businesses in the services and financial sectors after the changes to corporate governance guidelines relating to diversity in 2010. These economic benefits, however, are not evidenced in the resources sector.</p>	<p>The sample was derived from the firms included in the S&P Australian Securities Exchange (ASX) 300 Index and the study period of 2004–2016.</p>
<p>Boukattaya, S., Ftiti, Z., Ben Arfa, N., & Omri, A. (2022).</p>	<p>This paper aims to examine whether the corporate social practices (CSP) affect the board gender diversity–financial performance relationship.</p> <p>The findings show that board gender diversity has a stronger impact on corporate social irresponsibility (CSI) than corporate social responsibility (CSR).</p> <p>Additionally, the authors confirm that CSP exert an asymmetric effect on financial performance in favour of CSI.</p> <p>It is shows that CSI plays a mediating role between board gender diversity and financial performance.</p>	<p>A sample of French firms listed in the SBF 120 index during 2005–2019 period was used for the analysis.</p>
<p>Cohen, Lisa E., and Joseph P. Broschak (2013)</p>	<p>The paper investigates the relationship between the proportion of female managers in an organization and the allocation of new management jobs to women and men.</p> <p>The study finds that as the proportion of female managers in an agency increases, the number of newly created management jobs filled by women also increases.</p> <p>In contrast, the effect of the proportion of female managers on new management jobs filled by men starts positively but eventually declines.</p> <p>The results highlight the potential impact of job creation processes on gender inequality in the workplace.</p>	<p>Data from a 13-year period in New York City advertising agencies is used for analysis.</p>
<p>Cabrera, S. F., & Thomas-Hunt, M.</p>	<p>The study identifies gender differences in social networks as an important determinant of the relative perceived credibility of</p>	

C. (2007)	men and women and the opportunities for hire and promotion available to them.	
Davis, P. S., Babakus, E., Englis, P. D., & Pett, T. (2010)	<p>This study examines the effects of CEO gender on market orientation and performance (growth and profitability)</p> <p>Gender was found to have significant indirect effects (via market orientation) on both market performance (growth) and financial performance (profitability).</p>	A sample of small and medium-sized service businesses was used.
Saggese, S., Sarto, F., & Viganò, R. (2021)	The paper provides insights into the implications for innovation input of having women on company boards. It sheds light on the effects of critical mass and expert power of women directors, and the moderating role played by female CEOs.	The study uses a sample of Italian companies in the high-tech industry
Ballenger, J. (2010)	<p>This research focuses on the exclusionary practices and lack of access to higher education leadership for women..</p> <p>The researcher will examine cultural and structural conditions and practices that create barriers to and opportunities for the advancement of women in higher education leadership.</p>	<p>In this study, 35 participants, primarily women (89% White/European American, 5.6% African American, 5.6% other), were aged 56 and above.</p> <p>Additionally, 39% of women fell in the 46-55 age range, while none were Hispanic/Latino Asian/Pacific Islander.</p>
Dezsö, C. L., & Ross, D. G. (2012)	<p>The study examines whether female representation in top management brings informational and social diversity benefits to the top management team, enriches the behaviors exhibited by managers throughout the firm, and motivates women in middle management.</p> <p>The results finds that female representation in top management improves firm performance but only to the extent that a firm's strategy is focused on innovation.</p>	The study uses 15 years of panel data on the top management teams of the S&P 1,500 firms
Adams, R. B., de Haan, J., Terjesen, S., & van Ees, H. (2015)	<p>This paper discusses the significance of board diversity, categorizing it into task-related, non-task-related, and structural diversity, and noting its potential benefits and costs.</p> <p>It highlights that diversity can bring unique perspectives but may also increase decision-making costs and conflicts within</p>	

