



The financial performance of listed firms in Tanzanian Dar es Salaam stock exchange (DSE): Does the disclosure of non-financial information (NFI) matter?

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ABSTRACT

Non-financial information (NFI) disclosure is increasingly important in investment decision-making and corporate accountability. However, empirical evidence regarding the relationship between NFI disclosure and firm performance remains inconclusive. This study examined the relationship between NFI disclosure and the financial performance of firms listed on the Dar es Salaam Stock Exchange (DSE), guided by Legitimacy Theory and Stakeholder Theory. A mixed-methods approach using an explanatory sequential design was employed, covering 21 locally listed firms over the period 2006–2019. Panel data were analysed using the Random Effects Model, while qualitative data obtained through semi-structured interviews were analysed thematically. Firm performance was measured using Return on Assets (ROA), while NFI disclosure was represented by corporate social responsibility information, corporate governance information, and risk management information. Firm age, firm size, and geographical diversification were included as control variables. The findings indicate a positive relationship between the NFI categories and ROA. The study concludes that greater NFI disclosure is associated with improved firm performance by enhancing transparency and stakeholder confidence. It recommends that managers strengthen NFI disclosure through appropriate communication channels and that regulators enhance monitoring of compliance with applicable NFI disclosure requirements.

Keywords: Firm Performance, Listed Firms and Stock Exchange, Non-Financial Information Disclosure

I. INTRODUCTION

The importance of information in business and related activities cannot be ignored in the contemporary world. This is because a vast set of information brings about a number of benefits in business today (Romito & Vurro, 2021; Saraite-Sariene et al., 2020). However, for such information to be more meaningful and relevant, it has to be disclosed and shared with important stakeholders. The information to be disclosed by the firm through annual reports includes both financial and non-financial information (NFI) (Cordazzo et al., 2026; Jaber & Fadhil, 2026). Such information is used by stakeholders in making decisions.

Contemporary facts indicate that there has been a rise in the need of NFI due to inadequacies in the traditional financial information disclosed to the public (PricewaterhouseCoopers, 2017). The information has been needed for the purpose of assessing the firms' value and making other relevant decisions about the firm. The need for NFI has prompted firms to change their practices with regard to disclosing sets of such information to their esteemed stakeholders and have striven to include information disclosure among their corporate strategy (Abdulrasheed et al., 2025; Cordazzo et al., 2026). Literature provides that the inclusion of NFI in corporate reporting is of paramount importance in transparency and therefore improves economies throughout the world (Dumay et al., 2020; Silva, 2025). As a result, many firms are striving hard to publish such information to exhibit the impact made by their activities in terms of Corporate Social Responsibility information (CSRI), Corporate Governance information (CGI), and Risk Management information (RMI); such published information increases visibility of these firms to different individuals and discloses how the firms participate in such important activities that bring about direct impact to the society and their important stakeholders. Moreover, NFI disclosure has attracted the attention of different regulators (PWC, 2017). Thus, a number of international and national regulatory frameworks have been enacted. These require firms to disclose their NFI and have set standards through which such information is disclosed to the public. This enhances transparency in operations to their esteemed stakeholders (Mwenda et al., 2022).

At the international level, various standards, regulations, and reporting frameworks have strengthened the disclosure of non-financial information (NFI). ISO 26000 provides guidance on social responsibility and encourages organizations to communicate information relating to their social responsibility practices and performance (International



Organization for Standardization, 2010). Similarly, Directive 2014/95/EU requires certain large public-interest entities to disclose non-financial information concerning environmental, social and employee matters, respect for human rights, and anti-corruption and anti-bribery matters (European Parliament & Council of the European Union, 2014). In addition, the Global Reporting Initiative (GRI) Standards provide a widely recognized framework for organizations to report their economic, environmental, and social impacts and related management practices (Global Reporting Initiative, 2021). These developments demonstrate the growing importance of NFI as a complement to traditional financial reporting.

In Tanzania, the disclosure of NFI is supported by various legal, regulatory, and corporate governance instruments. The Guidelines on Corporate Governance Practices by Public Listed Companies require listed companies to disclose their compliance with prescribed corporate governance practices in their annual reports (Capital Markets and Securities Authority, 2002). The Tanzania Financial Reporting Standard No. 1 also provides requirements for reporting information relevant to users' assessment of an entity's operations, performance, financial position, and future prospects (National Board of Accountants and Auditors, 2020). Furthermore, the Environmental Management Act, 2004 provides a legal framework for access to and dissemination of environmental information (United Republic of Tanzania, 2004). Collectively, these provisions establish an institutional basis for the disclosure of information that falls within the broader scope of NFI, including corporate governance, environmental and social matters, and risk-related information.

