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**IMPACT OF RISK GOVERNANCE INDEX ON FINANCIAL  
PERFORMANCE WITH THE MODERATING ROLE OF  
GENDER DIVERSITY**



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## **ABSTRACT**

This study investigates the influence of the Risk Governance Index (RGI) on firm financial outcomes, with particular emphasis on the moderating function of gender diversity within corporate boards. Amid increasingly complex and volatile business environments, effective risk governance is regarded as a pivotal factor for organizational resilience and sustainable financial success. Grounded in agency theory and resource dependence theory, this research argues that sound risk governance enhances accountability, transparency, and strategic risk oversight, thereby contributing to improved corporate performance. Additionally, it is posited that gender diversity reinforces this relationship by introducing varied perspectives, strengthening board monitoring, and encouraging more balanced risk-taking conduct.

The study adopts a quantitative methodology based on secondary panel data from 22 publicly listed banks in Pakistan covering the period 2020–2024. Financial performance is assessed using Return on Assets (ROA) and Return on Equity (ROE). The Risk Governance Index is constructed from board-level risk oversight indicators, while gender diversity is operationalized as the proportion of female directors on the board. Panel regression models are employed to estimate both direct and moderating effects.

The findings demonstrate that a higher Risk Governance Index is significantly linked to superior financial performance. Furthermore, gender diversity not only exerts a

direct positive effect on performance but also meaningfully moderates the relationship between risk governance and financial results. Specifically, the favorable impact of risk governance on performance is more evident in banks with greater female representation on their boards.

By integrating risk governance and gender diversity into a coherent analytical framework, this research contributes to the body of literature on corporate governance and risk management. The outcomes offer empirical support for policymakers, regulators, and business leaders seeking to enhance financial performance through inclusive and effective governance practices.

***Keywords:*** *Risk Governance Index; Gender diversity; Financial performance; Panel data; Pakistani banking sector*

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# **Impact of risk governance index on financial performance with the moderating role of gender diversity**

## **INTRODUCTION**

### **1.1 Introduction**

The intention of this study investigating the Impact on risk governance index on pecuniary performance, as performing the moderating role of gender diversity. In the last fifteen years, women took more important roles in the profession on a variety of platforms, included corporate boards and financial industry. Women where representation on high management had been rising dramatically. The outcome influencing by changes in the workforce's demographics and laws (Gaio, 2024). Research investigating the mechanism, through which the Risk Governance Index (RGI) affected corporate financial performance that had specific focus on the moderating role played by board gender diversity. Many prior research discussions concerning board gender composition and its influence on firm outcomes have largely centered on developing economy, particularly the United States, the contexts within developing nations had received relatively less scrutiny, which Evidencing and suggested that gender balance within boards could impose the condition the existing positive association among the Jeopardy Governance Catalogue and monetarist success. The governance practices and contextual circumstances are increasing sing gender diversity could potentially reinforce in some instances, The diminish and beneficial impact of risk governance on financial results.

Moreover, the dissertation was structured into five chapters to address the core research question systematically, initial chapter presenting the study's background, problem definition, specific objectives and questions, theoretical propositions, and the overall significance. In chapter Two providing the comprehensive literature review, identifying the gaps in existing research, also develops the analytical framework, with examining pertinent theories, empirical findings on risk governance to fiscal performance for organization, with the moderating influence of gender diversity. The third chapter elaborating on this research design, which includes the rationale for model selection, data sources, and measurement of variables which are included the first one is Risk Governance Index, financial performance metrics, gender diversity, and control The other chapter synthesizing the findings, offering a detailed analysis of risk governance interacts with gender-diverse boards for shape financial performance, these proposing relevant policy implications, managerial recommendations, limitations of the study, and avenues will useful for future inquiry.

The gender diversity could enhance financial outcomes by promoting more resilient risk management frameworks improve information transparency, included refining strategic decision-making processes (Mohsin, Otchere & Shahriar, 2021). A higher Risk Governance Index was associated with improved financial performance, and greater diversity in board gender composition may further strengthen this relationship. Current Research indicating the enhance gender diversity which contributes to more effective risk management, The lower volatility in stock returns, and more favorable financial results. The participation of female directors could moderate the link between risk and performance through intensified oversight, more thorough deliberation of issues will improve the risk evaluation, although these effects could vary across industries and research settings.

Various Scholars had advocated for employing risk management techniques for bolster financial performance and had conducted extensive studies within the banking sector, which explains how risk management practices influence financial outcomes (Ahmed et al., 2024). The Effectiveness in risk governance could offers the structured approach in corporate risk management; by supporting in increasing shareholder value through cost efficiency and greater operational stability, The Robust governance structures had commonly assessed via the Risk Governance Index, could lead to better financial results by minimizing fluctuations in earnings and cash flow during fostering revenue growth.

In past decade identification of core distinctions among various corporate governance models and researchers had persistently sought the most effective governance frameworks (Kamali et al., 2024). Various Work demonstrated following companies with stronger governance systems especially which are characterized by more independent and proactive boards achieve the higher profitability could measure by Economic Value Added, compared to firms with less developed governance (MacAvoy & Millstein, 2023). Various Enterprises adopted corporate governance in best practice codes" were widely recognized to exhibit superior management. However, no single governance framework was proved universally applicable across all organizations.

The research was conducted over several decades has progressively established connections between ownership structures, corporate performance. Contemporary firms operate within increasingly complex and uncertain environments where financial disruptions, regulatory shifts, and operational hazards could rapidly compromise value. The function of risk oversight has evolved from a supportive role to a central board responsibility, as more comprehensive risk governance frameworks will correlate with greater organizational resilience and more

predictable financial outcomes (Raouf & Ahmed, 2022). The Risk Governance Index functions were used composite measure to captures the robustness and architecture of corporate risk oversight mechanisms are included board risk committees, Chief Risk Officer, which could quality of risk reporting, and risk appetite frameworks provided the valuable tools for the empirical evaluation of risk governance quality.

The gender diversity in senior leadership and on boards will connect to shifts in strategic decision-making which will affects firm performance. The current cross-national and cross-sectoral studies indicated that female involvement will enhance information disclosure and restrain certain forms of excessive risk-taking, and, in most cases, it will amplify governance signals directed toward stakeholders (Gaio et al., 2024). The building on these insights, will supportive the key unresolved question remains will explain how does risk governance will interact with the gender to make up for effective board which could affect for a entity financial results. There was Limited research exploring the interaction effects which suggests that gender diversity could alter the direction and magnitude of governance-performance relationships, for instance by reduce the risk propensity or strengthening oversight. Nevertheless, related evidence shows inconsistency across different countries, industries, and index methodologies.