	boards.	
Campbell, K., & Mínguez-Vera, A. (2008)	<p>This article investigates the link between the gender diversity of the board and firm financial performance in Spain, a country which historically has had minimal female participation in the workforce</p> <p>It is find that gender diversity has a positive effect on firm value and that the opposite causal relationship is not significant.</p> <p>The study suggests that investors in Spain do not penalise firms which increase their female board membership and that greater gender diversity may generate economic gains</p>	Using panel data analysis
Pless, N., & Maak, T. (2004)	The paper focuses on the challenge of building an inclusive diversity culture showing that such a “culture of inclusion” has to be built on solid moral grounds.	
Thomas, D. A., & Ely, R. J. (1996)	This article offers an explanation for why diversity efforts are not fulfilling their promise and presents a new paradigm for understanding—and leveraging—diversity.	The study focused on three highly diverse organizations (a small urban law firm, a community bank, and a 200-person consulting firm) and nine other companies at different stages of diversifying their workforces.
Van Knippenberg, D., De Dreu, C. K., & Homan, A. C. (2004)	<p>Research on the relationship between work group diversity and performance has yielded inconsistent results.</p> <p>To address this problem, the authors propose the categorization-elaboration model (CEM), which reconceptualizes and integrates information/decision making and social categorization perspectives on work-group diversity and performance.</p>	
Herring, C. (2009)	<p>The article tests eight hypotheses derived from the value-in-diversity thesis.</p> <p>The results support seven of these hypotheses: racial diversity is associated with increased sales revenue, more customers, greater market share, and greater relative profits. Gender diversity is associated with increased sales revenue, more customers, and greater relative profits.</p>	The paper uses data from the 1996 to 1997 National Organizations Survey, a national sample of for-profit business organizations

<p>McDonough III, E. F., Kahn, K. B., & Barczaka, G. (2001)</p>	<p>The paper found that the use of global teams in our respondent firms is rapidly increasing</p> <p>The result suggests that firms face different problems associated with managing each type of NPD team—global, virtual and colocated.</p> <p>To effectively manage each type of team may, in turn, require that companies and their managers employ different solutions to these different problems.</p>	<p>A survey of PDMA members was undertaken to collect the data.</p> <p>Out of 103 firms participating in the survey, 54 had used or were using global teams for some of their NPD efforts.</p>
<p>Ramaswami, S. N., Srivastava, R. K., & Bhargava, M. (2009)</p>	<p>The study examines the interrelationship among the three business processes and their impact on the market value of firms. Further, the study examines the moderating influence of two organizational variables—size and age of the firm. Overall, the major contribution of the study is that it offers a process linkage between capabilities, process performance and financial performance.</p>	
<p>Flory, J. A., Leibbrandt, A., Rott, C., & Stoddard, O. (2021)</p>	<p>The study uses a natural field experiment to test several hypotheses on effective means to attract minority candidates for top professional careers.</p> <p>The paper finds that signaling explicit interest in employee diversity more than doubles the interest in openings among racial minority candidates, as well as the likelihood that they apply and are selected.</p> <p>Impacts on gender diversity are less sharp and generally not significant.</p>	<p>The study randomly selects the content in recruiting materials of a major financial services corporation with more than 10,000 employees</p>
<p>Brimhall, K. C., & Mor Barak, M. E. (2018)</p>	<p>With increases in workforce diversity, human service leaders are recognizing the need to create inclusive workplaces. Yet little research exists about the influence of inclusion on innovation, job satisfaction, and perceived quality of care.</p> <p>Results suggested significant relationships between inclusion and quality of care through increased innovation and job satisfaction.</p>	<p>A sample of 213 participants within 21 departmental units (10 employees on average) in a diverse human service organization was used</p>
<p>Annabi, H., & Lebovitz, S. (2018)</p>	<p>This study sought to gain a better understanding of these organizational interventions by developing a comprehensive framework.</p> <p>The framework integrates intervention characteristics and barriers IT women experience and the coping methods they use to address barriers.</p>	<p>The sample constitutes 9 organizations for comparative case studies.</p>

Table 5 - Impact of Gender and Broader Diversity on Organizational Performance and Workplace Dynamics, compiles research that broadly examines the impact of diversity, particularly gender diversity, on various aspects of organizational performance, strategic decision-making, innovation, and workplace dynamics. The studies explore both the financial implications of diversity and the complex social and structural factors at play.