It has been the expectation of different firms and their stakeholders that disclosing NFI to the public attracts more internal and external investors who bring in additional capital that is used for expansion of firm's operations which results in additional customer base, sales volume, and improves trust among community members ultimately resulting in improved firm performance (Cordazzo et al., 2026; Gupta, 2026). However, contrary to firms' and shareholders' expectations on the linkage between NFI disclosure and firm performance, there have been inconclusive results that draw a direct link between NFI disclosure and firm performance. Such a situation has drawn a number of scholars in the debate aiming at establishing the linkage between the two phenomena under the study (Gupta, 2026; Vitale et al., 2023). Based on the observation in literature from both developed and developing nations on the same topic, the debate still has not come to a consensus with regard to the linkage existing between NFI disclosure and firm performance (Agostini et al., 2022; Dagunduro et al., 2024). Similarly, the prevailing studies treated NFI categories independently and none of the studies combined them to determine their collective linkage on firm performance as would be required by stakeholders. Furthermore, these studies only reported findings based on what was observed but did not go an extra mile to probe why the relationship between the variables appears in that way. Hence, the three lapses from the present literature form a base for the need of another study that intended to bridge the knowledge gap as exposed from different literature sources. In this regard, this paper is about the linkage existing between NFI disclosure and firm performance in the Tanzanian context by combining all NFI categories and probing from different stakeholders to reveal why the link between NFI and firm performance appears the way it is.

1.1 Research Hypothesis

In order to study the linkage existing, the study hypothesized that:

H_0 : There is no linkage existing between NFI disclosure and performance of firms.

II. LITERATURE REVIEW

2.1 Theoretical Context of the Research

The legitimacy theory and the stakeholder theory underpinned this study. While the legitimacy theory was the main theory, the stakeholder theory was used as a supporting theory. This is because, although the legitimacy theory explains the need for firms to legitimize their operations as per surrounding society, it does not put clear the society it refers to and how the firm can make use of such legitimacy and compliancy to society needs to improve its performance which is clarified by stakeholder theory.

2.1.1 Legitimacy Theory

The legitimacy theory was developed from the concept of organizational legitimacy, propounded by Dowling and Pfeffer (1975). The theory deduces that the firm strives to continuously carry its operations in the legal frameworks accepted by a society where it operates. It puts forward two important ideas of legitimizing firm activities through which positive benefits are realized by the firm (Hassan & Marston, 2019). In this regard, disclosure of NFIs is a mechanism through which firms legitimize their activities by complying with regulatory framework and are in line with requirements and interests of its other important stakeholders (society). It is expected that compliance to these regulations/legitimizing operations will lead to firm performance (O'Donovan, 2002). The theory has power over others because it provides strategies through which firms disclose NFI which can easily be empirically tested by stakeholders (Guthrie et al., 2007).



2.1.2 Stakeholder Theory

Complementing the legitimacy theory, the stakeholder theory was employed. It was developed by Ullmann, (1985) and argues that a firm should create value for all stakeholders. It comprises three models: pressure from stakeholders resulting from their interests, the strategy of firm response to stakeholders' interests, and the level of firm economic performance. The first model explains how the firm responds to the needs and interests of its stakeholders (Prado-Lorenzo et al., 2011; van der Laan, 2009), in this case, relevant information about firm operations. The second model shows how firms react towards demands and requirements of their stakeholders (Kent & Chan, 2009), in this case disclosing relevant and meaningful NFI. The third model entails firm economic performance that determines the financial muscles of the firm (Elijido-Ten et al., 2010). In this case performance of the firm is expected to be realized through maximum disclosure of NFI (Buallay et al., 2017).

2.2 Empirical Review

Several empirical studies have examined the relationship between non-financial information disclosure and firm financial performance. However, the findings remain mixed across countries, sectors and measures of disclosure and performance. The following studies provide empirical evidence relevant to this study.

Alodat et al. (2024) examined sustainability disclosure and firm performance among 81 non-financial firms listed on the Amman Stock Exchange, Jordan, using secondary data for 2014–2018. The study measured performance using ROA, ROE, and Tobin's Q and analysed the relationship using quantitative methods. The findings showed that sustainability disclosure positively and significantly influenced financial, operational and market performance. The study concluded that disclosure improves stakeholder confidence and firm outcomes. However, it focused on sustainability disclosure in Jordan. This study extends this evidence by examining broader NFI disclosure among DSE-listed firms in Tanzania. While, Moses (2022) examined sustainability-reporting compliance and financial performance among 57 companies listed on the Nigerian Stock Exchange. The study used secondary data from annual reports and measured sustainability disclosure through economic, environmental, social and governance information. Panel-data analysis was employed to examine its relationship with financial performance. The findings indicated a significant relationship between sustainability-reporting compliance and financial performance, leading to the conclusion that compliance with sustainability disclosure requirements can improve corporate outcomes. However, the study was conducted in Nigeria and focused on sustainability reporting. The present study addresses this gap by examining broader NFI disclosure in Tanzania.