By utilizing panel data comprising firm-year observation could build a Risk Governance Index from manually gathered governance indicators, and performs robustness should checks the endogeneity and industry heterogeneity. That is gave the continuing global dialogue on board diversity and risk oversight, the findings were anticipated to aid regulatory authorities and corporate boards in comprehending how formal risk protocols and board composition collectively influence firm performance, an area could examined research (Raouf & Ahmed, 2022).

The specific aims of this research were first, to assess the positive effect of the Risk Governance Index on economic presentation the second to investigate the impact of gender diversity on financial performance and the further to measure the positive influence for Risk Governance Index on pecuniary concert under the moderating effect gender diversity. This will be supplying empirical evidence on the relationship between the Risk Governance Index and financial performance a connection that remains underexploring this work adds to the corporate governance literature. The corporation in gender diversity as a moderating variable could enriches the theoretical understanding of how board composition interacts with governance mechanisms to determine financial results. The conclusions were assisting organizations in evaluating whether stronger risk governance frameworks genuinely improve financial performance, also need to explain whether gender diverse boards could enhance governance effectiveness. This will offer practical guidance for firms seeking to fortify board structures, refine risk oversight, and implement evidence-based on governance practices. Many Regulatory bodies and policymakers could derive insights regarding in the contribution of gender diversity to advancing governance quality.

## **1.2 Research Gap**

Negating to integrate the risk governance index which includes board level of risk monitoring, risk policies, and the risk control structures, majority of previous research were concentrated on discrete governance mechanisms, which includes audit committee and enterprise risk management and board independence (Rehman and sthmmm.2024). this fact that showed as association among board gender variety and firm performance was extensively studied, there is little is known about how it will influences among relationship between jeopardy governance on monetarist success.

The majority of current research are treats female diversity as an independent variable, they were ignoring the ways in which the presence of women and men on boards could either increase or decrease the efficacy of risk governance practices in enhancing financial results (Fauziah et al,2025). Furthermore, additional literature was not adequate address the context specificity of governance efficacy. The majority empirical data took from industrialized markets, which will restrict the applicability of conclusions to emerging nations the institutional quality and cultural norms, and governance practices will very different. This will lead to a crucial knowledge gap on whether and how gender-diverse boards will affect the relationship between risk governance and performance in emerging and developing nations. Lastly, previous studies on the governance performance were linked to produced conflicting and ambiguous results, indicating the need for moderation-based models to account for these discrepancies. This study is addressing the dearth of integrative frameworks by used gender diversity as a moderator and the body of literature of elucidating the circumstances in which risk governance could improves financial performance.

### **1.3 Problem Statement**

Variation was authors suggestions for future research and growing emphasis on effective risk governance as a mechanism could enhance the corporate financial performance, which provides empirical evidence on how a firm's Risk Governance Index (RGI) influences financial outcomes is remains inconclusive. While strong risk governance practices can expect to reduce uncertainty, improve decision making, and hope for strengthen organizational resilience, many firms could continue to experience inconsistent financial results even when governance frameworks was in place. This gap suggesting that additional organizational factors could shape the effectiveness of risk governance. Especially gender diversity, which had gained

attention for its potential to improve board independence, it will enhance oversight, and strengthen risk-related judgments. However, the current research offering limited research to how and whether gender-diverse boards amplify or could weaken the connection amongst risk governance and monetary performance. The serious problem is essential for guiding regulators, policymakers, and firms could design governance structures that promote sustainable financial performance.

#### **1.4 Research Questions**

- To investigate how the risk governance index impact on financial performance?
- To investigate does a gender diversity impact on financial performance?
- To investigate does a risk governance index positively impact financial performance with the moderating role of gender diversity?

#### **1.5 Research Objectives**

- The objective of this research to investigate the risk ascendency index impact on fiscal recital.
- Research objective to investigate the gender diversity impact on financial performance.
- The purpose to investigate the positive impact of the risk governance index on financial performance, with the moderating role of gender diversity.

#### **1.6 Significance of the Study**

Research could add the corporate governance literature by providing empirical evidence on the impact of the Risk Governance Index, financial performance a relationship which is still underexplored. The incorporation on male and female diversity moderator, study will advance theoretical insights will board arrangement relate to governance mechanisms for shape this research. The findings may helpful

for organizations to understand whether stronger risk governance frameworks genuinely enhance financial performance and whether gender-diverse boards improve the effectiveness and efficiency of such governance. This could guide the firms in strengthening board structures, will enhance the risk oversight, and adopt the evidence which base on governance practices. Regulators and policymakers will be benefit from this study by gaining insights into the role of gender diversity in improving governance quality. Results could support policies promoting board diversity and reinforce and importance on vigorous risk governance standards in improving performance. To Demonstrating the combined influence of risk governance and gender diversity will helps to build investor and stakeholder trust in corporate management practices. Effectiveness in governance fosters transparency and accountability, and long-term financial sustainability. The study will improve, empirical backing for increasing women and men depiction for leadership. By highlighting their contribution for effective risk governance and will improve financial outcomes, the study will strengthen the business case for gender-inclusive corporate strategies.

### **1.7 Scheme of Study**

The research was specially on methodically, which may examine the five chapters of the study on the Impression, Risk Governance Index on Financial Performance with in Controlling Role of Gender Assortment. Study introduction, the problem declaration, research objectives, Research questions, hypotheses, and significance are all obtainable in the first chapter. Furthermore, this research identifying research gaps and conceptual framework, the second chapter examines pertinent literature and discusses theoretical underpinnings, empirical studies on risk governance and financial performance, and the moderating influence of variable diversity. The study contains design, population and sample, data sources, measurement of variables

(Risk Governance Index, gender diversity, and other variables all described in the third chapter. The fifth chapter, which offers a thorough explanation of how risk governance and gender diversity jointly touch firm financial performance, concludes with discussion, policy and management recommendations, the study boundaries, commendations for further research study.

## LITERATURE REVIEW

### 2.1 Risk Governance and Financial Performance

Various studies were indicated, that risk Governance considered a primary issue for senior executives in the banking sector. They were regarded risk governance as the future of the banking sector. Hence, it should be treated as effectively and efficiently (Singhania, 2024). Commercial banks may implement effective policies to mitigate associated risks, and to maximize financial returns, this way they can maintain smooth operations, previously in protected their obligations and equity (Jouber, 2024). There are some primary categories into which banking risks were categorized. Six distinct types of risks elaborated the systematic or market peril in working risk, permissible hazard, credit danger, liquidity jeopardy, business risk, reputation risk, and strategic risk. Additionally, there were presented different way to categorize bank risk (Dwekat, 2024).