A key theme is the relationship between gender diversity and financial performance, with mixed but often positive findings. Gordini and Rancati (2017) found that gender diversity (measured by percentage or indices like Blau and Shannon) on Italian boards had a positive and significant effect on Tobin's Q, a measure of firm financial performance. Similarly, Lee-Kuen et al. (2017) concluded that higher female representation on Malaysian boards increased financial performance. However, Yarram and Adapa (2023), analyzing Australian firms, found no overall impact of board gender diversity on business performance, though they noted a beneficial association in the services and financial sectors *after* changes to corporate governance guidelines in 2010, but not in the resources sector. This suggests sector-specific and contextual nuances are important.

The research also delves into how diversity affects strategic processes and decision-making. María del Carmen Triana et al. (2019) showed that senior management gender diversity, alongside inter-organizational strategic alliances and TMT educational background diversity, positively moderates the relationship with strategic change. Boukattaya et al. (2022) found that board gender diversity had a stronger impact on corporate social *irresponsibility* (CSI) than corporate social responsibility (CSR) in French firms, suggesting an asymmetric effect where CSI plays a mediating role in financial performance. Saggese et al. (2021) explored the link between women on company boards and innovation input in Italian high-tech firms, highlighting the importance of "critical mass" and the moderating role of female CEOs. Dezsö and Ross (2012) also linked female representation in top management to improved firm performance, specifically when the firm's strategy is innovation-focused, due to enhanced informational and social diversity.

Beyond financial metrics, the table covers the social and structural implications of diversity. Cohen and Broschak (2013) found that an increased proportion of female managers in advertising agencies led to more newly created management jobs being filled by women, and eventually a decline in new management jobs for men, indicating the potential for job creation processes to impact gender inequality. Cabrera and Thomas-Hunt (2007) identified gender differences in social networks as a determinant of perceived credibility and opportunities for hire and promotion. Ballenger (2010) focused on exclusionary practices and lack of access to higher education leadership for women, examining cultural and structural barriers.

Several studies discuss the broader theoretical and practical aspects of diversity. Adams et al. (2015) categorized board diversity (task-related, non-task-related, structural) and highlighted its potential benefits (unique perspectives) and costs (increased decision-making costs, conflicts). Pless and Maak (2004) emphasized the moral foundation required to build an inclusive diversity culture. Thomas and Ely (1996) offered a new paradigm for leveraging diversity, while Van Knippenberg et al. (2004) proposed the "categorization-elaboration model" to explain inconsistent findings on work group diversity and performance. Herring (2009) provided empirical support for

the "value-in-diversity thesis," finding that racial and gender diversity were associated with increased sales revenue, more customers, and greater relative profits.

3.4. AI Augments the Research Methodologies Used

AI augments the research methodologies in each domain by providing quantitative data and empirical evidence. These AI-driven methods offer a data-driven foundation for understanding the influence of gender diversity on innovation, customer insights, talent management, and overall financial performance within organizations (Tian, 2024; Tian et al., 2024; Tian et al., 2026). These detailed explanations highlight how gender diversity can impact a company's innovation, customer insights, talent management, and, ultimately, its financial performance. The positive outcomes are contingent on creating an inclusive culture that values diversity and leverages the unique perspectives of all team members.