Doffour et al. (2023) examined sustainability reporting, directors' ownership and financial performance among listed manufacturing firms in Africa using corporate-report data for 2015–2021. The study employed the Generalized Method of Moments (GMM), with ROA and Tobin's Q as performance measures. The findings indicated a negative relationship between sustainability reporting and performance before considering directors' ownership; however, directors' ownership changed the relationship to positive for some measures. The study concluded that ownership characteristics influence the disclosure-performance relationship. However, it focused on manufacturing firms. The present study extends the evidence to DSE-listed firms across sectors. Then, Ouma et al. (2025) investigated sustainability reporting and financial performance among 57 firms listed on the Nairobi Securities Exchange using panel data covering 2014–2023. The study examined environmental, social, governance and stakeholder-related disclosures using quantitative panel-data analysis. The findings showed that environmental, social and stakeholder disclosures were generally positively related to financial performance, while governance disclosure was positive but insignificant. The authors concluded that the effect of disclosure varies across sustainability dimensions. However, the study focused on Kenya and sustainability reporting. The present study addresses this gap by examining broader NFI disclosure among firms listed on the Tanzanian DSE.

Mwenda et al. (2022) investigated the relationship between NFI disclosure and performance among 21 DSE-listed firms using data from 2006–2019. The study adopted a mixed-methods explanatory sequential design, with ROA as the dependent variable and CSR, corporate governance and risk-management information as NFI measures. Random-effects regression and thematic analysis were used. The findings showed a positive relationship between NFI disclosure and ROA. The authors concluded that disclosure improves visibility, attracts investors and enhances performance. However, the study ended in 2019. The present study extends this evidence by providing updated empirical evidence on the broader NFI-performance relationship. While, Ngole and Mabonesho (2023) examined operational-performance disclosure among 21 DSE-listed firms using information for 2020/2021. The study adopted a Balanced Scorecard approach and content analysis to measure disclosure and examined whether firm and industry characteristics influenced disclosure. The findings showed relatively high operational-performance disclosure and established that industry profile, listing age and cross-listing influence disclosure practices. The study concluded that firm and industry characteristics explain differences in operational disclosure. However, it did not examine the effect of disclosure on financial performance. The present study fills this gap by directly testing the NFI disclosure-performance relationship. And Ngollo and Mwenda (2022) examined CSR disclosure and profitability among 21 DSE-listed firms using data from 2006–2021. The study adopted a mixed-methods explanatory sequential design, with ROA and ROE measuring



profitability. Random-effects regression was used for quantitative data, while interviews were analysed thematically. The findings showed that CSR disclosure significantly and positively affected both ROA and ROE. The study concluded that CSR disclosure enhances corporate image, stakeholder trust and profitability. However, CSR represents only one component of NFI. The present study addresses this conceptual gap by examining NFI more broadly, rather than focusing exclusively on CSR disclosure.

The reviewed studies provide mixed evidence regarding the relationship between non-financial disclosure and financial performance. While several studies report positive relationships, others find negative or insignificant effects depending on the disclosure dimension, industry, country and performance measure. More importantly, Tanzanian evidence remains limited. Mwenda et al. (2022) directly examined NFI and performance among DSE-listed firms but used data ending in 2019, while Ngollo and Mwenda (2022) focused specifically on CSR and Ngole and Mabonesho (2023) examined operational disclosure without linking it to financial performance. Therefore, this study fills the temporal, contextual and conceptual gaps by providing updated evidence on whether broader NFI disclosure is linked to the financial performance of firms listed on the DSE.

III. METHODOLOGY

The study used the mixed methods approach with an explanatory sequential research design. The approach and design were used because of their power in terms of providing more meaningful, valid and reliable results (Kothari & Garg, 2019; Lelissa, 2018). The approach allows the researcher to collect, analyse and interpret data both qualitatively and quantitatively. In reality, using mixed research approach helps explain further trends and results obtained quantitatively, which in turn leads to drawing strong and meaningful conclusions (Creswell & Creswell, 2018). The design employed in this study involves a researcher collecting both quantitative and qualitative data sequentially where by the researcher collects quantitative data in phase one, analyses them and in order to make them more meaningful supplements them with qualitative data collected in the second phase. In this study quantitative data were more emphasized on because of their ability to expound causal effect relationship existing between variables (Bryman, 2022). While numerous earlier scholars such as studies by Cordazzo et al. (2026); Hassan & Marston (2019); Jaber & Fadhil (2026) used quantitative approaches in studying the linkage between NFI and firm performance, in this study both qualitative and quantitative approaches were used complementarily to study that linkage and why it is that way. Regarding this study, both qualitative and quantitative findings were combined in the findings and discussion sections to provide a clear outlook of the phenomenon (Kothari, 2016).