It was anticipated that the results may offering empirical proof that companies with more robust risk governance systems will perform better financially, and that this benefit were especially noticeable in companies with more women on their boards. By combining gender diversity and risk governance into a single framework, the study is going add knowledge on company governance, risk management. It also provides policymakers, regulators, and corporate decision-makers with insightful information about how to improve firm performance through inclusive and efficient governance practices (Fauziah et al,2025).

According to some research, depending on the context and performance metric employed, corporate governance indices may exhibit positive, negative, or negligible associations with conventional accounting performance metrics including ROA, ROE, and net profit margins. For instance, the governance index was favorably correlated with market capitalization but negatively or negligibly correlated with other performance metrics in a study conducted in Pakistan that used a CGI and several performance metrics (Iqbal & Masood, 2022).

The idea that decision-makers' use of governance systems affects a firm's success is supported by a large body of research. The need to establish a connection between risk-based governance and sustainable bank performance in developing economies persists, even if the performance of banks in emerging markets in response to commercial governance is examined to some extent. As a result, covers the aspects of corporate governance that have received the least attention and may have an effect on banks' financial performance. The study examines the impression of risk governance related elements on banks' assessments in the post-crisis period. The argument that banks have long seen managing risk as a matter of controlling interest rate, foreign exchange, liquidity, and the four risks mentioned above, which constitute the vast majority of their risk exposure, is supported by this observation. Although banks are aware of legal and counterparty concerns, they do not consider these very important for their clients. When dealing with high-stakes counterparty risk, the credit department or other established processes are used to assess such risks (Dwekat, 2024).

Currently the risk governance is gaining increasing attention at the board level, largely due to recurring financial crises and this tightening will consider the regulatory frameworks. A growing body of literature was suggested that the well-developed risk governance arrangements included establishment of board . risk

committees, Chief Risk Officer (CRO), and the formulation of explicit risk appetite policies could be a crucial role for ornamental firms the financial resilience and overall performance of these firms (Alabdullah and Bae et al., 2023). Empirical evidence indicated of these firms if stronger risk governance structures tend to experience lower earnings volatility [ will not possibility to achieve superior returns on assets (ROA), particularly within emerging Asian economies (Alabdullah et al., 2024). Similar patterns were documented in the banking sector, where effective risk oversight could associate with reduced non-performing loans and stronger capital positions during periods of economic stress (Bae et al., 2023).

It may consider the benefits, by adoption of risk-oriented governance frameworks remains uneven across emerging markets (Singhania, 2024) arrested that although many financial was institutions acknowledge the strategic importance of risk governance, deficiencies in organizational capacity were often prevent its full integration into decision-making processes. Complementary findings by (Jouber , 2024) suggest that effective risk governance extends beyond risk mitigation; it also strengthens investor confidence, improves access to external financing, and contributes positively to market valuation.

Previous empirical studies had further advanced this literature by introducing composite indicators to capture the quality of risk governance. For instance (Raouf and Ahmed, 2022) constructed a Risk Governance Index (RGI) based on board-level risk oversight characteristics could report a positive association amongst the index and firm profitability among listed companies in Southeast Asia. The result was consistent with earlier research demonstrating that structured and systematic risk governance practices support more was sustainable financial outcomes over the long term (Conyon & He, 2017).

***H<sub>1</sub>**: Risk governance index has confident impact on financial performance.*

## **2.2 Gender Diversity and Financial Performance**

The potential impact of gender diversity on business outcomes was explained, the extensively researched in corporate leadership, particularly on executive boards of managers will improve organization capability. The percentage, female directors, CEOs is commonly was used and many researchers were argued gender diversity, their thought to have an impact on business performance through better oversight, wider viewpoints, will helpful for stronger decision-making skills based on experience diversity (Gazzar & Khlefa, 2024).

A diverse and dynamic research landscape is reflected on literature for gender miscellany, financial presentation. While a number recent empirical studies have found have more women on boards and moreover leadership positions are favorable impression on performance, particularly when strong governance agendas are in place, other studies have found mixed results and context-dependency. As long as wider institutional and business-specific conditions coincide, gender diversity is generally the governance necessity potential driver to improved financial performance and sustainability. (Saraiki 2025).

According to research using sizable international datasets, businesses typically do better financially when gender diversity is combined with improved national governance. For instance, gender diversity has a favorable effect on operational outcomes in nations with high governance thresholds. Increased gender diversity on boards had numerically important beneficial influence on return on (ROE) and return on assets, with higher effects in high-performing companies, according to a study of Latvian businesses. Gender-diverse boards were positively correlated with ROA and ROE, according to research on commercial banks in Bangladesh, indicating that varied gender representation improves financial results in emerging economies (Uddin, 2023).

Gender diversity was referring the proportion of females to males within an organizational framework. A smaller disparity explaining the connotation the populations of gender diversity correlates, with could increase diversity. Researchers may demonstrate that heterogeneous boards, comprising directors with diverse characteristics and perspectives, would enhance strategic formulation, foster innovative problem-solving, and increase productivity, thereby the elevating board effectiveness. A prevailing consensus were suggested that augmenting the symbol of women on boards will enhances the performance, prompting numerous nations could advocate for gender quotas (Hazaea et al., 2023). Numerous studies have been conducted, although the examination of the relationship between female board diversity and firm performance in developing countries remains constrained. This may be partially attributable the comparatively low symbol of women, company boards in developing nations (Li and Chen, 2018).

Corporate governance the term documented by Eells in 1960, was a central element of the global economy, which had the witnessed marked to development over the past decades. Corporate governance could consider a set of internal and external rules that could be supportive a company in achieving its goals, it will helps to create and manage the links with the shareholders and the state its legislative framework, and the board of directors will be improve, as well as the public sector in general. The adoption of corporate governance practices was Favors investors by gaining the competitive advantage will attract the more capital. This was the known case, that of the Lehman Brothers, which shows how the failure for use corporate governance principles caused the company's bankruptcy. In the past papers traces the evolution of corporate governance coherently and concisely.

Literature were reviews the highlight in developing countries. financial markets were affected if there were macro changes in corporate governance and on national

level. These studies were inspired scholars to understand how to manage heterogeneous and homogenous banking sectors will successful. Empirical and conventional instruments were suggested to be implemented in the banking sector in order to support companies in seeing the advantages used corporate governance principles. The analysis was provided methods to quantify the implications for stakeholders to condense the asymmetric information with the banks and institutions into a comprehensive legislative framework (Li and Chen, 2018).