- **AI-Driven Sentiment Analysis:**
Natural language processing (NLP) and sentiment analysis are employed to analyze employee feedback and brainstorming sessions. AI assesses the impact of gender diversity on idea generation and innovation by quantifying sentiments and identifying discussion patterns .
- **Quantitative Analysis:**
AI-driven quantitative analysis is used to compare the responsiveness and agility of gender-diverse organizations in fast-paced industries, providing empirical evidence of the competitive advantage they possess (Tian et al., 2024).
- **AI-Driven Data Mining:**
AI technologies, including data mining and machine learning, extract valuable insights from customer surveys, reviews, and feedback. These insights are used to predict consumer preferences, quantifying the effectiveness of gender-diverse teams in aligning products with customer desires (Tian et al., 2024).
- **Sentiment Analysis:**
AI-powered sentiment analysis processes customer feedback, social-media interactions, and market-research data to quantify the accuracy and effectiveness of marketing strategies devised by gender-diverse teams.
- **Textual Data Analysis:**
AI technologies analyze textual data from market-expansion reports and strategies, enabling organizations to adapt to cultural nuances effectively and highlighting the financial benefits of gender diversity in market expansion .
- **AI-Driven Talent Acquisition Analysis:**
Natural language processing and data analysis are used to compare applicant pools in gender-diverse and non-diverse organizations. AI identifies applicant demographics and qualification patterns, quantifying the competitive edge of gender-diverse companies in attracting diverse talent
Sentiment Analysis of Employee Feedback:
AI-driven sentiment analysis processes employee feedback and performance metrics,

measuring the impact of an inclusive workplace culture on employee engagement and productivity

- Predictive Analytics:

AI technologies employ predictive analytics to analyze HR data, including turnover rates and exit-interview transcripts. Predictive models identify cost savings associated with lower turnover rates in gender-diverse organizations (Tian et al., 2024).

4. Business Benefits and Challenges of Mandated Gender Diversity

Business Benefits: *Ethical Compliance and Reputation:* Mandated gender diversity policies, such as the 40% quota requirement by the European Commission, can enhance ethical compliance and the overall reputation of firms. Isidro and Sobral (2015) demonstrate that female board influence on ethical compliance indirectly affects factors important for firm value, which includes a solid honorable reputation. *Financial Performance:* While direct relationships between female board members and financial performance may vary across studies, Ahern and Dittmar's (2012) findings indicate that the announcement of gender diversity quotas in Norway had varying effects on stock prices. Companies with at least one female director saw no significant change in stock price, while companies without any female directors experienced a considerable drop. This suggests that, in some cases, gender diversity policies can help stabilize stock prices and shareholder confidence. *Risk Management:* Research by Martin et al. (2009) suggests that appointing female executive managers can lower firm risk. Female directors may bring unique perspectives and risk management strategies to the boardroom, which can contribute to a more stable business environment.

Challenges: *Altruistic Tendencies:* Andreoni and Vesterlund (2001) highlight that women tend to be more altruistic when the cost of altruism is higher, while men are more generous when prices are lower. This finding suggests that calls for gender diversity based solely on generosity may not directly correlate with improved firm financial performance. *Global Variation:* The impact of gender diversity policies can vary significantly from one country to another, as seen in the study by Post and Byron (2015), which analyzed companies in 36 different countries. The effectiveness of these policies may depend on factors such as shareholder protection and governance practices. *Availability of Qualified Female Directors:* Ahern and Dittmar (2012) and Yu and Madison (2021) emphasize that the lack of qualified female directors can pose challenges when implementing gender diversity policies. Forced appointments of female directors without adequate qualifications may negatively affect firm performance. *Stereotypes and Confidence:* Gender stereotypes may persist in the corporate world, affecting the confidence of female leaders. Martin et al. (2009) note that stereotypes about women's financial abilities can impact their performance and confidence in executive roles.

5. Long-Term Business Success Related to Gender Diversity in Corporations

Gender diversity in corporate leadership is influenced by a complex interplay of historical

factors, perceptions, risk aversion, and the need for mentorship and support networks. Breaking the glass ceiling and achieving gender diversity requires addressing these multifaceted challenges and promoting a critical mass of women in leadership roles.

Historical occupational segregation has traditionally confined women to lower-paying sectors with limited leadership pathways, reinforcing structural inequality in executive access (Bishu & Alkadry, 2017). Persistent perceptions of women as risk-averse or primarily suited for roles requiring emotional labor further constrain their participation in decision-making positions critical to strategic growth (Sabharwal, 2015). Despite increased representation, women continue to face the glass ceiling and power threats, often being placed in precarious roles with higher expectations and lower institutional support, which can result in elevated turnover and hindered leadership continuity (Ryan & Haslam, 2007).