3.1 Data Type and Source

In the quantitative part, secondary panel data on the dependent variable (firm performance, measured in terms of ROA), independent variables (NFI whose proxies were CSR, CGI and RMI) and control variables (firm size, firm age and geographical diversification) were generated from audited annual reports of firms listed on DSE (Mwenda et al., 2022; Saraite-Sariene et al., 2020). The study used panel data for all 21 firms in the period ranging from 2006 to 2019 because it has the ability of giving reliable and generalizable findings (Doffour et al., 2023; Ouma et al., 2025). Panel data were used because they contain more information; they are more efficient and can detect and measure statistical effects that pure time series or cross-sectional data cannot measure (Saunders et al., 2019). The study considered its analysis from 2006 because it is when DSE started storing data electronically; the Tanzania Company Ordinance 2002 came into operation 2006 (Mwenda et al., 2022); and it is in the same year when most of the listed firms started complying with the Ordinance requirements and IFRSs in preparing their financial reports after its institutionalization in 2004. Qualitatively, semi-structured interviews were used to collect data. Despite being considered flexible and compatible with other data analysis approaches, they also allow respondents to be free by expressing their views in their own words (Bryman, 2022).

3.2 Sampling and Sample Size

Census approach was used to sample firms to participate in this study, which means all local listed and trading firms were selected. This is because the bigger the number of sample size and observations, the greater the validity of findings. Therefore, the sampling frame included all 21 local listed firms trading on DSE by the end of 2019. As for primary data, interviews with 9 selected respondents (key informants) were conducted. The key informants were sampled purposively two regulators from CMSA and DSE, and one broker. Moreover, six senior officers from firms were selected purposive depending on their years of participation on DSE. All the sampled participants were chosen because of their vast knowledge, skills and expertise in Capital market issues. For safeguarding ethical interests, privacy, confidentiality, informed consent and respondents' dignity were given an upper hand (Huyler & McGill, 2019).



3.3 Measurement of variables

In this study, firm performance was the dependent variable whose proxy was Return on Asset (ROA) to measure performance because it is the most widely financial model used in measuring performance. The model, moreover, determines the ability of managers to make profits out of the available assets (Ngenyuko & Dickson, 2025). Previous studies have measured firm performance using both accounting-based and market-based indicators. Accounting-based measures include Return on Assets (ROA), Return on Equity (ROE), and Return on Sales (ROS), while market-based measures include Tobin's Q and market-to-book ratio (He & Chittoor, 2023; Vitale et al., 2023). In this study, firm performance is measured using ROA because it is an accounting-based indicator that can be derived from the financial statements of DSE-listed firms and reflects the efficiency with which firms utilize their assets to generate profits. Thus, ROA was calculated based on the formula presented in equation (i).

$$ROA = \frac{\text{Profit before tax}}{\text{Total Asset}} \dots\dots\dots (ii)$$

CSRI, CGI, and RMI were considered as dimensions of NFI disclosure to examine whether variations in the disclosure of these forms of non-financial information are associated with firm performance. In this study, CSRI was selected as the primary proxy for NFI because corporate social responsibility information communicates firms' social and environmental commitments and activities to stakeholders and may contribute to stakeholder relationships, corporate reputation, and firm performance (Dagunduro et al., 2024; Vitale et al., 2023). However, given the relevance of corporate governance and risk-related information to stakeholders' assessment of firms, CGI and RMI were additionally considered as alternative dimensions for robustness analysis. This approach enables the study to assess whether the observed relationship between NFI disclosure and firm performance remains consistent when other important forms of NFI are considered. Since some NFI items are qualitative in nature, including narrative statements and other non-numerical disclosures, a disclosure index was employed to quantify the information reported by firms. Each disclosure item was assigned a score of 1 where the information was disclosed and 0 where it was not disclosed. The disclosure level was then calculated as the ratio of the items disclosed to the total applicable items in the checklist, expressed as a percentage. The disclosure checklists comprised 20 items for CSRI, 40 items for CGI, and 33 items for RMI. This binary scoring approach is consistent with established methods used in measuring corporate non-financial disclosure through disclosure indices (Hassan & Marston, 2019; Romito & Vurro, 2021). Variable's measurement and expected signs are presented in Table 1.

Table 1
Variables Measurement

Variables	Measurement	Expected Sign	Sources
Dependent Variable			
Return on Asset	Net profit before tax divided by total assets.		Liargovas and Skandalis (2010); Mohammed <i>et al.</i> , (2016).
Treatment variables			
Corporate social responsibility information	It is dichotomous i.e., 1 for disclosure and 0 if otherwise	+ve	Mtaturu and Muloli (2021); Saleh <i>et al.</i> , (2010); Rabi'u (2016).
Risk Management Information	It is dichotomous i.e., 1 for disclosure and 0 if otherwise	+ve	Htay <i>et al.</i> (2011); Rahman <i>et al.</i> (2013); Mohamad <i>et al.</i> , (2014).
Corporate Governance Information	It is dichotomous i.e., 1 for disclosure and 0 if otherwise	+ve	Mohamad and Sulong (2010); Mohamad <i>et al.</i> , (2014).
Control variables			
Firm size	Natural logarithm of the total assets	+ve or -ve	Liargovas and Skandalis (2010); Mtaturu and Muloli (2021).
Firm age	Number of years since incorporated till the period of study	+ve or -ve	Mohammad and Muhammad (2014).
Geographical Diversification	1 for some diversification; 0 for none	+ve	Mao and Gu (2008).