The female depiction on corporate boards for developing nations compels us for investigating whether prior findings from developed countries are applicable in developing countries, considering the distinct institutional characteristics, particularly cultural variances, that may influence corporate behaviors and actions, including risk-taking (Pandey, 2023).

This analysis is essential due to cultural dynamic characteristics and significance in developing nations, where customs, traditions, and religion exert a greater influence than in developed countries. Consequently, the cultural was impacted among relationship of board gender diversity of business outcomes would yield markedly different predictions and potentially will substantially effects. There were rise in female image on corporate boards for emerging nations investigates the moderating influence of culture will check on the relationship between gender diversity and performance, and the risk-taking (Kahloul, 2022).

Gender diversity within corporate leadership and oversight will boost, become a prominent topic on governance research, particularly with respect to its implications for financial it will strategic performance. Previous studies meta-analyses and cross-national studies provided the evidence that gender-diverse boards will often linked to more balanced decision-making efficiently, enhanced innovative capacity, and a more in cautious approach to risk-taking (Hazaea et al., 2023; Pandey, 2023). In the

related context of GCC countries, firms with higher female representation on boards was founded to outperform their peers in terms of ROA and Tobin's Q, a result commonly was attributed to the inclusion of diverse perspectives and more rigorous board deliberations (Hazaea et al., 2023).

Nevertheless, the empirical evidence is remains mixed. Several studies were emphasized that the impact of gender diversity on financial outcomes could highly context-dependent and shaped by cultural norms, institutional settings, and industry characteristics (Li & Chen, 2018; Kahloul, 2022). For example, (Kahloul, 2022) reported that in collectivist societies, gender-diverse boards would more effective in reducing corporate risk exposure, yet this may not consistently translate into higher profitability in organization. Similarly, (Aror a, 2022) previous studies suggested that while female directors are generally will more risk-averse, such behavior does not automatically yield superior financial results in highly competitive or volatile industries.

Beyond the financial metrics, many scholarships highlighted the broader governance benefits of gender diversity. Female board members were frequently associated with higher levels of independence, stricter are monitoring, and greater sensitivity to stakeholder were concerns (Gaio et al., 2024; Petrović, 2025) further will be contends that leadership teams characterized by gender diversity would tend to adopt more inclusive management styles, this may be thereby enhancing organizational resilience and supporting long-term value creation.

*H<sub>2</sub>: Gender diversity significant positive influence on financial performance.*

### **2.3 Risk Governance, Gender Diversity, Financial Performance**

The author was asserted that risk Governance diverges from previous gender diversity research, which considered the primarily focused on the gender disparities within the board of the directors (Khlif and Achek, 2017).

These systems and procedures are using by businesses to monitor and control risk at both the strategic and operational levels will refer to as risk governance. It is commonly known that strong risk governance frameworks, which could include risk committees, risk policies, and the oversight positions like Chief Risk Officers had, an impact on long-term performance and organizational stability through efficient risk identification and mitigation. Foundational research was demonstrated that well-structured governance systems could improve financial returns by lowering volatility and aligning risk attitudes with shareholder interests, even it will direct literature on risk governance indices will still in its infancy. For instance, higher risk levels were negatively correlated with performance indicators like ROA and ROE, yet composite governance and risk indices were created for Indian public sector companies show a positive correlation between governance quality and returns. The quality of governance in this situation would moderate (Mbarek & Ayadi, 2025).

term performance with successful will identify and will reducing risks. Foundational research demonstrated that well-structured governance systems could improve the financial returns by lowering volatility and aligning risk attitudes with shareholder interests and even if direct literature on risk governance indices will still in its under infancy. For instance, higher risk levels were negatively correlated with performance indicators like ROA and ROE, were not composite governance and risk indices created for Indian public sector companies are showing a positive correlation between governance quality and returns. In this situation a good governance could regulate risk-return dynamics and will give stakeholders a performance signal (Maheshwari et al, 2022)

Gender diversity will improve financial risk disclosure and transparency, according to data taken from corporate risk reporting. This was suggested diverse boards will be more watchful in risk oversight and governance. The adoption of enterprise risk management (ERM) is impacted by gender diversity, according to recent study that has not yet been publicly published. This suggests that women directors could improve the integration of formal risk governance procedures. Increase in amount research indicated that gender diversity could affect financial performance through risk governance processes, despite the fact that many studies consider gender diversity and risk governance independently. Ahmad et al, (2024)

Research emphasizing the importance, gender diversity and monetary performance, suggesting that it may be more pertinent to examine the composition of board committee rather than the entire board when assessing board effectiveness (Das, 2025).

Various investigations have shown that Research on gender differences has concentrated chiefly on the following areas: the gender of auditors; and the gender diversity of top management. The data shows that men and women approach risk differently and take different amounts of risks. Women are generally more risk-averse than men, which influences their behavior in auditing and managerial roles (Arora, 2022).

According to the author (Huang, 2022), this research examines gender diversity of the boards of managements on risk management and financial performance. Evidence suggests if increase in diversity balanced of directors reduces stock market return volatility, affecting corporate risk. The authors demonstrate that corporate performance variability decreases the number of females rises.

This joint influence risk governance gender diversity represents a will emerging and increasingly relevant stream of this research. Present studies suggesting that gender-diverse could enhance the effectiveness of risk governance mechanisms by introducing more comprehensive and prudent approaches to risk assessment and oversight (Das, 2025; Huang, 2022). For example, id demonstrates that firms combining will high RGI scores with substantial female board can represent exhibit lower stock return volatility and higher firm value, will indicate a potential synergistic effect between these governance dimensions. some existing research pointed to transitional challenges (Aziz, 2024) were observed that in traditionally male-dominated industries, the introduction of gender-diverse boards may initially create alignment difficulties with established risk governance practices, occasionally resulting in short-term performance will declines. Over time, however, such firms will tend to achieve more stable and resilient financial performance better.

The moderating role of gender diversity is further supported by behavioral and institutional perspectives. Female directors are often found to display higher levels of diligence and ethical awareness, which may strengthen the monitoring role of board risk committees (Gaio et al., 2024). Moreover, in regulatory environments that will emphasize the transparency, accountability, and disclosure, the gender diverse boards appear will better equipped to implement robust risk governance systems and communicate these practices effectively to external stakeholders (Shakil, 2024).

