

ESG Risk Management and Firm Value of Listed Companies at the Securities Exchanges of East African Community Countries

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Abstract

ESG risk management has become a strategic governance activity and not just a compliance activity because the pressure of the regulations has increased (Jansen, 2023). This study was conducted using a positivist philosophy with a census sampling technique across a population of 93 firms listed at the Nairobi Stock Exchange (NSE) in the East African Community (EAC) region, which were selected based on the inclusion criteria and adhered to the Resource Based View Theory, with a longitudinal design. Secondary data from annual reports, sustainability reports and securities exchange records for the period 2018-2024 were analysed using descriptive, correlation and regression analysis in SPSS Version 25. The largest ESG dimension examined was ESG risk management, which had a statistically significant and positive impact on the firm value ($\beta = 3.660$, $t = 8.644$, $p < 0.001$) and explained 42.3% of the variance. The study finds that markets reward systemic ESG risk management and suggests that regulators require risk disclosure frameworks covering ESG risks and corporates should integrate ESG risk management into enterprise risk and board oversight processes.

Keywords: Tobin's Q, investment, resource-based view

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1. Introduction

Risk management is a systematic approach to the identification, assessment and reduction of the risk to the firm that may impact the ability to achieve the firm's goals (Kaplan and Mikes, 2019). Good risk management helps to ensure the business runs smoothly and protects its value by preventing possible losses, thereby instilling confidence among stakeholders and helping to achieve a competitive advantage. It covers financial, operational, strategic and compliance risks and reflects the overall corporate goal of maximizing resources while minimizing risk or uncertainty. A robust risk management system incorporates risk analysis into decision making and enhances the systems' resilience to market volatility and shocks. Firms with strong risk management practices tend to command higher valuations, since predictability rises and the cost of capital falls (Alam & Nizamuddin, 2020); proactive risk management thus serves both to protect assets and to support the sustainable, long-term appreciation of the firm.

ESG risks refer to environmental, social, or governance events or conditions that, should they materialize, produce adverse effects of meaningful scale on a supervised entity's assets, finances, earnings, or reputation (European Commission, 2021). ESG risk management is the process of addressing risks arising from environmental, social, and governance factors that could harm a firm's stakeholders, reputation, or financial performance (Aziz, Manab and Othman, 2016), functioning as an integrated strategy for identifying, evaluating, and mitigating ESG-linked risks (Marques, 2019). It requires embedding sustainability within the broader risk management strategy so as to guard against threats to a business's reputation, financial performance, and long-term viability, recognizing that issues of corporate governance, climate change, and stakeholder relations can materially affect a firm's operations (Jansen, 2023).

Environmental risks stem from activities such as pollution, resource depletion, and improper waste disposal that harm ecosystems and public health (Sustainalytics, 2022). Social risks arise from strained stakeholder relations,

labor disputes, discrimination, or human-rights violations, that can trigger public backlash and reputational harm, while governance risk stems from mismanaged internal operations, weak regulatory compliance, and inadequate controls that can cause financial loss and operational disruption (Sustainalytics, 2022; Global Risks Report, 2022). Poorly managed, these risks can expose a firm to legal fines, remediation costs, and reputational damage (Younas & Zafar, 2019).

Managing ESG risks successfully involves defining and measuring them, assessing their likely effect on firm performance, and implementing measures that curb these risks while ensuring the organization is positioned to act sustainably and responsibly (Amatucci, 2022). This is possible with the support of clear ESG policies and standards, that are embedded in corporate objectives and values and in decision making and governance systems (Ferriani and Natali, 2021). By proactively managing sustainability risks and seizing new opportunities, sound ESG risk management helps organizations create long-term value for the firm.

Properly managing ESG risks is crucial to firm value protection and enhancement to reduce reputational and financial risk exposure. Here, corporate reputation is a key factor: good ESG reputation can make a company stand out from the crowd and gain stakeholder trust (Esenyel, 2020), while bad can lead to boycotts and revenue losses, and even insolvency in extreme cases (Hales, 2018). If the firm does not handle the ESG-related risks well, investor confidence may be diminished and the market value of the firm may drop, highlighting the close correlation between reputation and firm value (Deloitte, 2014).

From an investment perspective, the ESG risk management has a direct impact on the stability and performance of the portfolio. Portfolios with higher weights in companies with good ESG disclosure tend to have lower market risk and market volatility measures (He, Qin, Liu, et al., 2022), and companies with controversial business lines, such as tobacco, alcohol, gambling, firearms, fossil fuels, are likely to pay higher audit fees or investment fee premiums because they have higher perceived risk and public pressure (Luo and Balvers, 2017). All of these patterns highlight the importance of ESG risk management in maintaining investor confidence and firm value (Albuquerque, Koskinen, and Zhang, 2019).