Note that: +ve = positive and -ve = negative

3.5 Econometric Model and Data analysis

The study used a regression model to determine the link between NFI disclosure, whose proxy was CSRI, and performance of listed firms. The model has widely been employed by other studies such as Doffour et al. (2023); Gupta (2026); Moses (2022) on the issue of NFI disclosure. The regression model was suitable for this study because the dependent variable was continuous in nature. The model used is presented in equation (i).

$$ROA_{it} = \beta_0 + \beta_1 CSRI_{it} + \beta_2 FS_{it} + \beta_3 FA_{it} + \beta_4 GDIVER_{it} + FD_i + TD_t + \varepsilon_{it} \dots\dots (i)$$

where: ROA is the dependent variable, β_0 is a constant, β_1 to β_3 are coefficients which were estimated that included treatment variable Corporate Social Responsibility (CSRI), while FS , FA and $GDIVER$ are vectors of control variables firm size, firm age and geographical diversification respectively, FD_i (firm dummy) capturing time invariant firm's specific effect and TD_t (time dummy) capturing time variant specific effect, ε is error term, and i and t are firm and time units respectively. Regression analysis were performed by using STATA 14 software, the results are presented in Table 6. For checking consistence of the findings, the researcher conducted a robustness check by considering other NFI categories (CGI and RMI) and by sector. All these were run in two estimations in each analysis namely 1 and 2.

Data collected in qualitative form were subjected to thematic analysis in order to determine thematic issues raised by respondents in line with the research topic. Themes were identified, analysed, and a thorough explanation for them was given (Huyler & McGill, 2019).

3.6 Diagnostic Tests

Important regression assumptions as given by Pallant (2020) were met in the study. This was done through a number of important tests which were conducted. This included normality, Multicollinearity, heteroscedasticity and autocorrelation. Checking whether the important assumptions were met was done as follows.

3.6.1 Normality

Data which have a normal distribution must have 0 skewness with the accepted range of -1.0 and +1.0 and kurtosis ranging from -3 and +3 (Ghasemi & Zahediasl, 2012). The results in Table 5 indicate that skewness and kurtosis values for all the variables used in the study were within the acceptable range, authenticating that the data were normally distributed.

3.6.2 Multicollinearity

A correlation matrix was used to test the assumption of Multicollinearity in the study. The assumption of Multicollinearity is met when correlation coefficients are $\leq +0.9$ or ≥ -0.9 between variables (Field, 2018). When two variables are highly correlated, they violate Multicollinearity assumption hence one them should be dropped because both variables measure the same effect.

Table 2

Correlation Matrix and Variance Inflation Factor

	ROA	CSR	RMI	CGI	GDIVER	Firm size	Firm age	VIF	1/VIF
ROA	1								
CSR	0.4164	1						1.35	0.73845
RMI	0.0485	0.2763	1					1.94	0.515413
CGI	0.3162	0.3512	0.4758	1				2.2	0.453778
GDIVER	-0.005	-0.03	-0.0497	0.266	1			1.52	0.657254
Firm size	0.2404	0.2271	0.2358	0.2129	0.1802	1		1.17	0.857891
Firm age	0.2811	-0.1918	-0.2212	0.3156	0.1768	0.0073	1	1.56	0.642678

Variance Inflation Factor (VIF) was also used in measuring Multicollinearity assumption. It is argued that when VIF is greater than 10 implies poor estimates (Bryman, 2022; Creswell & Creswell, 2018). The study showed no Multicollinearity among variables as the correlation coefficient in absolute terms were within the range $\leq +0.9$ or ≥ -0.9 and VIF values were less than 10, which allowed the researcher to retain all the variables for analysis. The VIF findings are presented in Table 2.

3.6.3 Serial Autocorrelation

Serial autocorrelation was tested in the study. The assumption of serial autocorrelation is met when values of the same variables have no similarities among them over consecutive periods of time (Creswell & Creswell, 2018). This means that past values cannot be used to predict future values.

**Table 3***Wooldridge Test for Serial Autocorrelation*

Test for Serial Autocorrelation		
Dependent variable	F-value	P-value
Return on Assets (ROA)	0.065	0.8012

According to Wooldridge (2010) test, serial autocorrelation assumption is met when the p-value is greater than 0.05. This assumption was met in this study since the p-value of 0.8012 was greater than the stated alpha level of 5% on Return on Assets (Table 3). Hence, the null hypothesis was accepted, H_0 : No first-order autocorrelation.

