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ROLE OF RISK FUNCTION IN THE ESG JOURNEY OF INDIAN MANUFACTURING ORGANIZATIONS

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ABSTRACT

This study endeavours to examine the role of the risk function in the Environment, Social, and Governance (ESG) journey of Indian manufacturing organizations, focusing on two key objectives: determining the significance of the risk function across various stages of the ESG process and assessing and comparing ESG performance of organizations with well-developed risk functions versus immature risk functions. A quantitative approach was utilized, drawing on survey data from 30 participants representing a diverse range of manufacturing organizations. The results show that 93% of respondents affirmed the pivotal role of the risk function, particularly in materiality assessment, and significantly in target-setting, reporting, and monitoring stages. A positive association was demonstrated by Kendall's Tau-b correlation analysis between the maturity of risk functions and ESG performance, suggesting that organizations with well-developed risk management frameworks are more likely to consistently achieve their ESG objectives. The study employs convenience sampling, which may affect the applicability of the results, making this a primary limitation of the study. Additionally, the data predominantly reflect larger organizations, limiting insights into smaller firms and their ESG practices. Despite these limitations, however, the study makes a valuable contribution to the existing literature by providing empirical evidence of the importance of risk function maturity in driving ESG success. It highlights the critical role of a mature risk function in helping organizations consistently achieve their ESG goals. Future research should examine larger, more diverse samples across organizational sizes and analyse the association between risk maturity and ESG performance in both private and publicly listed companies. Furthermore, employing more advanced analytical methods could provide deeper insights into the intricate relationship between risk management practices and ESG outcomes.

***KEYWORDS**: ESG, Sustainability, ESGrisk Management, ESG in Manufacturing Organizations, Risk Function.*

Introduction

With the evolution of regulations in the Environment, Social, and Governance (ESG) spheres, the importance to manage risks arising within the environmental, social, and governance pillars, thereby

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making the role of risk function indispensable. The latest research has established the importance and significance of ESG risk management (Miao, 2024). However, there is a lack of research regarding how the risk function impacts the ESG of organisations. Risk function is a necessary practice for the organization. This study is intended to explore the role of risk function in the ESG journey of Indian manufacturing organizations. The study discusses the background, set the context, identifies the research problems, establishes the research objectives, highlights the significance of the study, and finally provides a brief outline of the paper.

Background

The term ESG was introduced in 2004 by the 'Who Cares Wins' report (Pollman, 2022) which emphasized the significance of ESG in fostering resilient investment markets and sustainable societal development (United Nations the Global Compact, 2004). ESG is divided into three pillars: the environmental pillar addresses issues such as emissions and resource efficiency, the social pillar concerns labour practices, community engagement, and responsible citizenship, and governance focuses on corporate structure, safeguarding stakeholder interests, and ethics(Matos, 2020).

Earlier research has shown a positive association between corporate financial performance and ESG (Friede et al., 2015; Huang, 2021), with ESG improving both valuation and profitability by reducing risks (Giese et al., 2019). Corporate Social Responsibility[1](CSR) also serves as a tool for risk management, preserving shareholder value and enhancing firm performance (Godfrey et al., 2009; Kytle and Ruggie, 2005; Mishra and Suar, 2010).

In India, the manufacturing sector contributes 17% of the nation's Greenhouse Gas emissions, underscoring significant environmental risks (Chateau et al., 2023). Meanwhile, modern slavery, forced labour, and other social risks persist, with India ranking 34^th^out of 160 countries in terms of modern slavery. Forced labouris particularly prevalent in the lower tiers of supply chains, such as raw material extraction and production stages (International Labour Organization, Walk Free, and the International Organization for Migration, 2022; Walk Free, 2023). Governance risks are also substantial, as India ranks 93^rd^ out of 180 countries on the corruption index, signallinga high corruption rate(Transparency International, 2024). Given this context, the predominantly traditional and labour-intensive manufacturing sector in India remains vulnerable and exposed to various ESG risks.

Literature Review

This section explores the existing body of research on ESG risk management, aiming to identify key trends, gaps, and emerging insights from academic literature. By doing so, it establishes a foundation for the empirical investigation presented in the subsequent sections. The section concludes with a summary of the identified research gaps that this study seeks to address.

- **Regulatory Evolution of ESG in India**

In India, ESG disclosure regulations have advanced significantly over the past decade, emphasizing corporate responsibility and sustainable practices. The Ministry of Corporate Affairs (MCA) initiated this shift in 2009 with the introduction of CSR guidelines, markinga formal move towards corporate responsibility(Pareek, 2022). Earlier, the Reserve Bank of India had urged banks to disclose CSR and sustainability information, serving as a precursor to promoting transparency in the financial sector's sustainability practices(Gwalani and Mazumdar, 2022).

Researchers have examined the evolution from voluntary CSR guidelines to formalized ESG mandates, highlighting the increasing prioritization ofESG in Indian business practices (Manchiraju and Rajgopal, 2017).Notable milestone include the mandate in 2012 for listed companies who ranks among the top 100 companies to publish Business Responsibility Reports (BRRs) and the 2013 Companies Act, which required qualifying companies to allocate 2% of their average net profits to CSR initiatives (Manchiraju and Rajgopal, 2017).

