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Exploring the Financial Impact of Gender Diversity and Independent Directors on Governance Excellence in Indian Listed Companies

Diwakar Kumar[1]

[1]Senior research fellow, University Department of Commerce and Business Management, Ranchi University.

Email ID: researchscholardiwakar@gmail.com

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Gender Diversity, Female Directors, Governance, Financial implications.

ABSTRACT

This research aims to rigorously evaluate the financial implications of gender diversity and governance practices within publicly listed companies in India. Focusing specifically on the Indian market, the study utilizes Tobin's Q as a principal metric for assessing corporate performance. The core objective is to explore the roles that independent directors and female directors play in influencing a firm's financial outcomes. By employing panel regression analysis, the research **delves** into significant and previously unexplored areas, bringing to light the substantial impacts that board composition has on a company's valuation and performance. The findings indicate a positive and statistically significant relationship between the presence of female directors and increases in Tobin's Q. This correlation **underscores** the financial benefits associated with enhancing gender diversity at the board level. Moreover, the study highlights the critical role of independent directors in promoting excellent governance practices. These directors significantly contribute to better financial performance, evidenced by their positive effect on Tobin's Q. This suggests that independent directors are not just formalities but **pivotal** elements in steering companies towards more effective governance and improved financial health. The research expands the discussion on the necessity of gender-diverse and independent boards, advocating for their role in advancing economic progress. The findings are particularly relevant to the ongoing discourse on corporate governance reforms in India. By contributing meaningful insights into the dynamics of board effectiveness, this study enriches the existing literature on corporate governance. In practical terms, the results serve as a valuable guide for regulators, investors, and company executives aiming to optimize financial performance through strategic board configuration. The study proposes that adopting more inclusive and well-rounded governance frameworks can lead to better financial outcomes and, ultimately, more sustainable business practices. This research not only informs current policy discussions but also aids stakeholders in making informed decisions regarding board composition strategies.

1. INTRODUCTION OF STUDY AND RESEARCH METHODOLOGY

The evolving global business landscape has heightened the importance of board diversity as a strategic asset for companies. Businesses increasingly recognize that diversity enhances adaptability, innovation, and customer alignment. According to Cox & Blake (1991), diverse boards are better equipped to foster creativity and meet the complex demands of a global market. Furthermore, NASSCOM (2011) emphasizes that to drive innovation, adapt to globalization, respond to demographic shifts, and meet consumer expectations, boards must integrate a broad spectrum of backgrounds and perspectives. Diversity in the boardroom can manifest as cognitive and demographic diversity. Cognitive diversity includes variations in knowledge, education, worldview, emotional intelligence, and personality, contributing to a rich tapestry of decision-making styles. On the other hand, demographic diversity encompasses visible attributes like gender, age, and ethnicity, as noted by Timmerman (2000). This section lays the groundwork for addressing the critical issue of underrepresentation of women on corporate boards.

Globally, the representation of women in executive roles is alarmingly low, with India ranking particularly poorly. As highlighted by Zahidi and Ibarra (2010), this underrepresentation is stark, considering women constitute nearly half of India's population but only represent a small fraction of the leadership in the private sector. According to Banerji et al. (2010), women occupy just 5% of director positions in India's top 100 listed companies and are primarily concentrated in lower or middle management levels. Economic theorists predict significant growth potential from integrating women into the workforce, referring to them as part of the "third billion" alongside populations of China and India poised to enter the global economic arena. However, Schomer (2010) points out that in India, only one in twenty senior executive roles is held by a woman, and women hold only one in eight management positions. This severe lack of female representation in leadership roles needs urgent redressal to harness the full potential of half the population.

Internationally, the employment of women is predominantly seen in the service sector, with the financial services and insurance industries showcasing the highest percentages, where women make up 60% of the workforce. Despite such high participation rates, the executive gap remains pronounced across various countries and industries (Haldar et al., 2014). Research conducted by Cranfield University under the sponsorship of Standard Chartered Bank examined India's largest companies listed on the Bombay Stock Exchange, revealing that female directors are generally younger and serve longer tenures than their male counterparts, yet they only make up 5.3% of all board members.

This empirical study aims to deepen our understanding of corporate governance by examining the impact of having independent and female directors on the boards of Indian companies. The primary focus is on how the inclusion of these directors influences Governance Excellence, highlighting the crucial role that gender diversity plays in enhancing board effectiveness. By studying the role of female and independent directors in governance, this research intends to contribute to the ongoing conversation about corporate governance reforms in India. The findings aim to offer insights that could guide companies in structuring their boards more effectively, potentially leading to improved governance and better financial performance. The study seeks to not only add to the academic literature but also provide practical recommendations for businesses aiming to leverage diversity for economic and strategic gains.

1.2 Significance of Female and Independent Directors

The board of directors plays a **pivotal** role within any organization by shaping administrative strategies and safeguarding shareholder interests. Jiang and Kim (2015) highlight the board's dual responsibilities in overseeing both the financial and social performance of the organization, emphasizing their **pivotal** role in making decisions that affect shareholder interests. Watts and Zimmerman (1978) further elucidate that the scope of governance activities and transparency is shaped by these board decisions, with their choices on social responsibility and disclosure often driven by personal financial incentives. Jensen and Meckling (1976) identify this behaviour as stemming from a misalignment between organizational control and tenure, where board members might prioritize personal gain over shareholder welfare, potentially compromising information symmetry between the board and shareholders. This discrepancy raises public concerns regarding the effectiveness of the board's oversight capabilities.

