EFFECT OF CORPORATE SOCIAL RESPONSIBILITY COSTS ON THE FINANCIAL PERFORMANCE OF SUGAR MANUFACTURING COMPANIES IN KENYA

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Abstract:

The impact of CSR costs on financial performance is becoming increasingly important to a wide variety of corporate stakeholders. It is considered to be one of the instruments that businesses need to use to establish and maintain a calm working atmosphere. Engaging in corporate social responsibility and their disclosures are common in the recent business setting around the globe. Corporate social responsibility has become more significant over the past decades, and the validity of research on how it is associated with firm performance remains uncertain and incomplete. Many public and private Sugar manufacturing firms in Kenya have been facing poor financial performance, and some are closing up, even after receiving funding from the government. Consequently, this study aimed to establish the effects of corporate social responsibility cost on the financial performance of sugar manufacturing companies in Kenya. The specific objectives of this study were; to assess the effect of community development costs on the financial performance of sugar manufacturing companies in Kenya, to examine the effect of environmental responsibility costs on the financial performance of public and private sugar manufacturing companies in Kenya, and to evaluate the effect of economic responsibility costs on the financial performance of sugar manufacturing companies in Kenya. The study was guided by the stakeholder theory, legitimacy theory and theory of the firm. The study adopted a correlation research design. The study's target population was 12 sugar manufacturing companies in Kenya. A census sampling technique was used to select all 12 sugar manufacturing companies in Kenya. A secondary data collection sheet was used to document information from audited financial statements of the companies downloaded from the website from 2012 to 2021. Panel Data was analyzed using descriptive and inferential statistics. Panel regression analysis indicated that

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community development costs, economic responsibility costs and environmental responsibility costs had a significant effect on financial performance with a coefficient of 0.2146, 0.2896, 0.2728 and p-value of 0.006, 0.000, and 0.000. The study depicted that corporate social responsibility costs had a significant effect on financial performance with an R2 of 0.29 which implied that corporate social responsibility costs explain 29% of the financial performance of sugar companies in Kenya. Therefore, the study concluded that corporate social responsibility costs improve financial performance. The study recommended that the management of sugar companies should provide more funds to community development costs, policymakers should develop strategic policies that would enhance the practice of economic social responsibility, and respond to environmental demands for a cleaner environment.

JEL: Q10; L60; L66

Keywords: corporate social responsibility costs, financial performance, manufacturing firms

1. Introduction

Corporate social responsibility costs refer to expenses a firm uses to make corporate decisions and a toward a goal mainly outside the entity's direct economic and technical interest. For almost a century, academics and professionals have been interested in understanding the idea of corporate social responsibility. In the early 1920s, academics pushed businesses to use CSR as a foundation for performance improvement. CSR suffered as a result of World War, when businesses had to make drastic cost cuts and deal with declining profits (Nave & Ferreira, 2019).

The goal of a company should be to manage the interests, needs, and viewpoints of its stakeholders, according to corporate social responsibility. As a result, managers are tasked with managing stakeholder relations while optimizing the social welfare of every stakeholder in the business. The communities in which businesses operate are also among these constituents, as are the shareholders, which are made up of their staff, clients, and suppliers. Corporate social responsibility costs are a precarious aspect of boosting Sugar manufacturing companies' financial performance as it helps in enhancing public perception, raising brand awareness and recognition, giving businesses an edge over rivals, boosting customer engagement, and increasing firms' revenues. Despite the firms incurring these costs, they still incur many losses (Al-Shammari, Banerjee, & Rasheed, 2021).

More people have recently demanded increased accountability and transparency in both the public and private sectors. Companies are under more pressure to develop, evaluate, and publish information on their participation with corporate social responsibility due to the health and environmental concerns provided by their operations and the products and services they offer. The purpose of CSR is to aid businesses and

organizations in measuring their performance across all facets of sustainable development, setting targets, and assisting in the shift to a green economy (Lopez, Garcia, & Rodriguez, 2017).