*H<sub>3</sub> : Gender diversity have significantly moderates relationship amongst risk governance and fiscal performance.*

## **2.4 Theoretical Support**

Currently scholars were increasingly studied how gender diversity affects firm's financial performance. Many empirical research was suggested that the relationship

will make complexity and context-dependent. While some research found that they had more female directors is linked to better financial outcomes, other studies showed mixed results, indicating that the effect could vary depending on industry on firm characteristics with national context (Hazaea, 2023). This suggested about gender diversity were not automatically guarantee improved performance, but it is contributing under certain conditions.

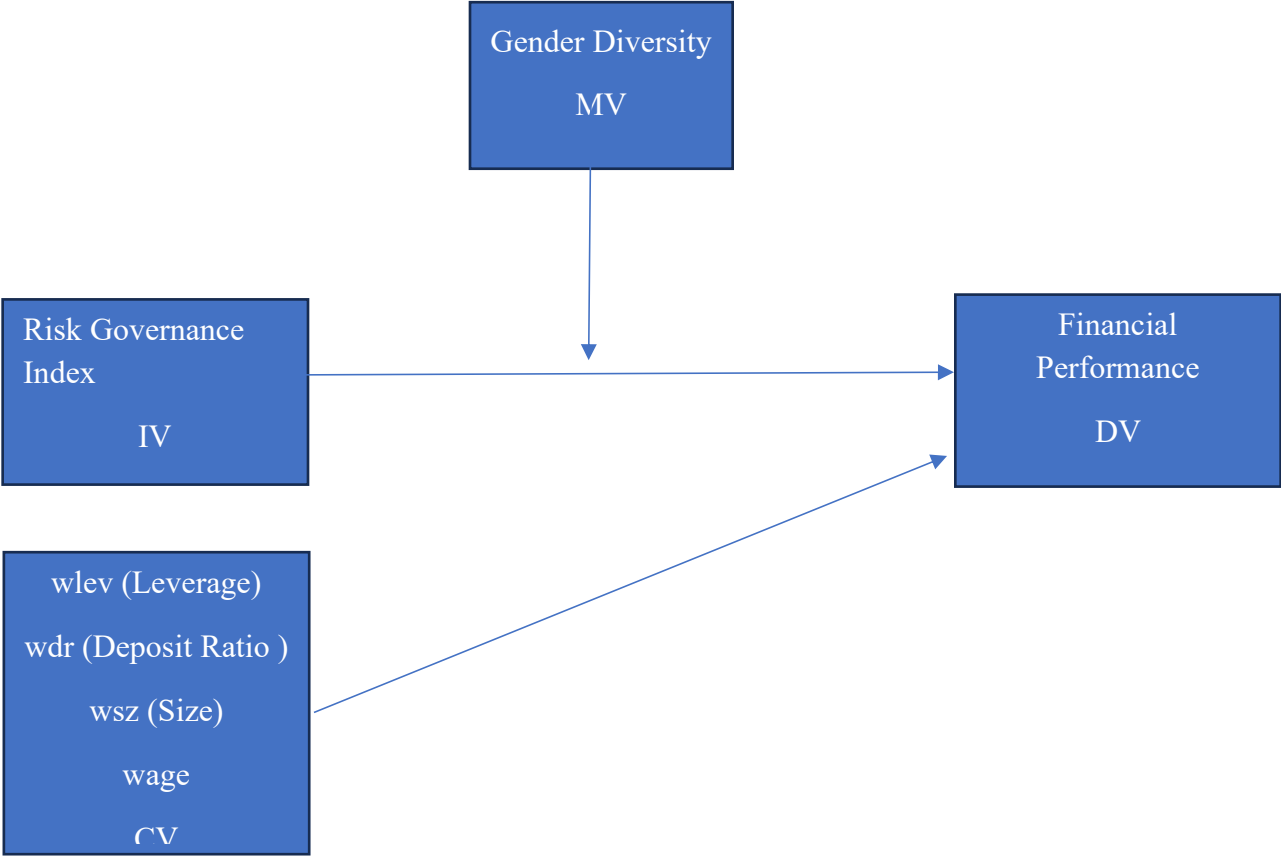
Evidence from specific countries were provided further insights. For instance, studies from Spain and other countries report that companies on gender diversity for boards will perform efficient on accounting-based measures, although the impact on market-based performance could be less clear (García-López, Pacheco-Olivares, & Hamoudi, 2024). Similarly, research from Saudi Arabia and other Middle Eastern countries was indicated that gender-diverse boards will generally associated with higher profitability, they were highlighting the potential benefits of diversity in governance and decision-making processes (Al-Hassan & Ali, 2025).

Gender diversity could be influencing corporate risk management. Some studies were showed that boards a large female representation will adopt more cautious risk-taking approaches, which could lead to more stable and sustainable financial performance, if particularly in developing countries or in contexts where cultural factors were influence corporate governance (Khan & Siddiqui, 2021). However, the evidence will not entirely consistent, as some reviews point out that will be expected to the effect of gender diversity on performance could differ depending on the firm's internal governance structures, they elaborated that presence of other board mechanisms, and country-specific factors (Patel, 2022).

It will be additionally to gender diversity, broader of the governance devices, such as board independence and leadership structure and internal control practices will be widely recognized as important contributors to financial performance. Strong

governance for frameworks generally supported better decision-making and will the effect reduce the likelihood of managerial misalignment with their shareholder interests (Zhang et al., 2023). Together there were will be findings highlight the importance of examining how the gender diversity will be moderate the relationship between risk governance quality and financial performance as the interaction between these factors as remains a topic with mixed empirical evidence and significant research interest.

### 2.5 Conceptual Framework



# METHODOLOGY

## 3.1 Data

Quantitative data collected for research purposes. The entire data is secondary in nature and is derived from secondary sources; the data collection specifically relies on the financial reports of 22 listed series sourced from the Pakistan Exchange, covering from period from 2020 to 2024. For this reason, the data is quantitative in nature, and the research design is to be adopted accordingly. The impact of the risk governance index on gender diversity, financial performance, and risk-taking in many countries were examined in study. majority part of this area research on male diversity on boards and how it affects business performance has mostly focused on developed countries, especially the US. Gender diversity on the board can mitigate the correlation between improved financial success and a higher Risk Governance index. According to research, depending on the particular governance methods and context, increased gender diversity may either boost or, in certain situations, lessen the favorable relationship between risk governance and financial success.