The independence of the board can sometimes contribute to oversight deficiencies. Buniamin and Alrazi (2011) suggest that addressing such issues necessitates a deep dive into the internal workings of the board, where insights into corporate actions that directly impact stakeholders are crucial. Kemp (2011) articulates that a principal function of a company's board is to ensure resource efficiency and value generation through adherence to laws, regulations, and ethical standards. This perspective gained prominence following major corporate scandals such as ENRON and WorldCom in the USA, and One.Tel and HIH Insurance in Australia, which spotlighted the critical regulatory and supervisory roles of boards worldwide. Robinson and Dechant (1997) underline the importance of viewing gender diversity initiatives as strategic business imperatives, ensuring that companies meet regulatory standards effectively. Moreover, Ferreira (2015) argues that while gender diversity is vital, it is not the sole determinant of financial success, with many other factors also playing significant roles.

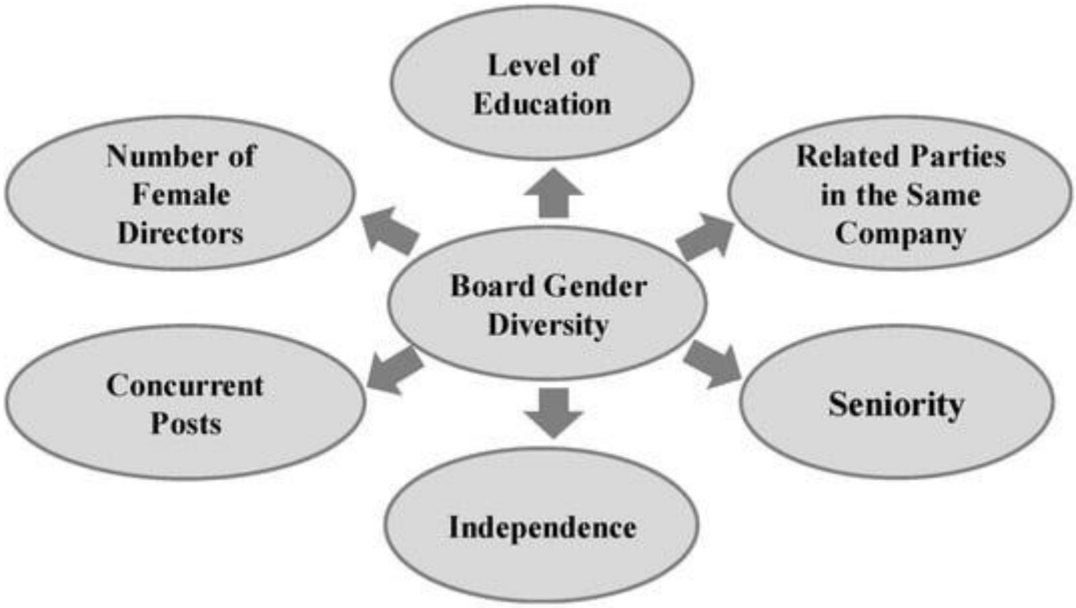


Figure 1. Board gender diversity.

Source: Rao, K.; Tilt, C.(2016)

This research paper seeks to expand on existing knowledge about the influence of female directors on boards by making a strong case for their inclusion, which can enhance organizational effectiveness by introducing new perspectives and ideas. The study defines diversity as the inclusion of varied gender representations within corporate boardrooms, offering tangible benefits to organizations. Unlike many studies that focus on data from Western contexts, this research utilizes data predominantly from India, thus contributing to the broader international discourse on board gender diversity and financial performance. Despite traditionally low female participation in the Indian labour sector, the Companies Act of 2013 aimed to promote gender equality in employment opportunities.

Our research encompasses a comprehensive sample of 500 prominent publicly traded Indian companies over the period from 2013 to 2023. This 11-year span allows for an analysis of developmental trajectories and market anomalies. Unique to this study is our approach to data collection, which involved manual gathering of information on female directors, providing a robust basis for our analysis. The research **delves** deeply into both board and organizational level analyses to understand the interplay between board composition and performance before presenting conclusive findings.

Our results indicate that a higher representation of female directors correlates with superior governance excellence, although the impact of independent directors on governance remains unclear. This finding aligns with previous research indicating that the role of independent directors in India is minimal, particularly concerning governance issues, due to their limited decision-making influence. Additional factors such as board size, meeting frequency, and financial leverage also significantly influence organizational operations. Thus, this study enriches the current understanding of gender diversity by offering detailed observations on the relationship between gender diversity and the role of independent directors on corporate boards.