3.6.4 Heteroskedasticity

Heteroskedasticity was tested in the study to check whether there was a constant variance within residuals. This assumption was tested using Breusch-Pagan / Cook-Weisberg test. According to Marobhe and Pastory (2020), the heteroskedasticity assumption is met when the p-value is greater than 0.05. For analysis, a good regression model should have constant variance (homoskedasticity) (Saunders et al., 2019).

Table 4*Breusch-Pagan / Cook-Weisberg test for Heteroskedasticity*

Test for Heteroskedasticity		
Dependent variable	chi ² (1)	P-value
Return on Assets (ROA)	8.84	0.061

Return on assets results showed that there was a difference in variance (heteroskedasticity) as the p-value of about 0.061 was greater than the stated alpha level 5% (Table 4). Hence, the null hypothesis was accepted since there was no problem of heteroskedasticity in the study data.

H_0 : Constant variance

3.6.5 Hausman Test

Hausman specification test was used in this study to decide whether to use Random Effect (RE) or Fixed Effect (FE) model. RE Model assumes that the mean scores of the group are random from population while FE Model assumes that the mean scores of the group are fixed (Kothari, 2016). The Hausman test null hypothesis states that difference in coefficients is not systematic. For the ROA model, Prob > chi² = 0.2463. Which was greater than the threshold alpha level of 0.05. Hence, the null hypothesis was accepted (random effects would be consistent and efficient). For the study findings, random fixed model was appropriate because the Prob > chi², which was 0.2463 was greater than 0.05 alpha level. Hence, the study used RE to establish the link existing between NFI Disclosure and performance of firms listed at DSE as the main model for analysis.

IV. FINDINGS & DISCUSSION

4.1 Descriptive Statistics Linking NFI and Firm Performance

The study intended to determine the existing link between NFI and firm performance. Using descriptive statistics, the overview of NFI categories was displayed. The overview is presented in the form of mean, minimum and maximum values as well as standard deviations. A summary of the dependent variable (ROA), treatment variables (CSRI, RMI and CGI) and control variables (firm size, age and geographical diversification) is presented in Table 5.

Table 5*Descriptive results for Dependent and Independent Variables*

Variable	Obs.	Mean	Std. Dev.	Min	Max	Skewness	Kurtosis
ROA	227	12.37785	25.21424	-163.77	69.26	-0.739494	2.603343
CSRI	227	0.5556388	0.0647681	0.4166667	0.65	-0.4622278	2.250268
RMI	227	0.6291265	0.1161738	0.44	0.848484	0.2581494	2.027098
CGI	227	0.640815	0.1074491	0.475	0.875	0.4977867	2.506092
FS	227	7.696089	1.105455	4.674724	10.13887	-0.2197617	2.084392
FA	227	23.56828	17.16032	0	69	0.9909744	2.024824
GDIVER	227	0.8193833	0.3855505	0	1	-0.660426	2.757015

The results in Table 5 show that the mean of Return on Asset was 12.38% with a minimum loss of 163.77% and a maximum profit of 69.26%. The standard deviation score was 25.21 for ROA, implying that the market had high

fluctuation on Return on Assets. The levels of CSRI and RMI had averages of 55.56% and 63% with minimum values of 42% and 44% and maximum values of 65% and 85% respectively. CGI had an average value of 64%, a minimum of 48% and a maximum of 88%. These results indicate that 61% of the firms listed at DSE disclosed NFI while the remaining 39% of the firms did not. This implies that some important information which stakeholders were interested in was not disclosed as required by CMSA (2002), which might affect the performance of their organizations. The average firm age of operation from the year of incorporation was 24 years while the average size of the firms was 8 out of 10 attained maximum. Moreover, geographical diversification had an average of 0.82.

4.2 Regression Analysis for NFI and Firm Performance

In this analysis, the researcher employed the random effect model to determine the linkage between the dependent and independent variables. The regression was run in three estimations labelled with number 1, 2, and 3 respectively. Multiple estimations were used to check if the results were consistent. The results of the regression analysis are presented in Table 6.