## 3.2 Sample Criteria

This research was employed purposive sampling to ensure the selection of relevant observational units based on predefined criteria. Was given the secondary nature of the data to study main focuses on firms for which should complete and consistent disclosures is publicly available over the defined period. Financial performance was measured by Return on Equity (ROE) and Return on Assets (ROA), while the gender

diversity was calculated as the proportion of female directors relative for the total board size.

### **3.3 Variables Measurement**

The study was adopted a quantitative research design based on secondary data. The Risk Governance Index was constructed as a composite measure derived from multiple board of firm-level risk for oversight mechanisms. Each component was typically coded as a binary (0,1) and it scaled value and further aggregating for using equal or factor-weighted methods. Financial performance was measuring by Return on Equity, Return on Assets (ROA). Gender diversity was operationalizing as the proportion of female directors with the board size.

### **3.4 Econometrics Model**

To assess the moderating role of gender diversity, the following interaction model is employed:

$$FP_{it} = \alpha + \beta_1 RGI_{it} + \beta_2 GD_{it} + \beta_3 (RGI_{it} \times GD_{it}) + \sum \beta_k Control_{it} + \mu_i + \lambda_t + \varepsilon_{it}$$

### **3.5 Techniques for Estimation**

This study was employed panel data estimation techniques to investigate the impact of the Risk Governance Index for firm financial performance also examine the moderating role of gender diversity. The second hypothesis of this study which posits that gender diversity significant impact on financial performance, this portfolio is tested by estimating the coefficient  $\beta_2$  in the moderating model and evaluating for statistical significance by standard t-tests within the help of the panel regression framework. The Risk Governance Index constructs as a composite measure derived from multiple board the firm-level risk oversight mechanisms. Each component was typically coded as a binary (0,1) or scaled score and that aggregated using either equal weighting or factor-weighted methods. Financial performance is

while gender diversity was measured as the ratio of the number of female directors for total board size. The majority of research on gender diversity on boards and its influence on business performance had been predominantly focused on developed countries, especially the US. Gender diversity on the board could mitigate the correlation between improved the financial success and a higher Risk Governance index. According some studies that is explaining the depending on governance practices and contextual factors by increase in gender diversity could either enhance or, under certain conditions the attenuate the favorable relationship between risk governance and financial success.

### **3.6 Ethical Implications**

By acknowledging this study several ethical considerations inherent in its design and execution were effected. Firstly, as the research exclusively were utilizes secondary data sourced the publicly available annual reports and corporate disclosures, that was inherently aligns with principles of data transparency and accessibility. However, the responsible used of such data paramount. This involves could ensuring the accurate representation of sourced information and avoiding any selective or mislead the presentation that would be distort the original context or intent of the disclosures.

It also strict adherence to academic integrity is maintained through the comprehensive and accurate citation of for the all secondary data sources. This practice was not only acknowledges the intellectual contributions of the original data compilers but it could ensures the traceability and verifiability of the research findings in proper manner, expected the upholding standards of scholarly accountability.

At the end this research committing to the principle of analytical integrity. This entails will conduct all statistical analyses and interpretations objectively so without this determination of outcomes or manipulation of data to fit predicted the hypotheses. The limitations that were denoted of the methodological approach of particularly the emphasis on identifying associative relationships rather than establishing causal inference could transparently acknowledged. This focus on correlation stems from the observational nature of panel data will establish the definitive causality could construct by potential endogeneity and unobserved heterogeneity were not used of advanced estimation techniques to mitigate these concerns.

## Chapter 4

# ANALYSIS

This chapter contains the details of empirical analysis undertaken to assess how the Risk Governance Index (RGI) will influence firm performance by elaborate moderating effect on gender diversity on corporate boards. Following are the panel data were regression approach described in early study further this chapter is presenting and interpreting the findings from the collected dataset. The discussion will proceed in the following stages which are given under as following the first descriptive statistics summarizing the sample and main variables are provided; second it will correlate the matrix examines initial associations with variables further the panel regression models was applied to evaluate the study's hypotheses. For estimating the both direct and interaction effects analysis offers evidence on how risk governance and board gender will composition jointly shape financial outcomes.

### 4.1 Descriptive State

Variable	Obs.	Mean	Std. Dev.	Min	Max
wroa (ROA)	110	0.0097	0.0054	0.001	0.018
wrgi (Risk Governance Index)	110	0.4150	0.2483	0.125	0.800
wgd (Gender Diversity)	110	0.4900	0.2530	0.182	0.875
wlev (Leverage)	110	0.0435	0.0099	0.031	0.061

Variable	Obs.	Mean	Std. Dev.	Min	Max
wdr (Deposit Ratio)	110	0.5101	0.0931	0.351	0.646
wsz (Bank Size)	110	27.6453	0.9267	26.331	28.978
wage (Average Director Age)	110	3.1718	0.3080	2.708	3.526

**Interpretation:**

This descriptive statistic is illustrating the distribution of important variables within this study sample. The dataset is including 110 observations from 22 banks covering a five-year timeframe used (2020-2024). The average Return on Assets (ROA) was comparatively low (0.97%) and exhibits variability across institutions. The mean values for the Risk Governance Index (wrgi) and Board Gender Diversity (wgd) were 0.415 and 0.490, respectively. This indicating moderate level of these attributes among the sampled banks, alongside could significantly scope for improvement and notable variation. The distribution of control variables further indicating the reflects the heterogeneity present in the sample.

**Discussion:**

The statistics establish of this study elaborate the context for subsequent analyses. This is sufficient variability with the core variables across banks provides the necessary statistical basis for examining the relationships of interest. If the low average ROA could reflect common challenges faced by the Pakistani banking sector during the observation period of pandemic. The level of this gender diversity will be approaching half of the board seats, suggesting that progress could be made in female representation within the boards of the analyzed banks.

**4.2 Correlation Matrix**

**Table 4-2**

	wroa	wrgi	Wgd	Wlev	wdr	Wsz	wage
wroa	1.0000						
wrgi	0.0307	1.0000					
wgd	-0.0504	-0.0366	1.0000				
wlev	0.4529	-0.0560	0.0158	1.0000			
wdr	-0.0970	-0.1661	-0.1037	0.0138	1.0000		
wsz	0.5097	0.3118	0.0269	-0.0615	-0.1143	1.0000	
wage	0.1045	0.1978	-0.0704	-0.1808	0.1543	0.3766	1.0000

**Interpretation:** correlation matrix was presenting the pairwise linear associations among the variables, Risk Governance Index (wrgi) showing the modest positive correlation with ROA (wroa) ( $r = 0.0307$ ). Gender Diversity (wgd) displaying with slight negative correlation with ROA ( $r = -0.0504$ ). It relatively which has strong positive correlation is noted between Bank Size (wsz) and ROA ( $r = 0.5097$ ), indicating larger institutions which could tend to achieve higher profitability. Furthermore, the correlations among the main explanatory variables could weaken and provides the preliminary indication that severe multicollinearity is not a concern.