The significance of this aspect of corporate governance is particularly noteworthy in the context of developing countries like India. This research represents a pioneering effort focused exclusively on statistically analyzing the impact of female and independent directors on governance excellence. The subsequent sections of the paper are organized as follows: Section 2 discusses the theoretical framework, literature review, and hypotheses. Section 3 details the research methodologies employed. Section 4 presents the empirical data and observations derived from the analysis. The final section, Section 5, offers conclusions and recommendations for future research, aiming to further explore and understand the dynamics of board composition and its impact on corporate governance and performance

2. THEORETICAL BACKGROUND, LITERATURE REVIEW, AND HYPOTHESIS DEVELOPMENT

2.1. Conceptual Framework:

The governance of corporations is closely scrutinized under the framework of agency theory, an influential concept that emerged in the 1970s. This theory explicates the inherent conflicts of interest between business owners—commonly known as shareholders or founders—and company managers, who are referred to as agents. It describes how conflicts arise when shareholders experience a diminishing control over their organization, while managers accrue increased power. As managers' influence grows, they may prioritize personal financial gains over the interests of the shareholders. Cook and Glass (2018) describe this relationship as a contractual arrangement where employees, acting as agents, make business decisions on behalf of the owners or stakeholders. A key issue identified by this theory is the lack of active ownership involvement in company management, leading to conflicts over control and decision-making.

Gender diversity plays a critical role in corporate governance, particularly in the inclusion of women on corporate boards (Wagana & Nzulwa, 2016; Fidanoski et al., 2014). The presence and extent of gender diversity in the boardroom are significant (Bekele, 2013), recognizing and valuing the unique traits and abilities exhibited by both genders as essential resources (Sumedrea, 2016). The firm's financial performance is seen as its ability to effectively utilize assets from its core operations to generate profits (Ravinder & Anitha, 2013). The link between gender diversity and financial success can be illuminated through various theoretical lenses including agency theory, resource dependence theory, social psychology theory, and human capital theory (Zahoor, 2016).

Dang and Nguyen (2016) further refined agency theory by describing it as a contractual agreement where principals, such as shareholders, establish and delegate tasks to another party, such as directors, who execute these responsibilities. According to this theory, a diverse board of directors enhances board independence, serving as an effective mechanism for overseeing and managing the administration. Gender diversity fosters innovation in setting strategic objectives, broadens organizational perspectives, and enhances discussions on topics that may have been overlooked, thereby diminishing stagnant thinking. Increased gender diversity positively impacts reducing agency costs, thus boosting the financial performance of companies, particularly those with weaker governance structures (Reguera-Alvarado et al., 2017). The theory asserts a direct correlation between gender diversity and a firm's profitability.

Resource dependency theory, developed by Pfeffer and Salancik (1978), posits that an organization's performance is significantly enhanced by external resources and that its survival depends on these resources (Overveld, 2012). From this perspective, gender diversity is viewed as a strategic approach to securing vital resources such as knowledge, skills, and information, thereby improving the firm's interactions with its external environment and leading to improved financial outcomes (Fidanoski et al., 2014). Moreover, this theory suggests that a gender-diverse board enhances the company's capacity to enter new markets more effectively, which in turn contributes to superior financial performance (Reguera-Alvarado et al., 2017).

In summary, agency theory and resource dependency theory both provide compelling frameworks for understanding the impact of gender diversity on corporate governance and financial performance. Agency theory highlights how gender diversity enhances board independence and reduces conflicts of interest, leading to better management and profitability. Meanwhile, resource dependency theory emphasizes the strategic benefits of gender diversity in accessing essential external resources, thereby bolstering the firm's market position and financial success. These theoretical perspectives **underscore** the importance of integrating gender diversity into corporate governance strategies to enhance organizational efficacy and financial health.

2.2. Literature Review and Hypothesis Development

2.2.1 Empirical research investigating the influence of gender diversity on the financial success of companies.

The exploration of gender diversity on corporate boards and its impact on company performance has been a subject of significant academic interest. Studies from various regions and industries provide mixed results, reflecting the complex nature of this issue.

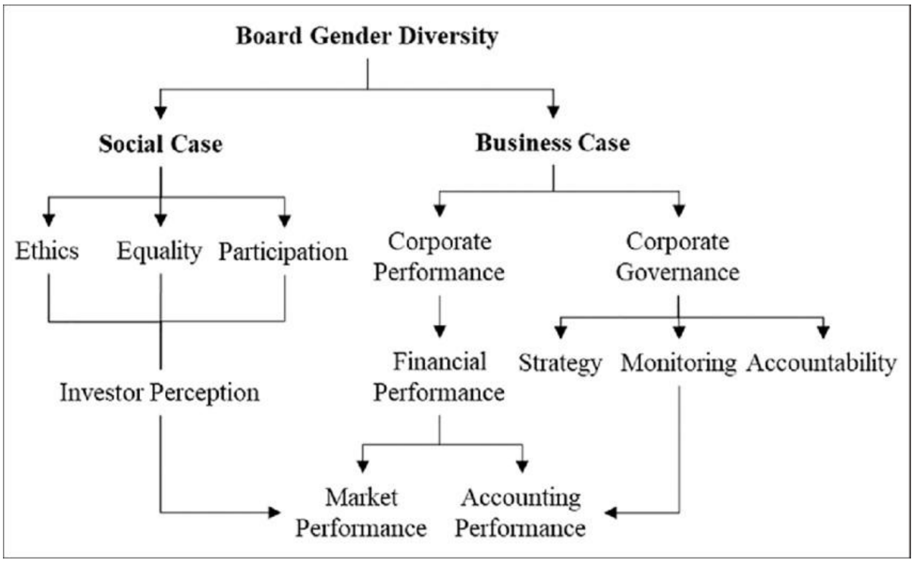


Figure: The social and business case of board gender diversity.