Academic discussions emphasize that these regulations align India's corporate sector with global sustainability frameworks, such as the Sustainable Development Goals (SDGs), and signify a broader movement toward enhanced transparency in ESG performance of corporate. Introduction of the

[1] In India, CSR is majorly driven by philanthropy, whereas in the West, it is integrated into business strategy. With the evolution of CSR regulations in India, Mishra (2020) argues that, apart from a few corporations such as the Tata Group and Birla Group in India, mostly companies engage in CSR activities out of compulsion tocomply with regulations rather than aligning them with their business strategy (Mishra, 2020).

Business Responsibility and Sustainability Reporting (BRSR) framework in 2021 represented a significant regulatory milestone, making ESG disclosures mandatory and further integrating ESG considerations into business practices (Securities and Exchange Board of India, 2021).

- **ESG is a Risk Mitigation Strategy, and its Disclosure has Multiple Benefits**

With the shift from prioritizing financial performance to focusing on firm value, organizations are increasingly adopting ESG practices as an insurance mechanism to mitigate litigation risks and build stakeholder trust**.** P. Koh et al. (2014)explored the insurance value of corporate social performance (CSP) and found that financially robust organizations facing high litigation risks, especially in industries with low social disputes, derive greater value from CSP by creating a protective shield(insurance). This is achieved by building moral capital with stakeholders through CSP(P.-S. Koh et al., 2014). Similarly, Henisz et al. (2019), emphasized that a strong ESG framework serves as a safeguard for a company's long-term success, acting as a form of corporate insurance.

While earlier studies have discussed the role of ESG in risk management (Henisz et al., 2019; P.-S. Koh et al., 2014), they do not specifically address the role of the risk function in the ESG journey. This study aims to fill that gap by delving deeper into the contribution of the risk function in the ESG journey. However, the focus will be limited to the manufacturing sector, aligning with the scope of this research.

In addition to the previously mentioned points, ESG disclosure offers several other benefits. Firms that actively and diligently engage in ESG reporting can access debt at lower costs(Eliwa et al., 2021; Raimo et al., 2021) and benefit from preferential tax or subsidy policies for strong ESG performance(Bansal and Gangopadhyay, 2003).Kotsantonis et al. (2016) while debunking myths surrounding ESG, highlighted several advantages of ESG integration for companies, including competitive advantage in product, labour, and capital markets; attraction of long-term shareholders; improved operating efficiency; opportunities for market expansion; and access to lower-cost capital.

- **ESG Disclosure and Firm Performance**

Some studies indicate that the impact of ESG disclosure on firm performance—whether positive or negative—may vary depending on factors like the degree of information asymmetry(Farooq, 2015)and national culture (Wasiuzzaman et al., 2022). However, these studies have not accounted for factors beyond the geographical environment. Firm performance has been found to be positively correlated with ESG disclosure by some researchers(Albitar et al., 2020; Carnini Pulino et al., 2022; Huang, 2021). Notably, none of the previous studies have considered the maturity level of the risk function as a determinant of a firm's ESG performance. This study aims to address this gap in the literature.

- **The Complexity of ESG Risks and Their Integration into Risk Management Systems**

According to Sheehan et al. (2023a), "ESG risks are dynamic, as they are often ill-defined, affect a wide range of stakeholders (the environment and future generations), have long time horizons (climate change) but can also emerge suddenly (a ban on single-use plastics), and are typically interconnected (water scarcity not only impacts the environment but also exacerbates social and economic inequalities)." The authors further stress the importance of integrating ESG risks into Enterprise Risk Management (ERM) systems, as the dynamic nature of materiality presents challenges in identifying, assessing, and mitigating ESG risks. They argue that while collaboration with corporate stakeholders is crucial in the short term, the long-term survival of corporations will depend on full integration of ESG risks into their ERM systems(Sheehan et al., 2023b).

Gaps in Literature

This study addresses two key gaps:

- While extensive research explores the role of ESG in risk management, there is limited focus on the role of the risk function in the ESG journey.
- While the relationship between ESG disclosure and firm performance has been widely studied, the connection between the maturity of the risk function and ESG performance remains largely unexamined.

Research Problem

ESG has been recognized as a risk mitigation strategy, helping companies avoid litigation and build stakeholder rapport (Henisz et al., 2019; P.-S. Koh et al., 2014). While the role of ESG in risk management is acknowledged (Gadinis and Miazad, 2020), research on the role of the risk function in the ESG journey, particularly within in manufacturing, remains limited. The relationship between risk function maturity and the achievement of ESG goals remains unexplored, leaving organizations without clear insights.

Research Questions, Research Aims, and Research Objectives

This study seeks to answer the following research questions:

RQ #1: Does the risk function play a significant role at each stage of the ESG journey of a manufacturing company in India?

RQ #2: What is the relationship between a company's ESG performance (as measured by the frequency of achieving ESG goals) and the maturity level of risk function?