**Discussion:** This preliminary bivariate correlation analysis was not strongly direct influence of either risk governance or gender diversity to analyses the financial performance. The alignment with complex organizational phenomena where the effect of a single factor often becomes apparent not only through interaction with

other variables or within a specific modeling framework. The correlation results could underscore the importance of controlling for the key characteristics such as bank size. The weak correlation coefficients will imply that could be significant relationships could not operate through a simple linear will not direct pathway, further it will offer initial justification for employing a model incorporating moderation effects.

### 4.3 Analysis of Regression

Variable	Coefficient	Std. Error	z-statistic	p-value
Lagged ROA (L.wroa)	0.0005	0.0609	0.01	0.994
Risk Gov. Index (wrgi)	0.0006	0.0020	0.32	0.752
Gender Diversity (wgd)	-0.0045	0.0013	-3.50	0.000
Interaction Term (wrgigd)	0.0053	0.0024	2.19	0.028
Leverage (wlev)	0.0754	0.0630	1.20	0.232
Deposit Ratio (wdr)	-0.0073	0.0036	-2.01	0.045
Bank Size (wsz)	0.0011	0.0015	0.71	0.476
Director Age (wage)	0.0194	0.0052	3.71	0.000
Constant	-0.0800	0.0462	-1.73	0.083

### Model Statistics & Diagnostics

- Number of Observations: 110
- Number of Groups (Banks): 22

- Wald  $\chi^2$  (8): 383.00 (p = 0.0000)
- Sargan Test (Over-identification):  $X^2(12) = 12.24$ , p = 0.4269
- The Arellano-Bond Tested for AR(1): z = -1.49, p = 0.137
- Arellano in Bond Test AR(2): z = 1.37, p = 0.172

### Notes:

1. dependent variable, Return on Assets (ROA).
2. Estimation of method Two-step System Generalized Method of Moments (GMM).

The Significance levels of : p<0.10, p<0.05, p<0.01.

3. A Sargan tested the p-value > 0.05 supports the validity of the instrumental variables.

4. Arellano the Bond test p-values > 0.05 for AR(1) and AR(2) indicate has no significant autocorrelation in the first-differenced errors, lending support to the model specification.

**Interpretation:** The dynamic panel model are estimating by using the System-GMM method, effectively addresses endogeneity concerns. The findings of this research we demonstrate:

1. **Direct Effect of Risk Governance:** The coefficient for the Risk Governance Index (wrgi) positively not statistically significant ( $\beta=0.0006$ , p=0.752). Hypothesis H1, which representing the posited the impressive impression of the RGI on financial presentation which could is not directly supported.

2. **Direct Effect of Gender Diversity:** Coefficient for Gender Diversity (wgd)denoting the significantly negative ( $\beta=-0.0045$ , p<0.01). This implies when it may be considered in isolation from its interaction with risk governance with a excessive level board gender diversity could associate with lower ROA.

3. **Moderating Effect:** The coefficient and interaction term between the Risk Governance this Diversity was significantly positive ( $\beta=0.0053$ ,  $p<0.05$ ). This constitutes are showing the the key discovery, will indicating women diversity significantly alters among association of risk governance and performance of any firm.

**Discussion:** The regression results are revealing the influence mechanism more complex than simple correlations suggested. The standalone negative effect of gender diversity will reflect in valiantly in a conservative context such as Pakistan's, initial higher coordination costs or challenges would link to symbolic appointments. The crucial finding, however, were measured the significant interaction term, highlighting the contextualizing role of gender diversity. This suggests that the value of diversity lies in its synergy with could corporate governance mechanisms (like risk governance). The model could successfully passage of key diagnostic tests (Sargan and Arellano-Bond) must assures the validity of the instruments and the consistency of the estimates.

#### 4.4 Moderation Analysis

**Table 4-4**

Relationship	Coefficient Sign & Significance	Economic Implication
<b>Risk Gov → Fin Performance (Main Effect)</b>	Positive, Not Significant	An isolated strengthening of risk governance did not, within this sample, yield a direct and significant improvement in financial performance.
<b>Gender Div → Fin Performance (Main Effect)</b>	Negative, Significant	Isolated increases in the percentage for female members may be associated have short-term performance pressures or adaptation costs.

Relationship	Coefficient Sign & Significance	Economic Implication
<b>Risk Gov × Gender Div → Fin Perf (Interaction Effect)</b>	<b>Positive, Significant</b>	<b>Gender diversity has positive moderates the relationship of risk governance performance.</b> The effectiveness of risk governance mechanisms in enhancing financial outcomes is significantly amplified in boards with greater gender diversity.

**Interpretation:** The core conclusion with moderation analysis were supported for Hypothesis H3: further the gender diversity played a significantly positive moderating role in the relationship between the risk governance and financial performance. Although the gender diversity by itself can negatively related to performance and the direct effect of risk governance can insignificant, their combination could generate positive synergistic effect. The positive coefficient for the interaction term indicates that for banks with higher gender diversity, if the increase in unit expected risk governance system exerts a larger positive impact on ROA.

**Discussion.** These findings should important theoretical of practical implications. Theoretically, it could support an integrated perspective of "Resource Dependence Theory. and Upper Echelons Theory, the value of board diversity resides in its capacity to optimize and activate the effectiveness of formal governance these mechanisms. In practical terms, it could offer clear guidance for banks and policymakers. The Gender diversification and the strengthening of risk control will not be pursued in isolation and the complementary, combined governance strategies. To Establish a robust risk governance framework within a gender-diverse board environment could be translated more effectively into superior financial performance. The results will help to explain contradictory findings in the literature

concerning the performance impact of gender diversity that highlighted that its effect will heavily dependent on specific managerial contexts and governance structures.

## CONCLUSION AND RECOMMENDATIONS

The regression analysis suggested significant insights into the relationships among risk governance, gender diversity. This various coefficient of Risk Governance Index (RGI) is positive but not statistically significant effected so its confidence interval includes showed zero. The outcome indicated among the firms sampled, risk governance practices not good perform as a direct the measurable influence the firm performance. This finding would suggest that the effectiveness of risk governance is dependent on contextual or organizational variables and its impact were realized through indirect channels rather than a direct causal pathway.