In 2015, Agyapong and Appiah conducted research titled "The Impact of Gender Diversity on the Performance of Non-financial Listed Companies in Ghana," which drew data from the Ghana stock market's fact books and Data bank's annual reports covering 2007–2011. They utilized the Blau index, Return on Assets (ROA), Tobin's Q, Debt-to-equity ratio, board size, company size, and business size to analyze the data. Their findings indicated no significant relationship between gender diversity and company profits, which they speculated might be due to the insufficient presence of female board members in Ghana. This study was critiqued for its over-reliance on the Blau Index as the sole measure of gender diversity, suggesting that a more comprehensive assessment, possibly including the actual number of female directors, might yield more precise outcomes.

Similarly, a 2008 study by Campbell and Minguez-Vera analyzed time-series data from 2005–2007 to assess the impact of female directors on firm performance, using market-based metrics like Tobin's Q and ROA. Their approach highlighted the relevance of examining specific periods critical to the study topic.

In a different context, Kilic (2015) examined the impact of board diversity on the performance of Turkish banks from 2008 to 2012. The study included 26 banks and utilized measures such as the percentage of female directors, foreign board members, the Blau index, ROA, and Return on Equity (ROE). Findings suggested a negative association between board diversity and financial performance, but the sample size was considered too small to represent the entire population of 130 banks, suggesting that a larger sample could provide more definitive insights.

Sanan's (2016) research focused on the social and financial outcomes of gender diversity on boards of Indian companies, sampling 54 firms randomly chosen from the ET list. Utilizing indices such as the Blau, ROCE, and KLD, the study found no significant improvement in performance due to gender diversity. The limitations of using cross-sectional data and a small sample size were noted, with suggestions for future research to employ longitudinal panel data over a more extended period to gain a clearer understanding of the impacts.

The study by Solakoglu and Demir (2016) in Istanbul, Turkey, investigated the effects of gender diversity on corporate performance, particularly how different firm characteristics influence this relationship. The research covered firms listed on Borsa Istanbul between 2002 and 2006. While less evidence supported the positive impact of gender diversity, the findings were robust, suggesting that the sample included a limited number of companies with multiple female directors, which may have skewed the results.

From a broader perspective, Simpson, Simkins, and Carter (2003) highlighted gender diversity as a critical component of good corporate governance, arguing that boards with both male and female members are better equipped to handle complex corporate challenges and enhance collective human capital. Similarly, Ikram and Su (2016) emphasized the significant role of women business owners in Pakistan, advocating for greater gender diversity on boards as a crucial economic and governance factor.

Daily and Dalton (2003) discussed how the inclusion of women on boards might prompt directors to consider shareholder expectations more thoroughly, potentially leading to enhanced governance and transparency. Zhang and Zhu (2013) supported this view, suggesting that a diverse board is more likely to achieve good governance outcomes.

These studies collectively suggest that while gender diversity on boards is generally seen as beneficial for corporate governance and understanding complex issues, empirical evidence on its impact on financial performance is mixed. Future research could benefit from larger sample sizes, diverse geographical and industrial contexts, and longitudinal data to better understand the dynamics and implications of gender diversity in corporate governance. This comprehensive approach would help clarify the conditions under which gender diversity most significantly affects corporate performance and governance.

Hypothesis 1 (H1). Differences in Gender and Their Impact on Business Profitability.

2.2.2 Empirical studies looking at how gender diversity affects businesses' financial performance.

Gender diversity on corporate boards is a significant aspect of modern corporate governance, attracting considerable attention from both the business community and academic researchers. The presence of women on boards is often calculated by the increase in the percentage of female directors, a measure that has been widely studied and advocated for as an indicator of progressive corporate practices (Luckerath-Rovers, 2013; Devi et al., 2015). Increasing the representation of women in boardrooms is not only a matter of equality but is also perceived to enhance the company's public image and standing.

Research has demonstrated various benefits of having a greater proportion of female directors. Female directors are often seen as possessing qualities like cooperation, politeness, and attentiveness, which can contribute positively to board dynamics and decision-making processes (Hassan et al., 2015). Such traits are believed to improve the handling of boardroom challenges, fostering a more collaborative and effective governance environment. Additionally, when women constitute a significant share of a board, particularly when there are several or at least three female directors, their influence on board decisions is notably enhanced, which can lead to better future prospects for the company and a more positive organizational atmosphere (Agyapong & Appiah, 2015).

Empirical studies have further substantiated the positive impacts of gender diversity. A higher proportion of female directors has been associated with better financial performance metrics such as higher return on assets (ROA) and return on equity (ROE). This correlation suggests that increased female participation on boards is linked to enhanced corporate performance (Shafique et al., 2014). Supporting this, research by organizations like Catalyst and McKinsey has shown that companies with a higher proportion of female directors on their boards report superior ROE compared to those with fewer female directors (Catalyst, 2013; Dang & Nguyen, 2016).