Table 6

Baseline Model on CSRI and Firm Performance

Variables	1	2	3
Corporate social responsibility (CSR)	190.5743*** (73.883)	211.9962*** (74.320)	167.0106*** (58.218)
Firm size	3.3706** (1.383)		4.0176*** (1.418)
Firm age	1.6723*** (0.454)	1.8129*** (0.456)	
Geographical diversification	12.7874** (6.356)	13.2753** (6.436)	
Firm dummy	Yes	Yes	Yes
Time dummy	Yes	Yes	Yes
Constant	-138.0592***	-126.6329***	-73.7924**
Observations	(46.103) 227	(46.466) 227	(32.375) 227

Standard errors in parentheses Key: * Significant at 10%, ** significant at 5%, *** significant at 1%

The results in Table 6 indicate that CSRI disclosure had a statically positive significant influence on ROA in all three estimations. This implies that the disclosure of CSRI is linked to firm performance in the sense that it shades light on the firm activities to stakeholders and the environment in general which casts a positive image of the firm and its products in the eyes of the public. This ultimately leads to increase in sales volume, revenue of the firm, builds confidence of prospecting investors which in general increases earnings of the firm. These results are consistent with results of a number of studies (Moses, 2022; Mwenda et al., 2022; Ngole & Mabonesho, 2023) whose findings showed that disclosure of CSRI is positively linked to firm performance. However, the findings of the study contradict those by Cordazzo et al. (2026); Ouma et al. (2025). The contradiction could be as a result of differences in methodological approaches used, contexts of stock markets and approaches of managers in reporting NFI. These findings are in support of the legitimacy theory and the stakeholder theory which, among other things, require firms to legitimize their activities as per surroundings; this involves disclosing NFI as per stakeholders' interests, through which firms build their images, good will, and trust hence increasing customer base which results in general firm performance.

Similarly, all control variables used in the study had a statistical positive significance to firm performance. This implies that, apart from the variables of interest in the study, all control variables (firm age, firm size and geographical diversification) were linked to performance of firms listed at DSE. The results are in line with those by (Doffour et al. (2023) but contradict those by Hassan and Marston (2019). In order to understand the reasons behind the depicted link, the researcher interviewed sampled key informants (KIs). The findings from them indicate that disclosure of NFI specifically CSRI persuades investors, regulators and other relevant players to the good faith of the firm in enforcing its part on the social contract. Disclosure of such information makes firms more trusted by the public. Supplementing this, one of the firm managers reported that:

“Our firm has benefitted widely from CSR and outreach services. It is evident that when a firm discloses CSRI and gives back to the surrounding community, it increases its fame and persuades people around it to use its services. For example, through our CSR and outreach activities, we visited one of our customers who was admitted in one of the hospitals in town. This surprised him and showed him how our firm is bothered by problems befalling its customers and the surrounding community. After being discharged, he

was our ambassador, and he has brought many people to use our services” (Firm Manager, 12 December, 2020).

4.3 Hypothesis Testing the Linkage between NFI Disclosure and Firm Performance

The study tested the hypothesis which was predetermined in the background section of this paper. It was hypothesized that NFI (CSRI) disclosure is not linked to firm performance of listed firms at DSE. By considering findings the obtained in the study, it can be generalized that NFI (CSRI) contributes to firm performance. Therefore, the results prompted the researcher to reject the null hypothesis and opt for the alternative one. Thus, it is stated that NFI (CSRI) is positively linked to performance of firms listed at DSE.

4.4 Regression Analysis for NFI and Firm Performance (Sector-wise Analysis)

Another analysis based on different sectors available at the DSE was conducted to find out if disclosure of CSRI had a linkage with firm performance across different sectors (Banking and Finance [B&F], Commercial Service [CS] and Industrial sectors [IS]) (DSE (2018). Similar variables to those in the baseline models were used in this analysis; the findings are presented in Table 7.

Table 7

Analysis by Sector

Variables	1 B & F	2 B & F	1 C & S	2 C & S	1 I & A	2 I & A
Corporate social responsibility	142.0390*** (42.412)	147.4297*** (42.182)	446.4320*** (157.039)	253.7958* (138.213)	210.1666*** (32.887)	232.5282*** (29.967)
Firm size		3.6201** (1.651)	3.0837** (1.400)			3.5686** (1.695)
Firm age	1.9511*** (0.097)			1.3872*** (0.024)	0.7383** (0.332)	
Geographical diversification	18.2345** (8.720)		15.6249* (8.176)		14.9969* (7.972)	
Firm Dummy	No	No	No	No	Yes	Yes
Time Dummy	Yes	Yes	Yes	Yes	No	No
Constant	-81.2587*** (23.665)	-82.6575*** (23.718)	-327.8462** (147.245)	-85.6973 (100.153)	-108.3779*** (20.553)	-89.2132*** (16.715)
Observations	101	101	38	38	84	84

Standard errors in parentheses

Key: * Significant at 10%, ** significant at 5%, *** significant at 1%

The findings in Table 7 indicate that disclosure of NFI (CSRI) had positive linkage to firm performance across all sectors among the firms listed at DSE. These findings confirmed that CSRI disclosure is linked to firm performance and are consistent with those obtained in the baseline model (Table 6). The researcher is convinced by the findings to reject the null hypothesis and opt for the alternative one.