Additionally, women in executive roles are frequently underpaid and evaluated more harshly than male counterparts, creating disincentives for advancement and reducing organizational retention of top female talent (Heilman & Caleo, 2018). Limited access to mentorship and informal leadership networks further restricts progression opportunities, as such networks serve as critical pathways to executive decision-making and influence (Babic & Hansez, 2021).

Tokenism remains a challenge when women are appointed symbolically rather than strategically, leading to limited impact unless a critical mass is reached to influence board culture and decision processes (Smith & Parrotta, 2018). Research also shows that increasing women's participation in traditionally male-dominated domains contributes to greater innovation and adaptability (Torchia et al., 2011). Finally, deeply embedded masculine perceptions of corporate leadership persist as intangible barriers, suggesting that shifting leadership norms is essential for unlocking the full strategic value of gender diversity (Bennett, 2002).

Table 6. Gender, Leadership Barriers, and Organizational Outcomes

Name/ Reference	Summary and Speciality	Dataset
<p>Maxfield, S., Shapiro, M., Gupta, V., & Hass, S. (2010)</p>	<p>Challenge the stereotype of women as risk-averse.</p> <p>Explore women's risk-taking behaviors and reasons for the persistence of this stereotype.</p> <p>Inform human resource practices and women's career development.</p> <p>Gender-neutral risk propensity and decision-making observed in specific managerial contexts, excluding portfolio allocation.</p> <p>Synthesizes evidence on risk-taking and gender.</p> <p>Highlights the importance of acknowledging female risk-taking as an antidote to persisting stereotypes.</p> <p>Outlines reasons for the persistence of the risk-averse stereotype and its implications for human resource development.</p>	<p>Utilize literature on gender and organizations.</p> <p>Analyze the Simmons Gender and Risk Survey database containing data from 661 female managers.</p> <p>Evaluate risk propensity and decision-making in various managerial contexts.</p>

<p>Perryman, A. A., Fernando, G. D., & Tripathy, A. (2016)</p>	<p>Women have made progress in corporate leadership, but gender equity is not fully achieved. Findings:</p> <p>Firms with more gender-diverse TMTs have lower risk and better performance.</p> <p>Female executives are paid less than male counterparts, even in TMTs.</p> <p>However, as TMT gender diversity increases, compensation gaps between genders decrease.</p> <p>The study highlights an employment market failure and ongoing challenges for female executives in achieving parity in TMTs.</p>	<p>The study explores how gender diversity in top management teams (TMTs) affects firm performance and risk.</p> <p>It also investigates the moderating role of gender diversity on executive compensation.</p>
<p>Buzzanell, P. M. (1995)</p>	<p>Traditional glass ceiling definitions reinforce gender bias in organizations and discourage critical evaluation of gendered communication and practices.</p> <p>This article employs feminist research as a practical approach to reveal how current organizational practices fail to address power imbalances.</p> <p>It contrasts conventional gendered practices with alternative contexts, processes, and organization members to highlight how language contributes to gender divisions in glass ceiling processes.</p> <p>The second stage of research as praxis emphasizes taking action to challenge gendered patterns in organizational life.</p> <p>Implications discussed include the need for research that challenges gender stereotypes and promotes change in organizational practices.</p>	
<p>Harlan, S. L., & White Berheide, C. (1994)</p>	<p>Gender-related barriers affecting women's employment equity span from the "glass ceiling" in top corporations to the "sticky floor" in low-paying, low-mobility jobs.</p> <p>These barriers result from exclusionary practices that systematically exclude women, people of color, and other disadvantaged groups from higher positions.</p> <p>The barriers are present in the structure of work organizations, the educational and economic systems, and the broader social order.</p> <p>The paper focuses on workplace barriers that impact the majority of working women who won't reach the "glass ceiling."</p>	<p>Empirical research is used to analyze how social structures perpetuate gender, race, and class inequality by limiting the advancement of women and people of color in low-paying jobs.</p>
<p>Suda, C. (2002)</p>	<p>The paper discusses gender mainstreaming in investment activities for women's employment and poverty reduction.</p>	<p>Key steps include producing gender-disaggregated data,</p>