The market valuation of the firms listed on securities exchanges in the EAC has been declining steadily between 2018 and 2024 due to the COVID-19 pandemic, high inflation, high interest rates, volatile currencies and poor investor confidence. Despite this, the empirical literature linking ESG risk management to firm value is yet to adequately examine the EAC context, with most of the prior ESG risk management-firm value studies focusing on developed markets like the USA, Germany and Norway (Giannopoulos et al., 2022; Velte, 2017; Ademi & Klungseth, 2022), thereby leaving a gap in the literature. While the importance of ESG risk management to firm value is well established, there is no empirical evidence thus far to show this relationship for EAC countries and this study aimed to fill this gap.

The specific objective of the paper was to investigate the relationship between ESG risk management and the firm value of listed companies at the securities exchanges of EAC countries with the following hypothesis: H_0 : There is no significant relationship between ESG risk management and firm value of listed companies at the securities exchanges of EAC countries.

2. Literature Review

2.1 Theoretical Review

The Resource Based View (RBV) Theory was introduced in 1984 by Birger Wernerfelt and Barney (1991) formalized the VRIN framework; valuable, rare, inimitable, non-substitutable. The RBV focuses on a company's internal resources and capabilities, such as human resources, quality of governance, organizational routines, and internal controls, rather than its external market position, and assumes that firms with unique resources and capabilities have the potential to outperform their rivals because such resources are difficult to acquire, replicate, or substitute (Ismail & Latiff, 2019).

The wide application of RBV in ESG research has been reported. It was used by Ismail and Latiff (2019) to demonstrate that financial, human and governance endowments have a direct effect on a firm's capacity to

translate ESG activity into competitive advantage and superior performance. According to Barney, Ketchen and Wright (2021), the extent of ESG disclosure is related to the level of a firm's resources; firms with greater resources can disclose more credible, consistent and comprehensive ESG information than other firms.

RBV has also received a consistent critique in terms of method and concept. An inherent problem in the theory was pointed out by Kozlenkova, Samaha and Palmatier (2017), that competitive advantage is used to explain performance improvements in the theory and is also assumed from superior performance as the theory is supposed to explain. In addition, Barney, Ketchen and Wright (2021) noted that RBV does not provide much information to resource-poor companies on how they might gain access to strategic resources, which is a pertinent issue in emerging markets such as the EAC.

In this study, RBV is used to provide an understanding of ESG risk management and firm value as the sophistication of the firm's risk-management architecture is related to financial and human capital that competitors cannot easily replicate. The way a firm approaches risk management demonstrates their fiduciary duty to people impacted by their actions, and stakeholders trust and are confident in firms that manage risks around ESG issues proactively (Albuquerque, Koskinen, & Zhang, 2019).

2.2 Empirical Review

Sharma (2023) examined whether ESG risk management ensures sound risk management among Indian companies listed on the National Stock Exchange, treating ESG risk management as the independent variable and firm performance and market stability as dependent variables. Using ESG indices and Value-at-Risk (VaR) forecasting during periods of market turbulence, the study found ESG indices remained stable with strong VaR forecasting, ESG stocks proved more predictable in terms of potential investor losses during volatile period and that sustainable practices supported not just profitability but broader market and economic stability. While informative on ESG risk resilience, the study's reliance on index-level analysis limits its usefulness for firm-level valuation inference and its generalizability beyond India.

Cohen (2023) examined the relationship between ESG sustainability ratings and corporate value using S&P 500 and Nasdaq 100 stocks from 2019 to 2021, with ESG risks (environmental, social, governance) as the independent variable and corporate value as the dependent variable, applying Sustainalytics' ESG Risk Ratings, a five-level scale from negligible to severe measuring unmanaged ESG risk. Social risks adversely affected both S&P 500 and Nasdaq 100 firms, underscoring the importance of managing social concerns to protect firm value, while governance risk correlated positively with firm size, particularly among S&P 500 firms; environmental risks, by contrast, showed little significant effect on firm value in most cases. Because the study relies on developed-market indices, its applicability to emerging markets such as the EAC is limited.

