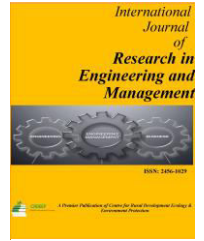


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**International Journal of Research in
Engineering and Management (ISSN: 2456-1029)**
A Peer Reviewed UGC Approved Quarterly Journal



SJIF: 3.39

Research Paper

Examining the Relationship between Operational Sustainability and Financial Sustainability of Nifty 50 Companies

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ARTICLE DETAILS

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Key words:
Altman Z Score, ESG scores, Financial Sustainability, Nifty 50, Operational Sustainability

ABSTRACT

Sustainability has got considerable attention in the recent years as investors and regulators all over the world has become environmental conscious. Along with profitability, integration of ESG scores into company's core activities and strategic decision making has become a vital aspect for attracting funds globally. The present study is undertaken with the aim of examining the operational and financial sustainability of Nifty 50 companies. The study was conducted for the financial year 2023-24 and it is based on secondary data.

1. Introduction:

The impact of rapid industrialization has brought significant attention to the concept of sustainability. Sustainability and its relation to financial performance has been the topic of interest among academicians and business analysts during the recent times. Adoption of sustainable practices in business operations not only improves profitability but also gains investors' attention. Operational sustainability and financial sustainability are positively related to each other. Operational sustainability focuses on managing business operations with least or no negative impact on environment, society and corporate governance. Operational sustainability benefits firms in improving efficiency by optimizing resource usage that leads to reduction in costs and helps in achieving higher earnings. These higher earnings as a result of operational sustainability will help companies by funding its capital requirements and makes companies self-reliant in funding its future growth. On the other hand, financial sustainability is the firm's ability to create long term value for its owners and provide for long run business survival. Programmes aimed at improving operational efficiency and pursuing sustainability initiatives helps an organization to attain organization sustainability (Caiado, R. G. G et al. 2019). Hence adoption of sustainability is the primary means for firms to remain resilient and competitive. The present study is an effort to examine the relationship between financial sustainability and operational sustainability in Indian context.

2. Review of Literature:

Chishti, M. F., Rao, M., Raffat, M. W., & Rafi, S. (2024) conducted a study on KSE 30 index stocks to investigate the influence of corporate sustainability risk variables on financial stability. The study was conducted over a period of three years from 2020-2022. The analysis of the study showed that the financial stability proxied by Altman Z score was negatively impacted by environment risk score and social risk score.

Gleißner, W., Günther, T., & Walkshäusl, C. (2022) studied the association between the financial sustainability and stock market returns. The study also proposed the measurements to financial sustainability through four conditions, i.e., firm growth, company's ability to survive, attractive earnings risk profile and an acceptable level of earnings risk exposure. The

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Received: 11-02-2025; Sent for Review on: 16-02-2025; Draft sent to Author for corrections: 22-02-2025; Accepted on: 28-02-2025; Online Available from 03-03-2025

DOI: [10.13140/RG.2.2.25236.00648](https://doi.org/10.13140/RG.2.2.25236.00648)

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results of the study indicated that the European firms fulfilling all the four criteria (highly financially sustainable) were demonstrated higher stock market performance with returns greater than market by 0.39% monthly and less risk than market investment.

El-Khalil, R., & Mezher, M. A. (2020) performed inquiry into relationship between agility and sustainability and its combined effect in achieving operational efficiency. The study was conducted in US Automotive manufacturing industry. The results of the study indicated that sustainability was found as a statistically significant mediator in explaining the relationship between agility and operational efficiency.

Orazalin, N., Mahmood, M., & Narbaev, T. (2019) examined the impact of sustainability performance on financial stability through an empirical study of forty-five top Russian listed oil and gas companies. The study was conducted on a sample data of 2012-2016. The findings of the study demonstrated that sustainability performance indicators help firms in managing risk and in maintaining financial stability. Further, the study also showed that the financial stability of firm was sensitive to firm size, firm age, leverage and financial capacity.

Osazefua, I. J. (2019) investigated the impact of operational efficiency on financial sustainability of thirty-five Nigerian listed manufacturing firms. Using a sample data from 2009 to 2016, the study performed panel data regression. The results of the study revealed strong support to the theoretical background that asset turnover had statistically significant positive impact on return on assets whereas operating expenses showed negative effect.

Magon, R. B., et al. (2018) performed synthesis that embraces 231 papers in total on the subject of sustainability relationship with firm performance and has identified positive effect of sustainability on firm operational performance by way of decreased costs and improved quality.

3. Research Methodology:

The study undertook descriptive research design to achieve the stated objectives. ESG scores and financial data of sample firms was sourced from money control, screener and Kaggle data set. The study chose financial year 2023-24 as sample year. Data analysis tools such as Mean, frequency analysis, cross-tabulation and correlation technique were used to analyze the data. Operational Sustainability was measured by ESG risk score and Altman Z Score. Higher the ESG risk score lower the operational sustainability and vice versa. Higher the Altman Z Score, higher the operational sustainability of the firm and vice versa. Financial sustainability was measured by sustainable growth rate (growth rate multiplied by retention ratio). Higher the percentage, higher the financial sustainability and vice versa. However, the study has considered a total of 38 companies of Nifty 50 companies as sample due to paucity of data availability.