The aim of this study is to explore the role of risk function in the ESG journey of Indian manufacturing organizations. To answer the research questions mentioned above and meet the aim of the study, the research objectives of this study are as follows:

RO 1: To determine whether risk function plays a significant role at each stage of the ESG Journey of a manufacturing company.

RO 2: To assess and compare the ESG performance of manufacturing companies (as measured by the frequency of achieving ESG goals) with well-developed risk functions compared to those with immature risk functions.

The reviewed literature reveals significant gaps in the understanding the role of the risk function in the ESG journey, especially within the manufacturing sector. While substantial research has focused on ESG as a risk management tool, the specific role of risk function in the ESG journey, and the relationship between the maturity of the risk function and ESG performance, remain largely unexplored. Bridging these gaps will not only enrich academic discussions but also offer practical guidance for organizations managing the complexities of ESG implementation. The following sections will build on this foundation, with the next section outlining the methodology employed to investigate these critical issues.

Significance of the Study

This research will offer a fresh perspective on ESG risk management by exploring the role of the risk function in the ESG journey of Indian organizations within the manufacturing sector – one of the major contributors to emissions and highly exposed to ESG risks – at a time when regulations are rapidly evolving, and compliance is critically important. This study addresses the existing research gap and provide value to organizations functioning in dynamic environments.

In section one, the study's context is introduced. In section two, the existing literature is reviewed, the research questions and objectives are outlined, and the significance of the research is articulated. In section three, the theoretical framework and the adoption of the research methodology is presented, followed by a discussion of the broader research design. Section four will present the results, followed by an interpretation and discussion of the findings in section five. Finally, section six will provide the study's conclusions. The limitations and implications will be discussed, and directions for future research will be recommended.

Methodology

This section presents the research design, addresses the methodological limitations, and concludes with a summary. The research questions in the study emphasis on the importance of the risk function at various stages of the ESG journey and the relationship between ESG performance and risk maturity, specially within the context of Indian manufacturing organizations.

This study examines the role of the risk function in the ESG journey of Indian manufacturing organizations. Its objectives areto evaluated whether the risk function plays a significant role at each stage of the ESG journey, and to assess and compare the ESG performance of manufacturing companies with mature risk functions versus those with less-developed ones.

To structure the research design, Saunders' Research Onion Model was employed. Consistent with the study's quantitative objectives, post-positivism was adopted as the guiding philosophical approach. Unlike the strict framework of positivism, post-positivism offers the flexibility needed to account for the complexities of real-world research. Given the smaller sample size of 30 and the use of convenience sampling, post-positivism provides a more appropriate foundation, recognizing these constraints while upholding the principles of rigorous scientific inquiry.

This study adopts a deductive approach to examine the relationship between the maturity of the risk function and ESG performance in Indian manufacturing organizations. To address the gap in the existing literature, a null hypothesisis formulated, posing that no significant relationship exists between the maturity level of the risk function and a company's ESG performance. This approach enables a systematic evaluation of the hypothesized relationship using ordinal data, offering valuable new insights to the existing body of knowledge.

- **Null Hypothesis (H_0):** There is no significant relationship between the maturity level of the risk function and the ESG performance of a company.
- **Alternative Hypothesis (H_1):** There is a significant positive relationship between the maturity level of the risk function and the ESG performance of a company.

This study adopts a descriptive and correlational research design. The descriptive approach is used to highlight key data characteristics, while a correlational design explores the relationship between risk maturity and ESG performance, aligning with the study's objectives. A mono-method research strategy was employed, relying exclusively on quantitative data and analysis. A cross-sectional time horizon was chosen, as data was collected at a single point intime, making it suitable for the study's aims.

Data was collected using surveys. Due to the specialized nature of the target respondents, initial attempts to implement random sampling were unsuccessful. Consequently, convenience sampling was adopted to address practical constraints and time limitations. To ensure adequate participation, the respondent criteria were broadened. The final target group comprised individuals working in Indian manufacturing organizations or professionals with experience servicing such organizations, specifically at middle to senior levels in operations, risk management, production, or ESG domains. The survey featured closed-ended questions, including Likert scale, and was distributed via e-mail and text messages.

Two key questions were designed to assess the relationship between the risk maturity and ESG performance:

- ESG performance (Likert scale):'On a scale of 1 to 5, how often have you been able to meet your ESG goals from the time they were set, along with an action plan? (1- Rarely, 2- Occasionally, 3- Sometimes, 4- Often, 5- Consistently)'
- Risk Maturity Level: Respondents were asked 'Based on the table below, what is the risk maturity level of your organization?'They were provided with a table and asked to select oneof four options:
  - L1. Initial
  - L2. Basic
  - L3. Standard
  - L4. Advanced

After data collection, a combination of descriptive and inferential analyses was conducted. Descriptive analysis was used to address research question 1, providing a summary of key data characteristics. For research question 2, descriptive analysis and Kendall's Tau-b correlation were applied to test the hypothesized relationship between risk function maturity and ESG performance. The non-parametric Kendall's Tau-b method was selected due to its suitability for ordinal data and its ability to handle ties effectively. All analyses ware performed using R software to ensure precision and reliability.