4.5 Robustness Check for the Linkage between NFI disclosure and Firm Performance

In checking the robustness of the findings, the researcher decided to run the analysis by using the other two sets of NFI (corporate governance information and risk management information) in order to check if the findings were robust and consistent with those obtained in the baseline model. The analysis used other categories of NFI (CGI and RMI) as the independent variables and ROA as the dependent variable. Firm size, firm age and geographical diversification were used as a control variable. The findings are presented in Table 8.

Table 8*Analysis by other NFI categories*

Variables	Corporate governance information		Risk management Information	
	1	2	1	2
Other NFI categories	161.7623*** (58.601)	179.9050*** (58.834)	97.4741** (38.568)	108.4312*** (38.816)
Firm size	3.3009** (1.382)		3.3895** (1.384)	
Firm age		1.4014*** (0.394)	1.7601*** (0.477)	
Geographical diversification	12.7430** (6.324)			13.3106** (6.445)
Firm dummy	Yes	Yes	Yes	Yes
Time dummy	Yes	Yes	Yes	Yes
Constant	-130.9311*** (40.928)	-119.2396*** (41.143)	-82.0453*** (26.679)	-64.1695** (26.002)
Observations	227	227	227	227

Key: * Significant at 10%, ** significant at 5%, *** significant at 1%
Standard errors in parentheses

Results on the robustness check, as depicted in Table 8, are based on two estimations 1 and 2 in each NFI category used in the analysis. The findings generated present that other NFI categories used in the analysis had a positive linkage with firm performance. The findings indicate that there was consistence when measuring the linkage between NFI and firm performance. The disclosure of all NFI categories used in this study had positive statistically significant linkage to firm performance. This was earlier expounded by various scholars such as Cordazzo et al., (2026); Romito and Vurro (2021); Silva (2025) who noted that all NFI categories influence firm performance once well disclosed to the intended stakeholders. Findings obtained from interviews to explain why CGI and RMI are linked to firm performance disclosed that many respondents believed that the variables have a direct link. For instance, on CGI, one key informant was quoted saying:

“Before investors make decisions, they are concerned with how a firm is managed, how is firm continuity, the decision-making hierarchy, and gender balance. Positivity in these issues raises confidence of investors and induces them to invest, which increases capital, turnover and performance at last” (Firm Representative, December, 2020).

Another KI, while expounding about RMI, was quoted saying:

“Risk management is one of the priorities of a firm because the performance of any firm depends on how risks are managed. Thus, risks which are hard to be managed internally are transferred to a third party (insurance companies). Therefore, investors normally assess the level of risk management of the firm before making investment decisions. When disclosed information depicts adequate strategies to manage risks, it will attract both local and international investors thereby increasing liquidity, turnover, and share price of the firm which are translated as improved firm performance” (Senior Officer, December, 2020).

Therefore, according to these results, there is evidence beyond doubt that NFI disclosure is positively linked to firm performance. In this regard, the researcher is convinced that the results obtained are strong and consistent; hence the null hypothesis was rejected.

V. CONCLUSION & RECOMMENDATIONS

5.1 Conclusion

This paper examined the linkage between NFI disclosure and performance of 21 firms listed in DSE. It was found that the disclosure of CSRI together with CGI and RMI is positively linked to firm performance. Thus, considering NFI for which the proxy was CSRI as the independent variable, which was used in the study, it can be generalized that once CSRI have been disclosed, they will increase the image of the firm, firm sales volume, and earnings. Similarly, the disclosure of CGI and RMI also have a similar linkage to that exhibited by CSRI above. Thus, a company which needs to maintain its sustainability, has no other option than disclosing NFI. On the similar note, it should be recorded that the higher the disclosure and involvement of a firm in CSR, the higher the chances of attracting more investors, as these investors are interested in firms that comply with international regulatory frameworks. Attainment of both local and foreign investors improves the level of the firm capital, which leads to increase in earning and hence improves firm performance.



5.2 Recommendations

Based on the findings and the above conclusion, it is recommended to firm managers to ensure that they disclose NFI for the betterment and sustainability of their firms. They should ensure that all important pieces of information that will attract more investors and nourish the firm image in the eyes of customers are disclosed. In this regard, firms' websites, local and international newspapers, annual audited reports and prospectus should be used for the same purpose.

It is also recommended to firms to conduct Cost Benefit Analysis (CBA) before embarking on CSR activities. This will enable firms to identify and act upon CSR activities that have positive impact, while avoiding those which will not contribute positively to firm performance.

Moreover, it is recommended that capital market regulators should ensure that all listed firms comply with local and international regulatory standards while reporting about NFIs. This may be achieved by checking thoroughly all annual audited reports submitted by the firm to identify if there are pieces of information which were not disclosed. This can be done manually or electronically (computer application). Doing this will lead firms to comply with the standards by 100 per cent as required by stakeholders.

Declaration of Interest

The authors declare that they do not have any known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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