	<p>Women face disparities in education and training, limiting their access to formal education and equal participation in the labor market.</p> <p>Female labor force participation in the modern sector is below 30%, with most women in education and informal sectors.</p> <p>Factors like limited education, skills, and cultural attitudes contribute to women's limited participation.</p> <p>Gender disparities exist in Kenyan civil service, requiring affirmative actions to increase women's representation.</p> <p>Low budget allocations for women's programs reflect a lack of political will and inadequate prioritization.</p>	<p>establishing gender management systems, and senior management commitment to gender equality.</p>
<p>Rhode, D. L. (2017)</p>	<p>Perceptions of women as risk-averse or possessing soft skills can lead to missed opportunities for strategic decision-making and leadership in industries requiring emotional and technical expertise</p>	
<p>Guillaume, C., & Pochic, S. (2009)</p>	<p>The research explores women's challenges in accessing top management positions, including the "glass ceiling," management norms, and cultural views on leadership.</p> <p>The study also examines how women and men develop strategies to conform to or circumvent organizational norms.</p> <p>It considers work-life balance from both organizational and individual/family perspectives.</p>	<p>The article presents research combining quantitative and qualitative data from a French utility company.</p>
<p>Niethammer, C. (2013)</p>	<p>Female entrepreneurship has significant untapped potential for innovation, job creation, and economic growth in the developing world.</p> <p>Women face various barriers, including limited access to credit, training, networks, information, and legal/policy constraints.</p> <p>The World Economic Forum reports slow progress in closing the economic gender gap.</p> <p>Initiatives to promote women's entrepreneurship, led by both the private and public sectors, are emerging.</p> <p>This note provides an overview of global women's entrepreneurship challenges, capacity-building issues, and potential solutions.</p> <p>Innovative partnerships between private and public sectors are making a positive impact and offer new market opportunities and development benefits.</p>	

<p>Niethammer, C. (2013)</p>	<p>Consumer satisfaction is a crucial measure of a company's success.</p> <p>Research suggests that women directors can positively influence a firm's economic success.</p> <p>However, there is limited research on the impact of female board members on customer satisfaction.</p> <p>This paper combines previous insights on customer satisfaction determinants and suggests that a more balanced gender representation in corporate governance can enhance customer satisfaction with a company.</p>	
<p>Dezsö, C. L., & Ross, D. G. (2012)</p>	<p>Female representation in top management offers informational and social diversity benefits.</p> <p>It enriches managerial behaviors throughout the organization and motivates women in middle management.</p> <p>The expected outcome is improved managerial task performance and better firm performance.</p> <p>The findings suggest that female representation in top management enhances firm performance, particularly in firms with an innovation-focused strategy, where gender diversity benefits and women's management behaviors are crucial for managerial task performance.</p>	<p>The study analyzed 15 years of data on S&P 1,500 firms' top management teams.</p>
<p>Sabharwal, M. (2015)</p>	<p>The paper challenges the traditional "glass ceiling" metaphor for women's career challenges.</p> <p>Women in leadership roles still encounter difficulties, known as the "glass cliff," where they face precarious situations and potential failure.</p> <p>It draws on three social psychology theories: think-manager-think-male, social role theory, and role incongruity theory.</p> <p>Findings suggest that SES women in distributive and constituent policy agencies are more likely to experience the glass cliff phenomenon.</p> <p>Factors such as influence over policymaking, empowerment, and organizational equity can reduce the likelihood of women falling off the "glass cliff."</p>	<p>The study focuses on women in Senior Executive Service (SES) positions in various U.S. federal government agencies.</p>
<p>Ryan, M. K., & Haslam, S. A. (2005)</p>	<p>The paper explores the challenges women face in corporate leadership, moving beyond the "glass ceiling" concept.</p> <p>It introduces the idea of the "glass cliff," where women in leadership roles often find themselves in risky or precarious</p>	<p>The study examines the performance of FTSE 100 companies before and after appointing male or</p>