The small sample size (n=30) constrained the use of more advanced analytical methods. However, Kendall's Tau-b correlation was deemed an appropriate choice, ensuring reliability given the data type. While convenience sampling may have introduced potential selection bias, it facilitated efficient data collection within time constraints, ensuring the study's feasibility. Despite these limitations, the chosen methods provided a balance between accuracy and robustness, aligning with the study's objectives.

In summary, this study follows a post-positivist philosophy and adoptsa deductive approach. It employs a mono-method quantitative design, with data collected through surveys. Given the challenges associated with random sampling, convenience sampling was utilized. To address the research questions, the study combines descriptive and correlational analyses. Kendall's Tau-b correlation was chosen for inferential analysis due to its compatibility with ordinal data, ensuring the generation of reliable and meaningful insights.

Findings

This study investigates the role of the risk function in the ESG journey of Indian manufacturing organizations. To achieve its objectives, it addresses two research questions: (i) the significance of the risk function at each stage of the ESG journey, and (ii) the association between ESG performance as measured by the frequency of achieving ESG goals, and the maturity of the risk function. The findings are organised according to these research questions.

The section begins by presenting the demographic data of the sample, providing insights into its composition and representativeness. It then moves on the analysis and findings for each research questions, presented sequentially. Finally, it concludes with a summary of the results, setting the stage for the subsequent 'Discussion' section.

- **Sample Demographics**

The study comprised 30 participants drawn from a diverse range of industries within the manufacturing sector, including electrical equipment, tires, stainless steel, machinery, food and beverages, fashion accessories, chemicals, engineering, shipping, aviation and aerospace components, automotive, and agriculture products. Of the participants, 63% held top-level management positions (Chairman, CXO), while 37% were in middle management roles. To maintain confidentiality, participant identities and company affiliations have not been disclosed.

- **Findings**

Figure 1 depicts 93% of participants answered affirmatively. Among the 30 participants, 28 (93%) confirmed that the risk function plays a critical role in the ESG journey of Indian manufacturing organizations.

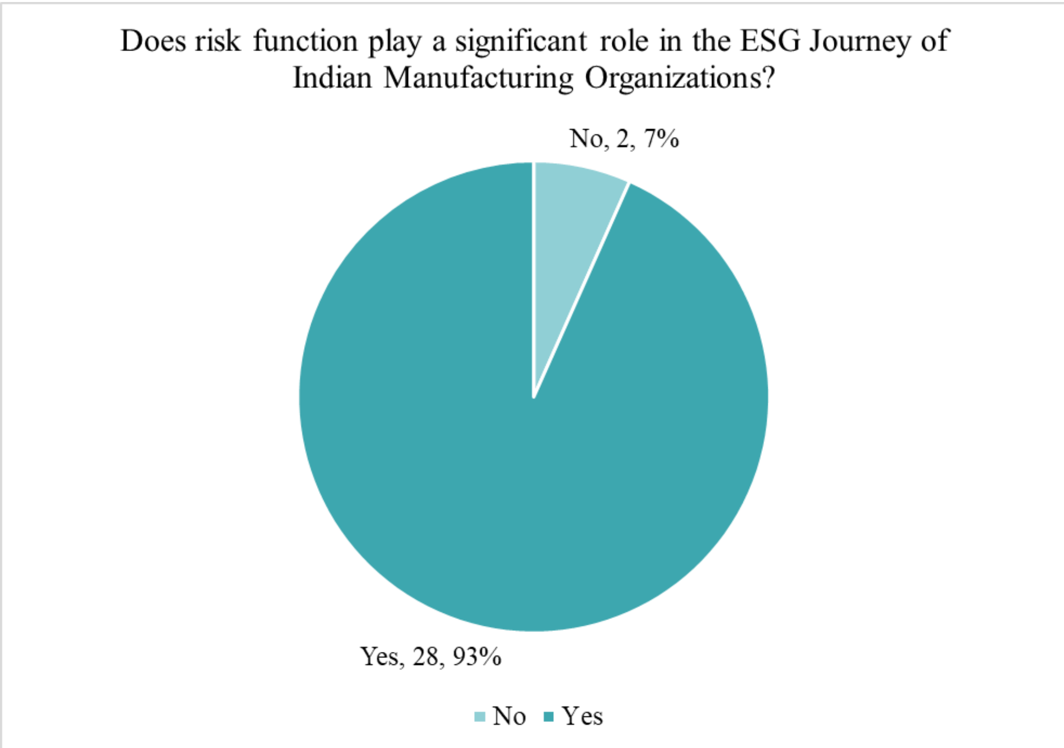

Figure 1

To determine number of respondents who believe risk function plays a significant role at different stages, it was observed that the majority of respondents indicated that risk assessment plays a crucial role during the materiality assessment stage of the ESG journey. Figure 2 showed out of the 30 participants, 20 selected scoping, 21 selected target setting, monitoring, and reporting, and 27 selected materiality assessment as key stages where risk function is considered to play a significant role.