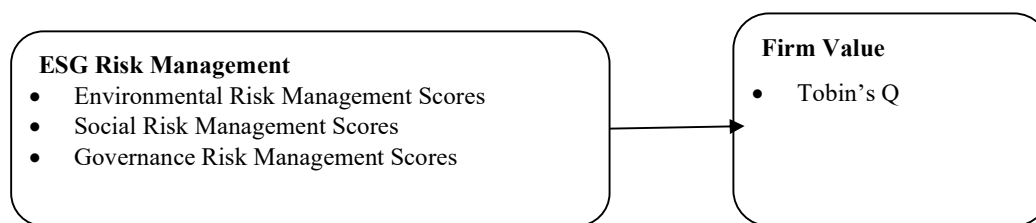
Eriandani and Winarno (2024) studied how ESG risk affects firm value, and how materiality disclosure moderates this effect, among 204 non-financial firms listed on the Indonesia Stock Exchange between 2020 and 2022, with ESG risks as the independent variable, firm value as the dependent variable, and materiality disclosure in sustainability reports as the moderator. Using moderated regression, they found that high ESG risk significantly depresses firm value, though materiality disclosure offsets this negative effect, with results supported by robust least-squares estimation. The study's geographic scope, however, is limited to Indonesia.

Chairani and Siregar (2021) examined how enterprise risk management (ERM) affects financial performance and firm value, with ESG disclosure as a mediator, treating ERM as the independent variable, financial performance and firm value as dependent variables, and ESG disclosure as the moderator. Using fixed-effect panel regression on 680 firm-years drawn from listed companies across the ASEAN 5 (Indonesia, Malaysia, the Philippines, Singapore, and Thailand) between 2014 and 2018, they found ERM positively affected both financial performance and firm value, with ESG disclosure significantly moderating this relationship, particularly in sensitive industries, though the study's geographic scope excludes contexts such as the EAC.

Yudhanto and Simamora (2023) investigated the mediation effect of firm risk between the relationship of ESG risk and firm performance, measured by ROA and Tobin's Q, for 150 sample firms that were included in the Indonesia ESG Leaders Index (2020-2022), where the independent variable was ESG risk, the mediator variable

was firm risk, and the dependent variable was firm performance. Lowering ESG risk had a negative impact on firm risk, positive impact on ROA and Tobin's Q and was found to be stronger in industries with an environmental sensitivity. The study, however, did not specifically explore the ESG risk-firm value association, which was addressed by the current study.

2.3 Conceptual Framework



Independent Variable

Dependent Variable

3. Research Methodology

Similar to ESG disclosure, the ESG risk management and firm value are measurable and quantifiable phenomena, so this study used the positivism approach that is suitable to test the hypotheses through a scientific analysis of numerical data with a neutral perspective (Lincoln, Lynham, & Guba, 2018). The use of a longitudinal design to follow the same units of analysis over time to observe changes, trends, and dynamic relationships among the variables as the study covered the time frame 2018-2024 and the study's objective was to trace how the changes in ESG risk management practices are related to changes in firm value (Menard, 2020; Creswell & Creswell, 2018). A quantitative approach, the same as that of the positivist tradition, which focuses on objective measurement and statistical analysis, was complemented by a correlational strategy to investigate the strength and direction of the relationship between the independent variable (ESG risk management) and the dependent variable (firm value) (Creswell & Creswell, 2017).

The study was conducted by selecting all 93 companies listed on the East African stock exchanges in the four countries namely Kenya with 62 companies, Rwanda with 6 companies, Tanzania with 16 companies and Uganda with 9 companies, which are listed on the Uganda Securities Exchange (USE). The companies in question had to be traded on one of these four exchanges, issue ESG, sustainability or integrated reports regularly from 2018 to 2024 and provide the relevant financial and stock-performance information for the whole period. Firms were either not eligible due to the failure to meet these criteria, or were not available to participate in the study, so only 15 firms were eligible ($n = 15$) and the study was conducted as a census of all eligible firms.

Secondary data on ESG risk management and value of the firm was sourced from secondary sources such as annual reports, ESG/sustainability reports, and performance records or databases of the NSE, DSE, USE and RSE of the firms. The ESG Risk Management Index was developed to measure the ability of the firms to identify and manage risks arising from ESG issues, with 22 indicators based on regulatory expectations in the global and local environment. Both the indicators were evaluated on a binary (1/0) scale with the overall index score being divided by 22, to ensure all firms were evaluated on a common scale.

Firm value was quantified using a standard measure to gauge the investors' expectations and growth prospects, namely Tobin's Q, which is a ratio of the market value of a firm's assets to the book value. It was calculated by dividing the Market Value of Equity with the Book Value of Assets and the Market Value of Equity was equal to the number of outstanding shares multiplied by the share price at the end of the day. The moderating variable was firm size in terms of the natural logarithm of total assets.