The Gender Diversity was examined as an independent variable demonstrates a negative and statistically significant association with financial performance. The confidence interval was excluded zero, confirming the robustness of this relationship. This observation implies that, could be considered in isolation, a greater proportion of female directors will correlate with lower financial performance within its specific sample context and association may reflect transitional costs, symbolic appointments for a particular market dynamic present in the sample.

Concerning the control variables of Firm Size was showed a limited range and it explain low dispersion according these suggesting relative homogeneity in the scale of firms within the sample. The Average Age of Women (WAGE) could display the moderate consistency and it indicates comparable levels of experience among female board members across different companies. Descriptive analysis would reveal that

the sampled firms exhibit meaningful variation in their risk management practices, will successfully perform financial performance, the measurements of gender diversity with risk governance and gender diversity present relatively moderate average levels, and their dispersion across firms' points may differing strategic and governance orientations. Financial performance could showed the considerable heterogeneity for underscoring its importance as a primary organizational outcome.

These findings could disclose that the interaction term between Gender Diversity and the Risk Governance Index exerts a positive and statistically significant effect. This indicates that if gender diversity will consider meaningfully then the moderates the relationship between risk governance and financial performance could highlighting its function as a contextual facilitator rather than an independent predictor. This result was aligned with governance and diversity theories, which will propose the diverse boards enhance decision-making quality, risk oversight, and strategic equilibrium through the integration varied perspectives

The research underscores the critical importance of investigating interaction effects within governance studies and contributes to the expanding literature emphasizing the contingent and strategic value of diversity in complex organizational environments. Overall, the evidence substantiates the argument that, within this context, gender diversity generates value principally through moderation and interaction, offering substantive implications for policymakers, regulators, and corporate leaders aiming to enhance governance quality and organizational results.

## **5.1 Conclusions**

The overall findings were clarifying the nuanced roles of risk governance and gender diversity in shaping financial performance. First, the analysis was not identified a statistically and significant positive effect of the Risk Governance Index (RGI) on

financial performance. Consequently, these hypothesis H1 was not supported by the data within the parameters of this investigation. This could indicate that if mere implementation of more robust risk governance structures, were measured, was not automatically led to superior financial outcomes within the sampled context.

Second, gender diversity could be analyzed as a direct independent variable it will display a significantly negative relationship with financial performance. This result questions simplistic will assumptions that increasing female representation on boards inherently could immediately enhances profitability it also suggesting instead the potential existence of short-term adjustment expenses or context-specific factors.

## **5.2 Recommendations**

The findings of this study of firms seeking could improve their financial performance could move beyond implementing risk governance and diversity policies in isolated in parallel tracks. Emphasis should be placed on designing these elements to function synergistically. If a well-established risk governance framework would require the integration into the organizational fabric that yet its design and oversight should explicitly benefit for diverse viewpoints. By clearly delineating the risk oversight could responsibilities within a governance structure that values of varied perspectives, firms could enhance in decision making quality and strategic resilience.

These findings could specifically indicate that owner diversity will plays meaningful and positive moderating role. Therefore, it advisable for firms to regard board gender composition as an integral active component of the broader governance could architecture as rather than as a separate compliance or symbolic target. The urpose increase the participation of women on boards and in key governance committees could be pursued with the intent of enriching dialogue concerning risk perception,

evaluation and the strategic tradeoffs. The fosters could more balanced thorough and will prudent decision-making processes.

Firms could proactively encourage and institutionalize the substantive involvement of board members of different genders in core strategic discussions more particularly those pertaining to risk identification, assessment, and oversight. The governance practices that mandate and nurture the active exchange of diverse viewpoints could help mitigate groupthink and overconfidence biases often associated with homogeneous leadership. Such engaged and inclusive governance practices are likely be increase the practical effectiveness of risk governance mechanisms and reinforce their positive impact on financial outcomes.

### **5.3 Key findings and limitations**

#### **Key findings**

The analysis is indicating the direct effect of the Governance Index on financial performance is not statistically significant within this sample. Concurrently with a some more degree of board gender diversity as standalone factor will be associated with lower financial performance. The paramount finding indicated that owner diversity will perform significantly and positively moderates the relationship between risk governance and financial performance. Specifically, in the environments characterized by more inclusive and leadership structures, the positive impact of formal risk governance mechanisms on financial outcomes could amplified. This positions gender diversity as a crucial contextual factor could be strengthens the efficacy of risk governance. The implication suggested that the ultimate effectiveness of governance systems depends not only on institutional rules and structures but also significantly on the composition and culture of the leadership responsible for their execution. Overall, the pathway will superior financial

performance will demonstrate to lie in the complementary alignment and interaction of robust risk governance frameworks with inclusive and diverse leadership.

### **Limitations:**

This study could operate under several practical constraints that warrant acknowledgment. First its budgetary restrictions could limit access to proprietary databases and more granular primary data, will prove the positive resulting in a reliance on publicly available secondary sources. Consequently, the construction of the Risk Governance Index and the measurement of variables could be constrained by the scope and consistency of public disclosures.

Second, resource limitations affected the geographical and temporal scope of the sample. The study will concentrate on a specific group of banks in Pakistan over a defined five-year period. Excessiveness in dataset for include more diverse array of countries industries, or a longer timeframe was necessitating substantial additional resources and lies beyond the scope of this research.

### **5.4 Directions for Future Research**

Notwithstanding its suggestion for contributions, this work could open several avenues for further inquiry. Future research will might first deconstruct the aggregate Risk Governance Index to could investigate the distinct impacts and interactions of specific components such as dedicated risk committees, the maturity of Enterprise Risk Management (ERM) systems, or the quality of risk disclosure with board gender diversity.

Second,for develop a deep understanding of boards , researchers should examine the interplay between risk governance and more dimensions of board diversity age, educational and professional background, industry experience, and nationality

should be counted. This may help clarify which aspects of diversity are most salient for governance efficacy.

Third, for exploring potential of threshold effects on female gender diversity representing a promising direction. Subsequent studies will investigate whether a critical mass of female directors will necessary to materially which impact group dynamics the effectiveness of risk governance, testing for specific inflection points in the diversity-performance relationship.

Lastly, to furnish a more holistic assessment of long-term organizational health, future research will be extending the outcome variables beyond accounting-based financial performance. Examining the influence of the risk governance-diversity interplay on market-based metrics, risk-adjusted returns the firm resilience and innovation during crises will sustainability and ESG performance would offer a broader perspective on value creation and responsible corporate stewardship.

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