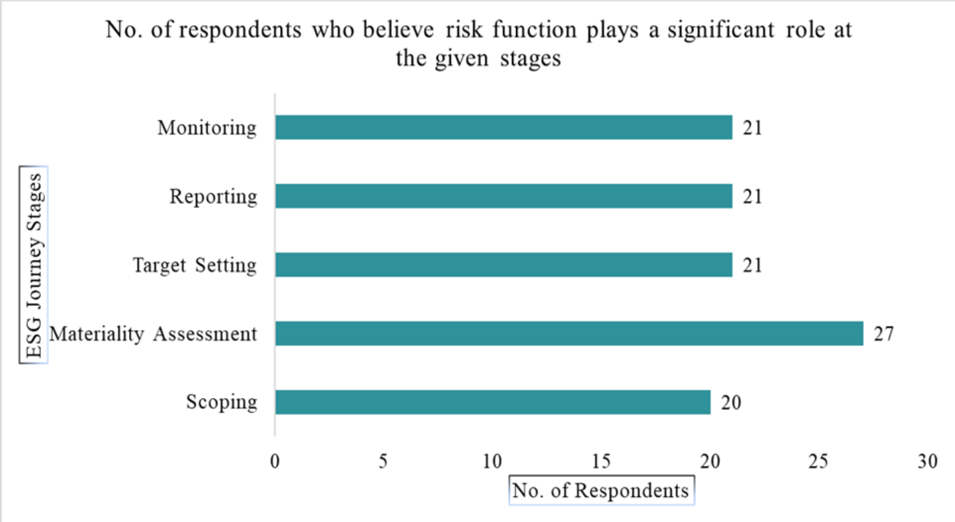

Figure 2

Figure 3 illustrates the distribution of risk maturity levels across organizations. The sample comprised 30 companies with varying ESG performance scores and risk maturity levels. The majority of the respondents, 13 (44%) fall into risk maturity level 3 that is “standard”. 36% of the respondents fall below the standard risk maturity level, while 20% are classified as having an advanced risk maturity level.

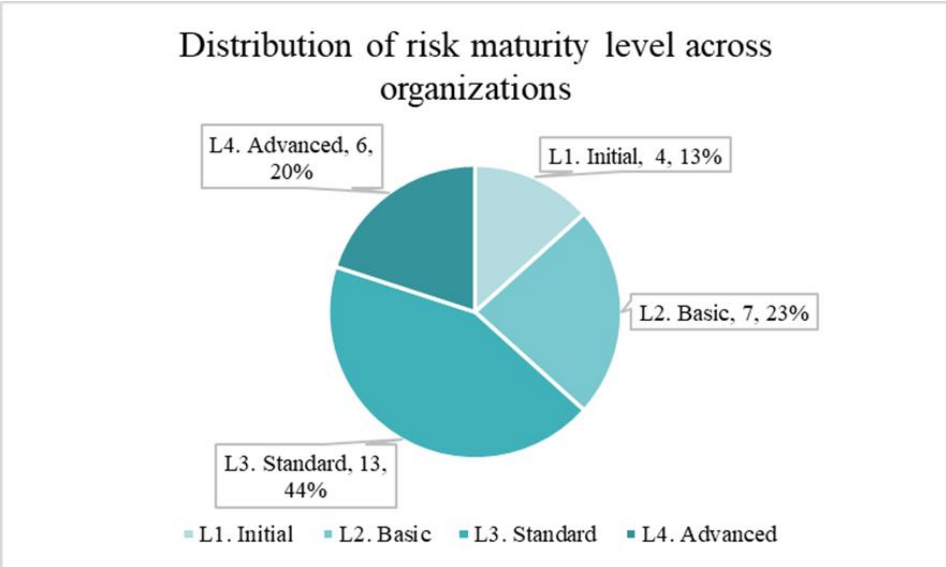

Figure 3

Figure 4 radar chart shows that organizations with standard and advanced risk maturity levels are able to meet their ESG goals ‘often’ and ‘consistently’ (1- Rarely, 2- Occasionally, 3- Sometimes, 4- Often, 5- Consistently). Analysis of the sample data revealed that organizations with higher maturity levels tend to achieve their ESG goals more frequently.