	<p>positions.</p> <p>Findings reveal that companies appointing women were more likely to have experienced poor performance in the preceding months during a stock-market decline.</p> <p>This uncovers an additional obstacle for women leaders, impacting their evaluations in the workplace.</p>	<p>female board members.</p>
<p>Bishu, S. G., & Alkadry, M. G. (2017)</p>	<p>Identify recurring themes that contribute to the gender pay gap.</p> <p>Summarize and compare the gender pay gap across different sectors.</p> <p>Discuss the performance of the public sector in addressing the gender pay gap and the factors that influence it.</p>	<p>The study conducts a systematic review of 98 peer-reviewed journal articles.</p> <p>It investigates the gender pay gap and the factors contributing to it in organizations.</p>
<p>Babic, A., & Hansez, I. (2021)</p>	<p>Despite diversity promotion and equal opportunity legislation, women remain a minority in decision-making positions, experiencing the "glass ceiling."</p> <p>The study aims to understand the glass ceiling, its causes, and consequences.</p> <p>It extends a model by including organizational gender culture alongside situational and interpersonal factors in glass ceiling perception.</p> <p>Findings highlight the importance of all three factors in the perception of the glass ceiling.</p> <p>Work-to-family conflict (WFC) mediates the effects of the glass ceiling on job strain, engagement, job satisfaction, and intention to quit.</p>	<p>The study surveyed 320 women in managerial positions in a Belgian organization.</p>
<p>Parrotta, P., & Smith, N. (2013)</p>	<p>The study tests three hypotheses: female-led, tokenism, and pipeline.</p> <p>The female-led hypothesis isn't supported; firms with female board chairs have fewer non-staff board members.</p> <p>Tokenism behavior is evident, as having one non-staff woman on the board reduces the chance of hiring another woman.</p> <p>The pipeline hypothesis is partly confirmed, with a positive relationship between the share of women among CEOs and VPs from other firms and women on the board.</p>	<p>The paper examines women on boards of directors in Danish companies with over 50 employees.</p> <p>Women's representation on boards was 12 percent in 2007, with slow growth from 1997 to 2007.</p>

<p>Torchia, M., Calabrò, A., & Huse, M. (2011)</p>	<p>The academic debate on the strategic importance of women in corporate boards is ongoing.</p> <p>Many boards have only one or a few women, often considered tokens.</p> <p>The study examines whether having "at least three women" on corporate boards leads to substantial contributions to firm innovation.</p> <p>It analyzed 317 Norwegian firms.</p> <p>Results indicate that reaching critical mass (at least three women) enhances firm innovation compared to having just one or two women.</p> <p>The relationship between critical mass of women directors and firm innovation is mediated by board strategic tasks.</p> <p>The study discusses implications for theory, practice, and suggests future research directions.</p>	
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A prominent theme is the debunking of the "risk-averse" stereotype for women. Maxfield et al. (2010) synthesize evidence and analyze data from 661 female managers, demonstrating gender-neutral risk propensity in many managerial contexts. Rhode (2017) further notes that perceiving women as risk-averse or only possessing "soft skills" can lead to missed opportunities for strategic decision-making. Despite this, Perryman et al. (2016) found that firms with more gender-diverse Top Management Teams (TMTs) actually exhibit lower risk and better performance, while also highlighting that female executives are paid less, although this compensation gap decreases with increased TMT gender diversity.