1.2 Statement of the Problem

Corporate social responsibility is vital for the success of all firms. It improves the public image, increases brand awareness and recognition, brings added advantage over competitors, increases customer engagement and increases firms' profits (Konya, 2018). However, despite adopting corporate social responsibility in the sugar firms, many still suffer heavy losses while others have been closed. The statement of comprehensive income for Nzoia Sugar Company reflected the operating loss of kshs.3.2 billion as at 30th June 2020 and kshs.3.6 billion as of 30th June 2019, they had spent on bursaries and other donations of kshs.245.8 million in 2019/2020 and kshs.376.1 million in 2018/2019, respectively. Sony Sugar Company Ltd in their audited financial statement for the period 2018/2019, reported an operating loss of Kshs.3.2 million (The Auditor General Report, 2020). A report by a task force on the sugar industry in Kenya in 2020 indicates that over the last decade, the sugar industry has faced a significant crisis as a result of the poorly managed liberalization process, which exposed the local industry to the unexpected competition when ill-prepared (Sugar Task Force Report, 2020). Many of the studies have concentrated on corporate social responsibility and financial performance, very limited on how general corporate social responsibility costs relate to financial performance have been done in the sugar manufacturing companies in Kenya. Therefore, the need to establish the effect of corporate social responsibility costs and financial performance of sugar manufacturing companies in Kenya.

1.3 General Objective

To establish the effect of Corporate Social Responsibility Costs on the financial performance of Sugar Manufacturing Companies in Kenya.

1.4 Specific Objectives

1) To assess the effect of Community Development Costs on the financial performance of Sugar Manufacturing Companies in Kenya.
2) To evaluate the effect of Economic Responsibility Costs on the financial performance of Sugar Manufacturing Companies in Kenya.
3) To examine the effect of Environmental Responsibility Costs on the financial performance of Sugar Manufacturing Companies in Kenya.

1.5 Research Hypotheses

H01: There is no significant effect of Community Development Costs on the financial performance of Sugar Manufacturing Companies in Kenya.

H02: There is no significant effect of Environmental Responsibility Costs on the financial performance of Sugar Manufacturing Companies in Kenya.

H03: There is no significant effect of Economic Responsibility Costs on the financial performance of Sugar Manufacturing Companies in Kenya

2. Literature Review

2.1 Theoretical Review
The underlying concepts of the research are discussed here. For this study, the stakeholder, legitimacy, and integrative theories served as the theoretical springboard.

2.1.1 Stakeholder Theory
Freeman and Reed, (1983) proposed this theory. Several groups for which a company should be accountable have been examined using the stakeholder theory of the corporation. They argued that a company is best understood as a web of relationships among various groups and individuals with a stake in or interest in the company's success. They argued that stakeholders are broken down into two categories: primary and secondary. According to contemporary corporate stakeholder theory, a firm's value depends on the cost of implicit claims like good customer service and corporate social responsibility in addition to the cost of explicit claims. Therefore, companies with a strong reputation for CSR may discover that they have more low-cost implicit claims than other companies, leading to better financial performance.

Stakeholder theory provided a fresh framework for thinking about organizational duties. It focused attention on factors other than pure profit maximization by arguing that the interests of shareholders cannot be fully addressed without partially addressing the needs of other stakeholders. To put it another way, a company's ability to serve its shareholders effectively is likely to be impacted by other stakeholders even when that is its primary goal. By applying this theory, the author gained a better understanding of how sugar factories in Kenya can improve their financial performance by prioritizing the needs of their stakeholders and committing to green practices and socially beneficial initiatives like better healthcare, new infrastructure, and expanded educational opportunities.

2.1.2 Legitimacy Theory
Dowling & Pfeffer (1975) advanced the legitimacy theory currently widely used. They stated that this is the state that exists when an organization's values align with those of the society to which it belongs. According to this view, meeting societal standards and expectations is critical to a firm's long-term existence. Proponents of the legitimacy theory claim that corporate social and environmental responsibility reduces the danger of regulatory action and stakeholder boycotts while also strengthening the firm's license to operate. The entity's credibility is at risk if there is a discrepancy between the two value systems, whether real or perceived. Symbolic communication is advocated as a way businesses might bolster their credibility.

To maintain good legitimacy, businesses that uphold social contracts must frequently reveal their environmental activities. It is predicted that the more successful businesses will take greater environmental responsibility. To ascertain the impacts of environmental responsibility charges on the financial performance of sugar corporations, a detailed understanding of legitimacy theory is required. This idea also agreed with the claim that successful businesses can afford to cover the costs of environmental disclosure.