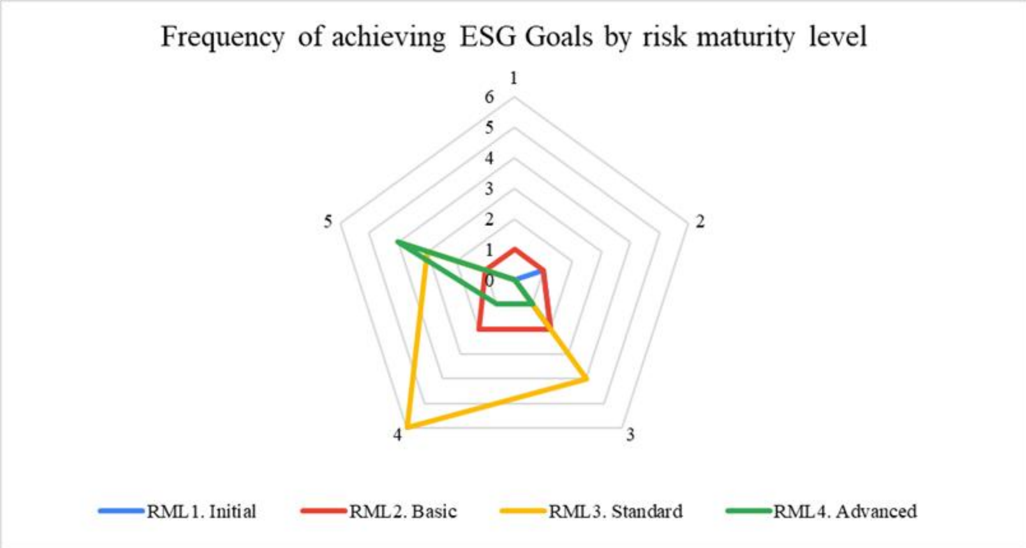

Figure 4

Kendall's Tau-b Correlation Analysis and its Statistical Significance

To investigate the relationship between companies' ESG Performance Scores (the frequency of meeting ESG goals) and their risk maturity levels, and to test the hypothesis, we conduct Kendall's Tau-b correlation analysis. The Kendall's Tau-b correlation analysis demonstrated a significant moderate positive relationship between ESG Performance Score and risk maturity level [$\tau = 0.390$, $p = 0.013$]. This finding suggests that companies with higher levels of risk maturity are more likely to achieve superior ESG performance, as indicated by a greater frequency of meeting ESG goals.

Table 1: The outcome of Kendall's Tau-b correlation coefficient analysis

p-value	Tau (τ)
0.01347334	0.390073

Table 1 presents a summary of the results from Kendall's Tau-b correlation analysis, which was conducted using R.

To evaluate the statistical significance of the Kendall's Tau correlation coefficient, the z-score is computed using the specified formula:

$$z = \frac{3\tau\sqrt{n(n-1)}}{\sqrt{2(2n+5)}}$$

$$z = \frac{3(.390073)\sqrt{30(30-1)}}{\sqrt{2(2*30+5)}}$$

$$z = \frac{3(.390073)\sqrt{30(30-1)}}{\sqrt{2(2*30+5)}}$$

$$z = 3.0273$$

z score is converted to P value, we get the p-value for this z-score as 0.0025, which is statistically significant at 0.05 level of significance. The null hypothesis (H_0) is rejected as the p-value (0.0025) is below the significance threshold of 0.05, thereby supporting the alternative hypothesis (H_1), suggesting a significant positive relationship between ESG performance and the risk maturity level of a company.

Visualization of the relationship between ESG Performance Score and Risk Maturity Level

The relationship between ESG Performance Score (frequency of meeting ESG goals) and Risk Maturity Level is visually depicted in Figures 5, 6 and 7.

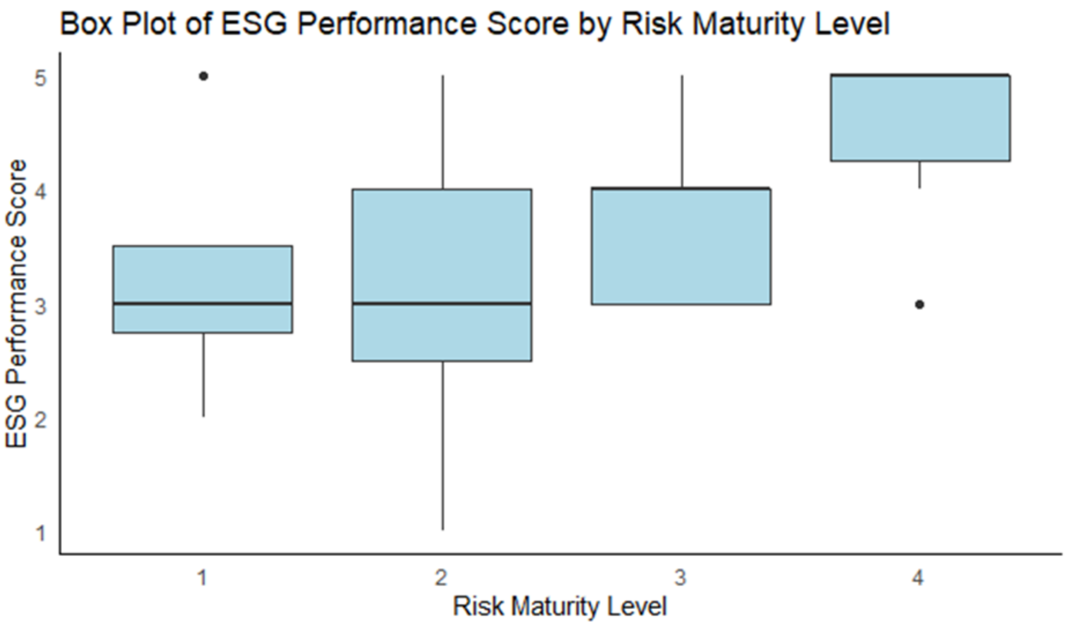

Figure 5

Figure 5 presents a box plot of ESG Performance Score by risk maturity level, illustrating the distribution of ESG Performance Scores across different risk maturity levels. The median ESG score increases as the risk maturity level rises.