4. Results

Table: 1 – Industry Level Sustainability Analysis

Industry	ESG Risk Score	Altman Z Score	Financial Sustainability (%)
Automobile	20.6	7.63	5.25
Construction	36.7	4.03	2.57
Consumable Durables	20.75	15.4	12
FMCG	26.5	20.6	4.58
Financial	25.28	1.01	8.23
Healthcare	28.8	8.37	8.33
Information Technology	12.4	11.72	2.6
Metals & Mining	33	2.87	5.03
Oil & Gas	44	3.3	9.5
Power	39.4	2.36	2.82
Services	12.6	4.59	7.25
Telecom	19.5	4.14	-0.24

Source: Researcher Computation

The industry-level sustainable analysis revealed that IT industry has got least ESG risk score demonstrating comparatively higher operating sustainability among the sample. Except Financial services, Power and Metals & mining, all other industries demonstrated better financial stability with Altman Z score greater than 3. Consumable Durables industry followed by Oil & gas and Health care were top three industries showed higher financial sustainability among the sample for the year 2023-24.

Table: 2 – Firm Level ESG Analysis

ESG Risk Level	Frequency	Percent
High	4	10.5
Moderate	19	50.0
Low	15	39.5
Total	38	100.0

Source: Researcher Computation

Table: 3 – Firm Level Financial Stability Analysis – Altman Z Score

Financial Stability	Frequency	Percent
Distress Zone	7	18.4
Grey Zone	4	10.5
Safe Zone	27	71.1
Total	38	100.0

Source: Researcher Computation

Table: 4 – Firm Level Financial Sustainability Analysis

Level of Financial Sustainability	Frequency	Percent
Poor Sustainability	8	21.1
Moderately Sustainable	24	63.2
Highly Sustainable	6	15.8
Total	38	100

Source: Researcher Computation

The descriptive analysis of study variables indicated that majority (approx. 82%) of sample firms displayed moderate to high operational sustainability. However, a little more than one-fifth (approx. 21%) of the sample firms showed poor financial sustainability during the study period.

Table: 5 – Cross Tabulation –ESG Risk Score and Altman Z Score

ESG_Risk_Score		Altman Z Score(Financial Stability)			Total
		Distress Zone	Grey Zone	Safe Zone	
ESG_Risk_Score	LowRisk	3	0	12	15
	Moderate Risk	3	3	13	19
	High Risk	1	1	2	4
	Total	7	4	27	38

Source: Researcher Computation

For analysis purpose, companies with ESG risk score of less than 25 were classified as low ESG risk firms and were comparatively highly operational sustainable. Companies with ESG risk score of greater than 25 and less than 40 were classified as moderate ESG risk firms and were termed as moderately sustainable. Companies with ESG risk score greater than 40 were termed as high ESG risk firms and were least operationally sustainable. On the other hand, companies with Altman Z Score of less than 1.8 were in distress zone, Altman Z score of greater than 1.8 and less than 3 were termed as grey zone and companies with Z score of above 3 were termed as Safe companies. The table above shows that 50% of sample firms are in ESG moderate risk level and around 72% of sample firms that are within the level of low to moderate ESG risk level are in safe zone. Companies that have demonstrated higher financial stability also performed better in managing operational sustainability.

Table 6: Cross Tabulation: ESG Risk Score and Financial Sustainability

ESG_Risk_Score		Financial Sustainability			Total
		Poor Sustainability	Moderately Sustainable	Highly Sustainable	
ESG_Risk_Score	Low Risk	5	7	3	15
	Moderate Risk	3	14	2	19
	High Risk	0	3	1	4
Total		8	24	6	38

Source: Researcher Computation

Based on sustainable growth rate, the companies were categories into three groups. Negative sustainable growth firms were termed as Poor financial sustainable. Firms with sustainable growth rate greater than 0% and less than 10% were termed as Moderately financially sustainable and firms with greater than 10% of sustainable growth rate were termed as Highly financially sustainable. The analysis in the table above demonstrates that majority of the sample firms are in the range of moderate ESG risk level and moderate financial sustainable level. Further, around 62% of sample firms out of 34 firms within low to moderate ESG risk level had moderate financial sustainability.

Table 7: Correlation Analysis

	ESG Risk Score	Altman Z Score	Financial Sustainability
ESG Risk Score	1		
Altman Z Score	-0.360536637	1	
Financial Sustainability	0.11433202	0.163442992	1

Source: Researcher Computation

The correlation analysis showed that financial sustainability is positively related to operational sustainability. However, financial sustainability was positively associated more with Altman Z Score (financial stability) than ESG risk score

(operational sustainability). Further, the analysis indicates that financial stability (Altman Z Score) was negatively associated with the ESG risk score.

4. Findings of the Study:

1. Operational Sustainability
 - TCS has got the least ESG risk score and ONGC has got the highest ESG risk score among the sample companies.
 - SBI has got the lowest Altman Z Score and Nestle India has got the highest Altman Z Score
2. Financial Sustainability
 - Tech Mahindra was performed poorly in the attainment of financial sustainability among the sample firms
 - Coal India Ltd demonstrated better financial sustainability among the sample firms during the FY 2023-24
3. TCS, Wipro and Titan Ltd were performed good in both the areas (financial sustainability & operational sustainability). On the other hand, Grasim Ltd was found poor performance in both the areas.
4. The study showed poor positive correlation between financial and operational sustainability.

5. Conclusion:

Adoption of sustainable measures is no more just a choice, it's a necessity today due to increased global warming. The role of Government and investors should not just be limited to provide funding support but should also oversee the 360-degree performance. Operational sustainability and financial sustainability should go hand-in-hand and requires a proper alignment. Measures such as Pay for Performance, Outcome based funding, carbon taxation should be implemented widely across industries for a greener and profitable future.

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