However, the relationship between female directors and corporate performance is not universally positive. Some studies have reported an inverse relationship, where an increase in the number of female directors correlates with a decline in financial prosperity (Kilic, 2015; Abdullah & Ismail, 2013). This negative impact might stem from contrasting attitudes and behaviors within the board, leading to discord and inefficiencies. Additionally, certain studies have suggested that the presence of female directors may be merely symbolic or that these directors do not have sufficient representation to genuinely influence board decisions (Abdullah & Ismail, 2013).

A more nuanced view suggests that the impact of female directors on financial performance may depend on their numbers relative to the board composition. In cases where women remain a minority, their influence might not be significant enough to impact firm performance markedly (Rose et al., 2013). Thus, while the presence of female directors is generally seen as beneficial, the effectiveness of this diversity may be contingent on reaching a critical mass that enables real influence and contribution to board deliberations and decisions.

Moreover, the beneficial impacts of gender diversity tend to be more pronounced when there is a substantial increase in the number of female directors rather than merely adding a single female director to a previously all-male board (Pasaribu, 2015). This suggests that a token female presence might not be sufficient to drive the positive changes associated with gender diversity.

In summary, while the general trend in research points towards positive outcomes associated with female directors on corporate boards, the relationship between gender diversity and financial performance is complex and influenced by various factors, including the proportion of female directors, board dynamics, and the potential symbolic nature of appointments. Future research should continue to explore these dynamics, considering different industries and cultural contexts to fully understand the implications of gender diversity in corporate governance. The ongoing discourse and investigation into this topic are crucial for refining corporate governance models and enhancing firm performance through a more equitable and inclusive approach.

Hypothesis 2: The implications for governance are significantly impacted by the rise in the number of female directors.

3. RESEARCH METHODOLOGY:

3.1. Sample and Data

Our research encompasses a detailed examination of data from companies listed on the National Stock Exchange (NSE) of

India, spanning the period from 2011 to 2022. This dataset includes annual observations of identified Indian companies, allowing us to rigorously test the hypotheses we have developed. We have specifically focused on non-financial sector companies because the regulatory and operational requirements for financial institutions differ significantly, and these entities are subject to more stringent governance norms and financial reporting standards. In conducting our statistical analysis, we employed panel data techniques to leverage both the temporal and cross-sectional dimensions of our data. This approach enhances the robustness of our findings by allowing us to control for variables that change over time and across different entities. The primary data sources for our study include the Implications of Governance database and the NSE database. The former is renowned for its accuracy in detailing financial information on Indian firms, making it an invaluable resource for assessing corporate performance and governance structures. The latter provides comprehensive data on a wide array of both financial and non-financial metrics for companies, enabling a thorough analysis of the impacts of governance practices on firm performance. By integrating these rich data sources, our research aims to contribute meaningful insights into the effects of governance on the operational success of non-financial firms in India.

3.2. Choosing the Model to Use

Our research utilized regression-based analysis to explore the relationship between independent and dependent variables. We tested our hypotheses using a Tobin's Q test, which yielded a statistically significant p-value of less than 0.001, indicating a strong correlation. Based on these findings, we opted to employ a fixed effect model for further investigation. This approach allows us to control for variables that could impact the results, thereby refining our understanding of the dynamics at play.

3.3. Measurement of Dependent and Independent Variable

3.3.1. The evaluation of the degree of gender diversity as well as the quality of governance

In our study, we employed a governance metric that assigns a numeric value between 0 and 100 to information based on its significance, a method proven reliable through verification. We conducted robustness checks to confirm the accuracy of this ranking system. The research specifically examines the influence of female directors and independent directors on the board, using these roles as independent variables in our analysis. This approach allows us to assess how these directorship types impact governance within the framework of our tested and validated model.

3.3.2. Quantitative Assessment of Female Representation and Directorial Control

In our study, we quantify the representation of female directors using the Blau index (BI), a recognized measure of diversity. The calculation of the Blau index is performed using the formula $1 - \sum_{i=1}^{n} P_i^2$, where Pi represents the proportion of females to males on the board, and n is the total number of categories, which in this case is 2. This index provides a valuable metric for assessing the heterogeneity or homogeneity of board compositions in terms of gender. Additionally, to evaluate the representation of independent directors, we calculate the proportion of independent directors by dividing the number of independent directors by the total number of board members. This data was sourced from a comprehensive database maintained by the National Stock Exchange (NSE), ensuring the reliability and accuracy of the information.

3.3.3. Evaluation of Independent Variables:

Previous research indicates that several factors can influence the extent of governance implementation within a company. These include the size of the board, the frequency of board meetings, the company's leverage ratio, the presence of Big4 auditors, and whether the company is a state-owned enterprise (SOE). Studies by Sahin, K., Basfirinci, C.S., and Ozsalih, A (2011) suggest that smaller boards may offer greater agility and effectiveness due to reduced bureaucratic challenges, leading to a presumption that a smaller board size could correlate positively with financial performance. The frequency of board meetings also plays a critical role, as regular meetings enable directors to fulfill their oversight responsibilities more effectively and supervise management actions closely. Consequently, it is hypothesized that there will be a significant relationship between the number of board meetings and the financial success of the company. This frequency is calculated according to the method established by Larcker and Richardson (2007), which considers the total number of meetings held within a specific period.