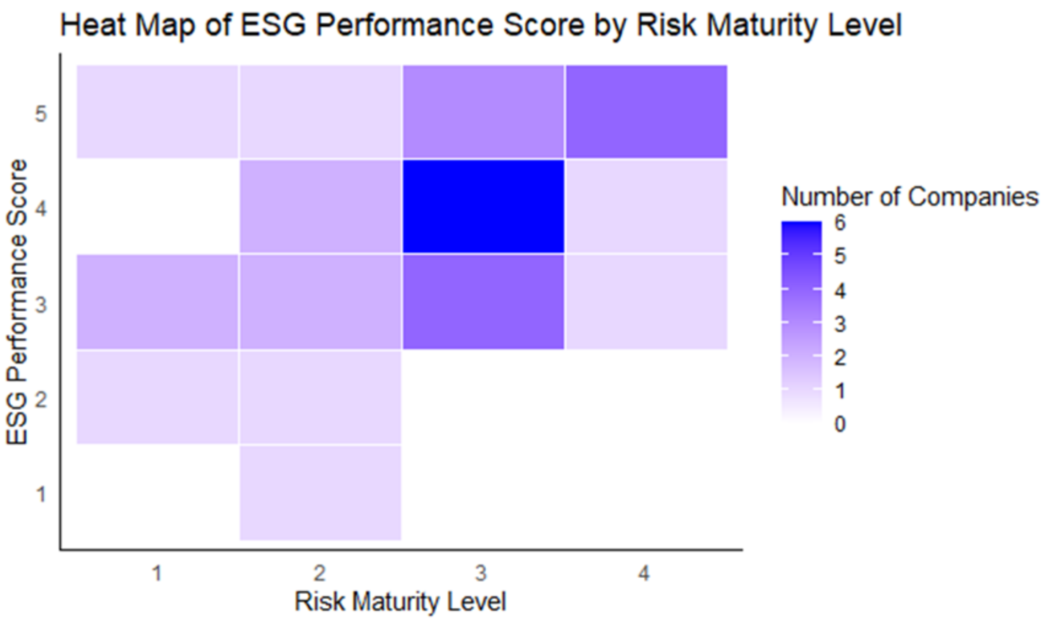

Figure 6

Figure 6 displays a heat map of ESG Performance score by risk maturity level, showing the distribution of companies across different combinations of ESG performance score and risk maturity level. The heat map highlights a higher concentration of companies with high ESG performance scores at advanced risk maturity levels.

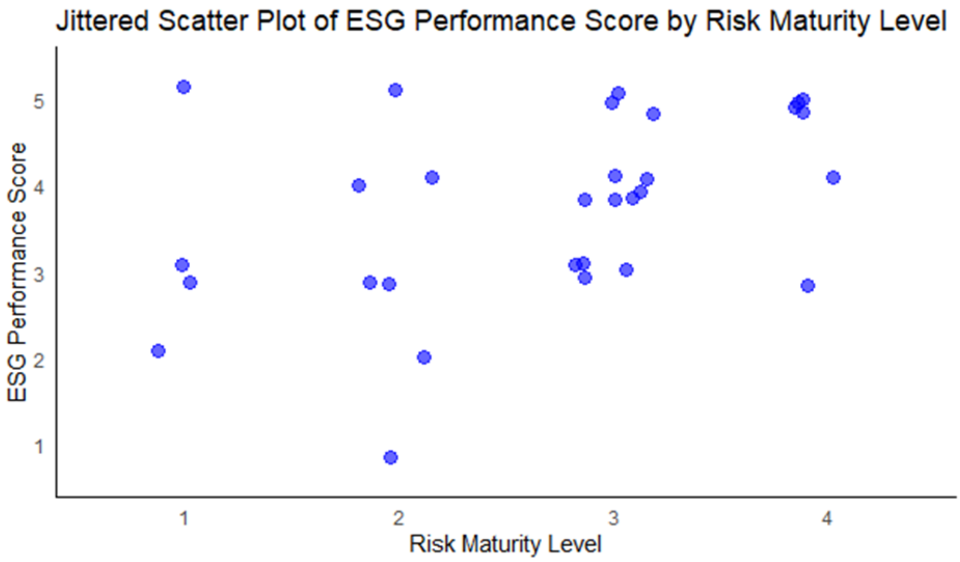

Figure 7

Figure 7 displays a jittered scatter plot illustrating the relationship between ESG Performance Score and risk maturity level. The plot shows a positive association and upward trend, with higher risk maturity levels generally corresponding to higher ESG Performance Scores.