The table extensively addresses barriers to women's advancement, moving beyond the traditional "glass ceiling" metaphor. Buzzanell (1995) argues that traditional definitions of the glass ceiling reinforce bias and calls for feminist research to expose power imbalances. Harlan and White Berheide (1994) broaden this to the "sticky floor," highlighting exclusionary practices that affect women and people of color in both high- and low-paying jobs due to systemic barriers in organizational structures, education, and the broader social order. Suda (2002) specifically details disparities faced by women in Kenya's labor market, including limited education, skills, and cultural attitudes, noting that female labor force participation in the modern sector is below 30%. Guillaume and Pochic (2009) explore how management norms and cultural views contribute to the glass ceiling in a French utility company, while Niethammer (2013) highlights barriers for female entrepreneurs globally, such as limited access to credit, training, and networks.

The concept of the "glass cliff" is a crucial, recurring theme. Sabharwal (2015) and Ryan and Haslam (2005) introduce this phenomenon, where women are more likely to be appointed to leadership roles during times of crisis or poor performance, placing them in precarious positions with a higher risk of failure. Ryan and Haslam's study of FTSE 100 companies found that firms

appointing women to boards were more likely to have experienced poor performance beforehand.

The studies also explore the benefits of gender diversity in leadership. Dezsö and Ross (2012) found that female representation in top management enhances informational and social diversity, leading to improved managerial behaviors and better firm performance, particularly in innovation-focused strategies. Niethammer (2013, second reference) suggests that a more balanced gender representation in corporate governance can enhance customer satisfaction.

Finally, the research delves into specific mechanisms and challenges related to diversity. Bishu and Alkadry (2017) systematically review factors contributing to the gender pay gap across sectors, while Babic and Hansez (2021) investigate the "glass ceiling" by including organizational gender culture, situational, and interpersonal factors, finding that work-to-family conflict mediates negative outcomes for women. Parrotta and Smith (2013) found evidence of "tokenism" in Danish companies, where having one non-staff woman on the board reduced the likelihood of hiring another. Conversely, Torchia et al. (2011) studying Norwegian firms found that reaching a "critical mass" of at least three women on corporate boards significantly enhanced firm innovation, mediated by board strategic tasks.

6. Conclusion

Advancing gender diversity in corporate leadership is not merely a matter of social equity; it is increasingly becoming a pivotal business model for organizations. This article has synthesized a range of studies on the characteristics of women directors, shedding light on their influence on corporate boards, the challenges they face in the workplace, societal gender role discrimination, and persistent barriers like the glass ceiling and glass cliff that impede their progress. In the male-dominated culture of corporate board management, women often encounter a discouraging environment riddled with gender biases that limit their perceived roles. These biases can lead to women being appointed to positions that align with traditional gender norms, often lower-level roles with limited opportunities to drive significant change. Fortunately, these stereotypes are gradually eroding as newer generations redefine gender roles and challenge tokenism in female director appointments.

However, even as more women ascend to leadership roles, they continue confronting the glass ceiling. This pervasive obstacle hinders most women directors from advancing further up the corporate ladder. This glass ceiling can be perpetuated by entrenched beliefs within the board itself and discriminatory practices, further exacerbated by media coverage that skews access to resources in favor of male directors. Women who break through these barriers often find themselves on the "glass cliff". They are disproportionately promoted to riskier executive positions and entrusted with firms under scrutiny, increasing the likelihood of failure. Remarkably, this environment has little correlation with the financial performance of women-led companies, but it does positively impact innovation. This review underscores that no substantial differences exist in long-term financial performance between firms led by women and men. Moreover, some male appointments to executive positions may lack the qualifications possessed by their female counterparts, revealing inherent biases against women's appointments. From a business

perspective, achieving gender diversity in corporate leadership is not just a moral imperative; it is a strategic necessity. Organizations that embrace diversity and inclusion initiatives are better equipped to navigate the complexities of the modern business landscape. Gender diversity brings fresh perspectives, fosters innovation, and enhances decision-making processes. Ultimately, it enables companies to maximize their potential for long-term success.

In conclusion, the journey toward gender diversity in corporate leadership is not only about breaking through barriers; it is about leveraging women's diverse talents and perspectives to drive business growth and sustainability. Businesses can unlock their full potential and thrive in an ever-evolving global marketplace by promoting equality, eradicating bias, and fostering inclusive environments.

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