3.4. Model Estimation Process:

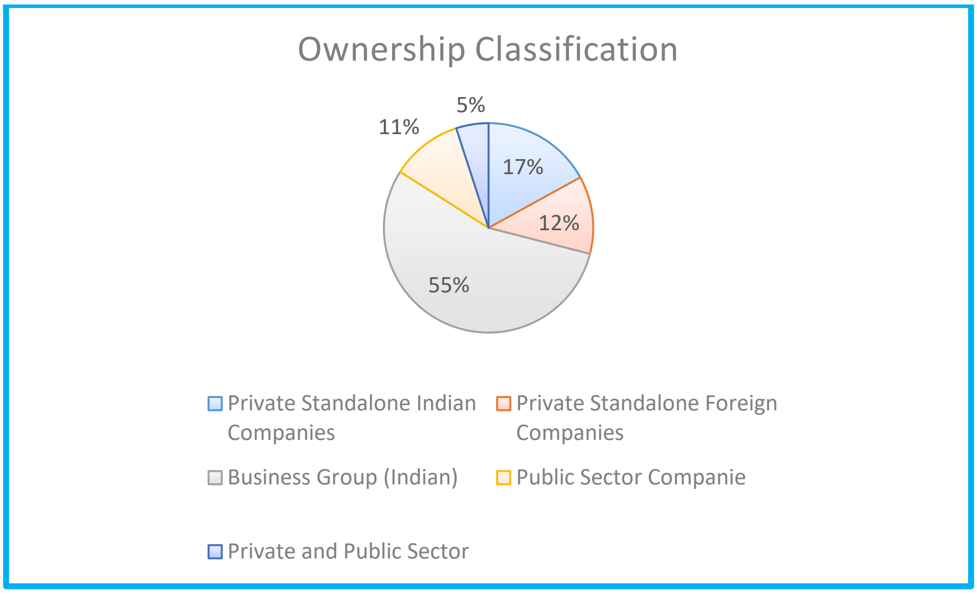
To explore the impact of female and independent directors on financial performance reporting, we conducted a detailed empirical analysis using regression equations. The primary methodology employed was the fixed effect regression model, based on the techniques outlined by Sial et al. (2018). The regression equation is as follows:

$$Gov_{it} = \beta_0 + \beta_1 Female\ D_{it} + \beta_2\ Ind\ D_{it} + \beta_3 BS_{it} + \beta_4\ OS_{it} + \sum_{i=1}^{n} \beta_n CV_{it} + \varepsilon_{it} \text{ ------------ } (1)$$

In Equation (1), GOV serves as a proxy to measure governance effectiveness. The term Female D represents the inclusion of a female director, highlighting the board's diversity. Ind D signifies the presence of independent directors, known to enhance board autonomy and oversight capabilities. The coefficients β1 and β2 quantify the contributions of these independent variables to governance outcomes, while $\sum_{i=1}^{n} \beta_n CV$ represents the sum of the product of each coefficient βn and the corresponding control variable CV, capturing all factors that influence governance and diversity.

3.4.1 Ownership Classification and Data Sourcing:

The governance-related variables, such as board size and the presence of female independent directors, were meticulously extracted from Corporate Governance Reports using manual methods to ensure accuracy. Tobin's Q, alongside other control variables like company size, was calculated using the Prowess Database system, providing a robust framework for our analyses. The sample firms were categorized based on ownership as shown in Figure 1: 76% are privately owned Indian companies operating independently, 54% are privately owned foreign entities, 248% belong to Indian business groups, 50% are public sector undertakings, and 22% have mixed private and public ownership. This classification reflects the diverse corporate structures that characterize the Indian economic landscape, offering a broad perspective on the governance dynamics across different ownership types. This comprehensive approach allows us to dissect the nuances of governance practices across a spectrum of corporate entities, providing deep insights into the mechanisms through which board composition and ownership influence corporate governance and performance in India.



4. EMPIRICAL RESULTS

4.1 Financial Performance as a Dependent Variable

Evaluating financial success in corporate governance requires insightful metrics due to the varying natures of accounting and market-based returns. Market-derived returns, such as stock prices, are forward-looking and reflective of investor expectations, making them more predictive of future financial performance. In contrast, returns based on accounting records are inherently backward-looking, often failing to fully encapsulate the effects of governance enhancements, which may take significant time to manifest in observable financial outcomes.

Given these considerations, we employ Tobin's Q as an alternative metric to assess company performance more effectively. In the Indian market context, calculating Tobin's Q presents unique challenges due to the prevalent use of corporate debt that is institutionally held and infrequently traded. Additionally, many firms' asset valuations are based on historical cost rather than current replacement value, which can distort the true economic value of the assets. Following the methodology proposed by Jackling and Johl (2009), Tobin's Q is calculated by summing the market value of all the company’s equity, debt, and paid-up preference shares. This total market value is then divided by the total book value of the company's assets to derive Tobin's Q. This approach provides a more dynamic and market-relevant evaluation of a firm’s financial health and governance efficacy.

4.1.2 Independent variables

Table 1 briefly describes our independent variables.