The findings provide strong evidence of the critical role of the risk function in the ESG journey of Indian manufacturing organizations. 93% of respondents affirmed its importance, particularly in materiality assessment, as well as in target setting, reporting, and monitoring. Kendall's Tau-b correlation analysis revealed a significant positive relationship between risk maturity and ESG performance, indicating that companies with more risk maturity are more likely to achieve their ESG goals.

Discussion

The study addressed two key research questions: (i) Does the risk function play a significant role at each stage of the ESG journey in Indian manufacturing organisations? and (ii) What is the relationship between a company's ESG performance and its risk function maturity? The primary aim of this research was to examine the role of the risk function in the ESG journey of Indian manufacturing organizations. To achieve this aim, the first objective was to determine whether the risk function has a significant role across the stages of the ESG journey, and the second objective was to assess the relationship between ESG performance and the maturity of the risk function.

This section begins with a concise summary of the key findings from the study. It then provides an interpretation of these results, linking them to the research questions and comparing them with existing literature. The section concludes with a summary of the key insights gained from the findings.

- **Key Findings**

For the first research objective, 93% of participants affirmed the significant role of the risk function in the ESG journey, particularly during the materiality assessment stage, with notable involvement in target setting, reporting, and monitoring stages.

For the second research objective, Kendall's Tau-b correlation analysis [$\tau = 0.390$, $p = 0.013$] demonstrated a significant moderate positive relationship between risk function maturity and ESG performance. Companies with more mature risk functions were consistently more likely to achieve their ESG goals, underscoring the critical importance of risk maturity in driving ESG success.

- **Interpretation**

The key findings from the preceding section highlights the critical role of the risk function in the ESG journey of Indian manufacturing organizations. To deepen the understanding of these findings, it is essential to interpret them in the context of the study's research questions and objectives while situating them within the broader literature.

To determine whether risk function plays a significant role at each stage of the ESG Journey of a manufacturing company. An overwhelming 93% of respondents affirmed the risk function's significant role across various stages of the ESG journey, particularly during the materiality assessment phase. This stage is vital for engaging stakeholders and prioritizing ESG risks, aligning with Sheehan et al. (2023a)**,** who highlighted the importance of materiality assessments in risk management. Their work emphasised integrating ESG risks into Enterprise Risk Management (ERM) systems to address the challenges posed by dynamic and interconnected risks effectively.

To assess and compare the ESG performance of manufacturing companies (as measured by the frequency of achieving ESG goals) with well-developed risk functions compared to those with immature risk functions. Kendall's Tau-b correlation analysis [$\tau = 0.390$, $p = 0.013$] revealed a significant moderate positive relationship between risk function maturity and ESG performance. This indicates that organizations with more mature risk functions are better positioned to achieve their ESG goals consistently. The null hypothesis(H_0) rejection underscores the critical role of risk maturity in driving superior ESG outcomes, emphasising the value of robust and structured risk management in advancing long-term sustainability objectives.

Although existing literature provides limited direct evidence on this relationship, these findings contribute novel insights into the evolving role of the risk function in ESG efforts. They underscore the importance of risk maturity as a key enabler in addressing complex ESG challenges and achieving sustainable business performance.

The insights gained from this study affirm the substantial role of the risk function in the ESG journey of Indian manufacturing organizations, particularly during the materiality assessment phase. The statistically significant relationship between risk maturity and ESG performance underscores the necessity of a structured and advanced risk function to consistently achieve ESG objectives. These results align with existing literature while providing fresh insights into the pivotal role of risk maturity in driving enhanced ESG performance. Overall, this discussion highlights the critical importance of risk maturity in effectively navigating and improving ESG outcomes.

Conclusion

This study explored the role of the risk function in the ESG journey of Indian manufacturing organizations. The findings underscored its critical involvement, particularly during the materiality assessment phase and other key stages of the ESG process. A positive relationship was established between the maturity of the risk function and ESG performance, demonstrating that more advanced risk functions contribute to better ESG outcomes. This research emphasises the importance of a mature risk function in achieving long-term sustainability.

Practitioners are advised to prioritize the development of a comprehensive risk management framework and focus on enhancing the maturity of their risk function. Strengthening risk maturity is likely to improve ESG performance, leading to benefits such as stronger regulatory compliance, enhanced stakeholder trust, and greater organizational resilience.

Limitations

Data collection primary utilised known resources, resulting in a bias toward larger companies. The use of convenience sampling limits the applicability of the findings. While the chosen inferential method was appropriate for the sample size and data type, ensuring accuracy, employing more advanced analytical techniques could yield deeper insights.

Recommendations for Future Research

Future research could explore the role of the risk function in the ESG journey by comparing publicly listed companies with private companies. Expanding the sample size to enhance representativeness and employing more sophisticated analytical methods are also recommended to build on this study’s findings.

In conclusion, this study provides compelling evidence of the critical role the risk function plays in enhancing ESG performance in Indian manufacturing organizations. Despite its limitations, the research lays a strong foundation for future investigations and underscores the importance of strengthening risk management systems to effectively navigate ESG challenges.

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