Data analysis was quantitative, carried out in SPSS Version 25. Before the inferential analysis data were summarized by descriptive statistics and diagnostic tests for normality, linearity, homoscedasticity,

multicollinearity and autocorrelation were computed. The first step to understanding the correlation between ESG risk management and the value of the firm was to assess the correlation between the two continuous variables, which was done through the Pearson's correlation coefficient (r). Then, the dependent variable – firm value – was regressed on the ESG risk management (X_2) without a moderator: $Y = \beta_0 + \beta_2 X_2 + \varepsilon$, where Y represents the firm value, X_2 represents ESG risk management, β_0 is the regression constant, and β_2 is the coefficient of the ESG risk management.

4. Research Results

4.1 Descriptive Findings and Discussions

Table 1: Descriptive Statistics for ESG Risk Management

N	Minimum	Maximum	Mean	Std. Deviation
104	.30	.82	.5367	.11159

Table 1 descriptive statistics reveal that the average score for ESG risk management of EAC listed companies was 0.5367 (53.67%) with a standard deviation of 0.11159 and range was from 0.30 to 0.82 and on average, the companies on EAC have implemented only about 54% of the risk management indicators of the ESG.

It is a concerning lack, as systematic processes to identify, assess and manage ESG related risks are essential to safeguarding firm value from environmental, social and governance risks (Jansen, 2023; Marques, 2019), as this is the case in the field of EAC-related issues.

The 0.30-0.82 indicates a wide range of practices in risk management with some firms reporting as low as 30% of expected measures and others as high as 82%. The overall dispersion is moderate in line with a standard deviation of 0.11159, with the low minimum score indicating that some firms are still exposed to high ESG risk. This weakness is particularly significant in light of Sharma (2023) which shows that ESG indices are good at forecasting value-at-risk during market turbulence, suggesting that EAC firms may not yet be ready to reap the benefits of sound ESG risk management for market stability.

4.2 Inferential Statistics

4.2.1 Correlation between ESG Risk Management and Firm Value

Table 2: Correlation

		ESG_Risk_Management	LogFirm_Value_TobinsQ
ESG_Risk_Management	Pearson Correlation	1	.650***
	Sig. (2-tailed)		<.001
	N	104	104

The statistically significant relationship between ESG risk management and firm value was positive and strong ($r = 0.650$, $p < 0.001$), suggesting that companies that have a more advanced ESG risk management strategy tend to have higher firm value.

This positive correlation ($r = 0.650$) reinforces the belief that investors, other stakeholders and companies attach significance to the identification, assessment and mitigation of ESG-related risks, which leads to lower

financial, legal and reputational risk exposures and ultimately increases the value of companies for the long term (Jansen, 2023; Marques, 2019).

This is consistent with the study by Eriandani and Winarno (2024) that higher ESG risk significantly decreases the value of the firm, which is moderated by materiality disclosure; the study by Sharma (2023) that ESG indices are stable and have good forecasting in the face of market turbulence; the study by Chairani and Siregar (2021) that ERM is significantly affecting firm value and materiality disclosure is one of the moderators; and the study by Yudhanto and Simamora (2023) that the lower the ESG risk, the lower the firm risk and the higher the Tobin's Q.

4.2.2 Regression: ESG Risk Management and Firm Value

The regression analysis for Model 1 analyzed the relationship between the value of the firm and the ESG risk management.

$$\text{Model 1: } Y = \beta_0 + \beta_2 X_2 + \epsilon.$$

Table 3: Model Summary of ESG Risk Management and Firm Value

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.650 ^a	.423	.417	.47956
a. Predictors: (Constant), ESG_Risk_Management				

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A correlation coefficient of $R = 0.650$ indicates a strong, positive, linear relationship between ESG risk management and firm value, underscoring how central risk management is to firm value. With an R Square of 0.423, ESG risk management alone accounts for 42.3% of the variation in firm value.

Table 4: ANOVA of ESG Risk Management and Firm Value

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	17.184	1	17.184	74.718	<.001 ^b
	Residual	23.458	102	.230		
	Total	40.641	103			
a. Dependent Variable: LogFirm_Value_TobinsQ						
b. Predictors: (Constant), ESG_Risk_Management						

Table 4 reports the model's significance via an ANOVA test; the F-statistic (74.718) and p-value (< 0.001) together confirm that the relationship between ESG risk management and firm value is statistically significant.