S. No	Independent Variables	Definition	Code
1	Women Directors	Dummy Variable that takes value 1 if Women Director and 0 otherwise.	WD
2	Independent Directors	Dummy Variable that takes value 2 if Independent Director and 0 otherwise.	ID
3	Board Size	Total Directors on Board	BS
4	Firm Size	Natural Logarithm of Net Sales	FS
5	Organizational Age	Organization's Age computed from the date of incorporation	OA

In recent years, the discourse surrounding corporate governance has increasingly emphasized the significance of diversity within boardrooms. This shift in focus stems from an acknowledgment of the multifaceted nature of corporate leadership and the recognition that diverse perspectives contribute to more effective decision-making processes. Among the various dimensions of diversity, gender diversity has emerged as a particularly noteworthy aspect, prompting organizations to re-evaluate their board compositions and recruitment strategies. The concept of an "interaction term" has gained prominence in discussions surrounding the expansion of independent directors and gender diversity within corporate boards. It encapsulates the synergy between these two factors, highlighting how a combination of independent directors and diverse gender backgrounds can enhance the effectiveness of board oversight. Drawing from the literature on finance, notably Bhagat and Black (2002) and the foundational work of Fama and Jensen (1983) in agency theory, there is substantial evidence suggesting that boards predominantly comprised of independent directors are better equipped to oversee management activities. Furthermore, the presence of female directors on corporate boards has been linked to improved organizational performance, as indicated by quantitative measures such as Tobin's Q. Studies by Peterson and Philpot (2007) and Terjesen and Singh (2008) have highlighted a positive correlation between firm size and the representation of women on boards. Interestingly, this correlation persists across different market contexts, challenging misconceptions about the ease of achieving gender diversity in smaller organizations.

In addition to gender diversity, board size emerges as a critical factor influencing organizational dynamics. The resource dependency approach posits that larger boards facilitate better performance by enabling organizations to access a diverse pool of resources and expertise. Johnson et al. (1996) argue that larger boards possess a greater capacity for information absorption, which is essential for businesses seeking to amass resources for growth. Provan (1980) further emphasizes the dual role of larger boards in enhancing resource access and fostering community participation. An organization's age also plays a significant role in shaping its governance structure and performance outcomes. By measuring organizational age in terms of the length of time since establishment, researchers can explore how the evolution of organizations over time intersects with governance dynamics. The results of panel regression studies **underscore** the importance of considering variables such as gender diversity, board size, firm size, and organizational age in understanding the complex interplay between governance practices and financial success. The findings reveal a compelling relationship between gender diversity, board size, and organizational performance, particularly when examined in conjunction with control variables. The presence of independent female directors is associated with a statistically significant positive impact on Tobin's Q, underscoring the value of gender-inclusive governance structures. Moreover, the strong positive relationship between board size, firm age, and Tobin's Q highlights the role of diverse board compositions in fostering strategic assessments and decision-making processes rooted in comprehensive expertise and intellectual diversity.

In conclusion, the discourse on corporate governance continues to evolve, with an increasing emphasis on diversity, inclusivity, and effective oversight mechanisms. Gender diversity, board size, firm size, and organizational age emerge as key determinants of governance effectiveness and organizational performance. By embracing diverse perspectives and fostering inclusive boardroom environments, organizations can enhance their capacity for strategic decision-making and drive sustainable success in an ever-changing business landscape.

Table 2. Descriptive statistics (Observations =450)

Variable	Mean	Std. Dev.
Log (Tobin's Q)	0.24	0.99
WD	0.18	0.53
ID	0.14	2.94
BS	6.29	3.02
FS	7.91	4.29
OA	25.33	35.23

The summary statistics in Table 2 provide insights into the characteristics of the observed entities. The mean of the logarithm of Tobin's Q is 0.24, suggesting an average level of Tobin's Q, while its standard deviation of 0.99 indicates notable variability. Female directors (WD) exhibit a mean of 0.18 with a low standard deviation of 0.53, implying a relatively stable in Female directors. Independent directors (ID) has a mean of 0.14, indicating an average level of disparity, yet its high standard deviation of 2.94 points to considerable variation. Board size (BS) and Firm size (FS) have means of 6.29 and 7.91, respectively, with moderate standard deviations of 3.02 and 4.29, suggesting moderate variability around their averages. Organization Age (OA) show a mean of 25.33 with a substantial standard deviation of 35.23, indicating a wide range of values for Organization age among the observed entities. These statistics provide a foundational understanding of the dataset, highlighting both central tendencies and dispersion for each variable. Further analysis is needed to explore relationships and draw more specific conclusions.

Table 3. Correlation matrix

Variable	Log (Tobin's Q)	WD	ID	BS	FS	OA
Log (Tobin's Q)	1	.282**	.424**	.238*	.227*	.467**
WD	.282**	1	.374**	0.094	0.084	.299**
ID	.424**	.374**	1	.328**	.387**	.403**
BS	.238*	0.094	.328**	1	.295**	.461**
FS	.227*	0.084	.387**	.295**	1	0.049
OA	.467**	.299**	.403**	.461**	0.049	1

A association matrix for the factors is shown in Table 3, revealing the pairwise relationships between them. Starting with Log (Tobin's Q), it exhibits positive correlations with Independent Director (ID) (0.424), Board Size (BS) (0.238), Firm SIze (FS) (0.227), and Organization Age (OA) (0.467). Notably, the correlation between Log (Tobin's Q) and OA is particularly strong at 0.467. Female Directors (WD) shows positive correlations with Log (Tobin's Q) (0.282), ID (0.374), and OA (0.299), while having negligible correlations with BS and FS. ID demonstrates positive correlations with Log (Tobin's Q) (0.424), WD (0.374), BS (0.328), FS (0.387), and OA (0.403). BS is positively correlated with Log (Tobin's Q) (0.238), WD (0.094), ID (0.328), FS (0.295), and OA (0.461). Financial Stability (FS) has positive correlations with Log (Tobin's Q) (0.227), WD (0.084), ID (0.387), and BS (0.295). Interestingly, the correlation between FS and OA is notably low at 0.049. Finally, OA display positive correlations with Log (Tobin's Q) (0.467), WD (0.299), ID (0.403), BS (0.461), and a minimal correlation with FS (0.049). These correlation coefficients shed light on the interdependencies between the variables, providing a basis for further investigation into potential patterns or associations in the dataset.

Table 4. Panel regression

Dependent Variable	Tobin's Q
WD	0.80 (2.45)***
ID	0.10 (6.23)***
BS	0.12 (0.80)
FS	0.08 (5.32)***
OA	0.07 (1.89)**
Intercept	0.92 (1.65)

***significant at 1% level, **significant at 5% level

Table 4 presents the results of a panel regression analysis where Tobin's Q is the dependent variable. The analysis includes many independent factors such as Female Directors (WD), Independent Directors (ID), Board Size (BS), Firm Size (FS), and Organization Age (OA). The coefficients and t-statistics are included in parenthesis. The regression coefficient for Women Directors (WD) is 0.80, with a t-statistic of 2.45. This suggests that a higher number of female directors is related with a statistically significant and positive impact on Tobin's Q, at a significance level of 1%. Independent Directors (ID) have a notable positive impact, as shown by a coefficient of 0.10 and a high t-statistic of 6.23, demonstrating a robust link at the 1% significance level.

The coefficient of Board Size (BS) is 0.12, with a t-statistic of 0.80. This indicates a positive impact on Tobin's Q, while the finding is not statistically significant at conventional levels (not significant at the 5% level). The variable representing the size of the firm, denoted as FS, has a notable and positive impact on Tobin's Q. The coefficient associated with FS is 0.08, and it is statistically significant at a high degree of confidence, with a t-statistic of 5.32 at the 1% significance level. Furthermore, the variable Organization Age (OA) has a positive impact with a coefficient of 0.07 and a t-statistic of 1.89, which is statistically significant at the 5% significance level.

The intercept has a value of 0.92, accompanied by a t-statistic of 1.65. However, the level of significance is not expressly stated. To summarize, the regression analysis indicates that the presence of Female Directors and Independent Directors has a statistically significant and positive effect on Tobin's Q. Additionally, Firm Size also makes a substantial contribution to Tobin's Q. However, the size of the board does not exhibit a statistically significant correlation. To properly comprehend the economic relevance of these results, more context and analysis are required.

5. CONCLUSIONS AND FUTURE RESEARCH:

The role of the board of directors in governance systems cannot be overstated, as it serves as a crucial link between shareholders and management, ensuring alignment of interests (Reguera et al., 2010). The composition of the board plays a **pivotal** role in decision-making processes, thereby exerting a significant influence on the financial success of the organization. Recent studies have **underscored** the importance of gender diversity on corporate boards, highlighting its direct correlation with financial performance, particularly concerning metrics like Return on Capital Employed (ROCE).

The findings of these studies validate the hypothesis that the presence of female directors significantly impacts financial success, emphasizing the value of gender diversity in driving economic progress. Carter (2003) emphasizes that diverse gender representation enhances corporate governance processes, fostering better communication and connections with female consumers (Rose, 2007). Moreover, women bring varied viewpoints and approaches to decision-making processes, thereby enhancing their efficacy in boardrooms.

The insights gleaned from these studies have profound implications for both theoretical understanding and practical application. They suggest a potential link between gender diversity and the effectiveness of board oversight functions, which are crucial for unbiased governance (Haldar et al., 2013). Diverse boards, characterized by a range of experiences and opinions, are strategically advantageous in facilitating comprehensive discussions and deliberations.

The longitudinal nature of some studies allows for a nuanced analysis of gender diversity trends over time, shedding light on the complexities inherent in corporate governance dynamics. Manual data collection efforts, particularly in regions with limited readily available data like India, provide valuable insights into the composition of corporate boards and enable future research endeavors related to gender diversity.

By aiming to achieve a more balanced gender representation at both the board and business levels, these studies lay the groundwork for fostering inclusive corporate environments. They make a compelling case for the inclusion of independent female directors in boardrooms, not only from a diversity and equality standpoint but also from a standpoint of enhancing organizational performance and governance effectiveness.

In conclusion, the research on gender diversity on corporate boards offers valuable insights into its multifaceted impact on financial performance and governance processes. By recognizing the importance of diversity in board compositions and actively promoting gender-inclusive practices, organizations can unlock untapped potential and pave the way for more sustainable and equitable business practices.

Conflicting interests

The Author declares that there is no conflict of interest

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