Table 5: Coefficients of ESG Risk Management and Firm Value

		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
Model		B	Std. Error	Beta		
1	(Constant)	-2.237	.232		-9.637	<.001
	ESG_Risk_Management	3.660	.423	.650	8.644	<.001
a. Dependent Variable: LogFirm_Value_TobinsQ						

Table 5's coefficients confirm that ESG risk management had a statistically significant, positive effect on firm value ($B = 3.660$, $t = 8.644$, $p = 0.001$): a one-unit increase in the ESG risk management index (0-1 scale) corresponds to a 3.660-unit increase in log(Tobin's Q).

This strong effect indicates that investors place a premium on firms that systematically identify, assess, and address ESG-related risks; with an effect size of 3.802 and R^2 of 0.423, risk management emerges as clearly important to firm value.

This significant positive effect is consistent with the Resource Based View that suggests that the ESG risk management capabilities are valuable, rare and hard to imitate and thus can create sustainable competitive advantage (Barney, 1991; Ismail and Latiff, 2019). Firms with strong ESG risk management frameworks are better positioned to limit downside risk, lower their cost of capital, and build stakeholder confidence, all of which lift firm value.

This substantial effect suggests stakeholders, investors in particular, reward firms that take proactive steps to manage ESG risk. Albuquerque, Koskinen, and Zhang (2019) similarly found that well-managed ESG risk lowers systematic risk and strengthens investor confidence. The size of the effect here suggests that in the EAC, where environmental and social risks run high and governance weaknesses are widespread, effective risk management serves as an especially strong signal of firm quality.

This strong, positive ESG risk management-firm value relationship in the EAC aligns with Eriandani and Winarno (2024), who found that high ESG risk significantly depresses firm value, an effect neutralized by materiality disclosure; with Sharma (2023), who found ESG indices remain stable even during market turbulence; with Chairani and Siregar (2021), who found enterprise risk management positively influences firm value with ESG disclosure as a key moderator; and with Yudhanto and Simamora (2023), who found that reducing ESG risk lowers firm risk and improves Tobin's Q.

This result is also consistent with the theoretical arguments of Jansen (2023) and Marques (2019) that ESG risk management is essential to protecting and enhancing firm value by reducing reputational and financial risk. The impact seen in the EAC is similar, or greater, to that in other emerging markets, perhaps due to the high-risk levels in the region.

4.3 Hypothesis Testing

The hypothesis suggested that there is no significant relationship between the ESG risk management and the value of a firm for the listed EAC companies. The results of the model 2 regression ($\beta = 3.660$, $p < 0.001$) reject this null hypothesis, giving good evidence that ESG risk management has a strong positive relationship with firm value.

If the market rejects H_{02} , it can be concluded that the market values effective ESG risk management, and that it plays an important role in the creation of higher firm value, as suggested by the Resource-Based View that considers ESG risk management capabilities as valuable strategic resources and by Stakeholder Theory, which states that stakeholders reward firms that manage ESG-related risks proactively.

5. Conclusions

The study concludes that ESG risk management is positively correlated with firm value in the EAC with the aim of the positive correlation is that ESG risk management creates stakeholder confidence, reduces perceived risk and the cost of capital. The above conclusion highlights the need for companies to integrate ESG factors into their enterprise risk management programs, as well as the fact that the EAC's current ESG risk management practices (mean score 53.67%) are inadequate to create value.

6. Recommendations

The study suggests that listed firms should be mandated to disclose their ESG risk management frameworks by regulators, including aspects related to assessing climate risks, conducting ESG screening in supply chains, and board oversight of ESG risks. It also suggests that climate-related financial disclosures should follow the TCFD framework (which is now included in IFRS S2), and that independent audit committees should be tasked with overseeing ESG risk management, while capital markets authorities are called on to think about incorporating ESG risk management into corporate governance codes.

The study also suggests that companies incorporate ESG risk management into their enterprise risk management, board oversight and strategic planning processes, including by creating a board-level ESG committee, regular climate risk assessments, evaluating ESG exposure in supply chains, and having crisis-management procedures for ESG issues. The large contribution of ESG risk management to firm value variability (42% of variance) indicates that it is particularly valuable.

The findings suggest that EAC investors should factor ESG risk management into their investment analysis and decisions, given the significant positive correlation between ESG parameters and firm value that points to ESG information as predictive of future performance. Investors are encouraged to request ESG information from companies, apply ESG ratings where available, and engage portfolio companies on strengthening their ESG practices.

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