2.1.3 Theory of the Firm

It was first developed by Berle and Means in 1971. Based on neoclassical economics, this theory asserts that most businesses have the explicit intention of maximizing profits and that all of their actions are made with this goal in mind. Signals, such as the union label on apparel, can be used to let customers know that the business cares about a particular social issue. People believe that by purchasing these goods, they are indirectly helping a cause and appreciating companies for their CSR efforts. Many customers (though by no means all) appear to place a premium on CSR features, and this trend shows no signs of abating (Roman, Hayibor, & Agle, 1999).
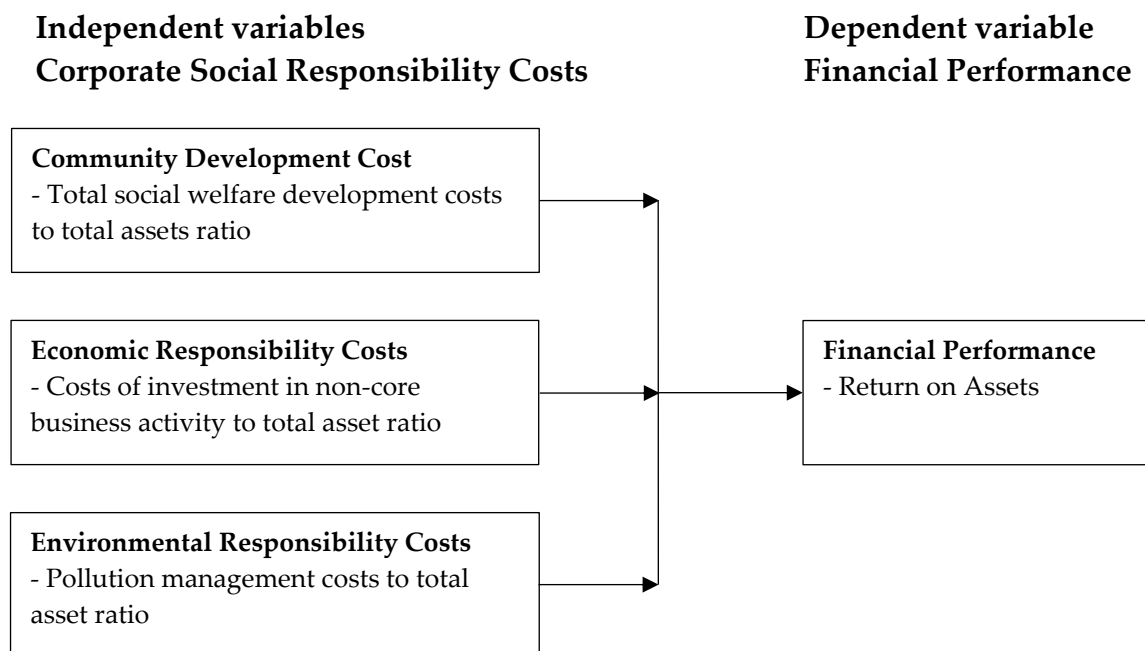
2.2 Conceptual Framework

Independent variables   **Dependent variable**
Corporate Social Responsibility Costs   **Financial Performance**

Figure 2.1 : Conceptual Framework

3. Methodology

3.1 Study Philosophy

This research was inspired by positivism, in which the creation of credible facts is based on the phenomena that are observed. The world's evaluation of reality, knowledge, and

existence is explained by research philosophy. Understanding reality influences our knowledge and reality perception, which in turn influences how research is done. Researchers using quantitative techniques like counting and quantifying are known as positivists. Positive theorists believed that reality is stable and can thus be observed objectively. Positivism was appropriate for this study because it will help establish the current state of reality of the financial performance of sugar manufacturing firms and how financial imperatives can assist in improving this performance.

3.2 Research Design

This is a set of guidelines for collecting, measuring, and interpreting data that aims to strike a balance between economy and method with relevance to the study goal (Kothari, 2014). The study employed a correlational research design because of the quantitative nature of data which allowed researchers to identify the statistical relationship between two variables that appeared to be associated.

3.3 Population of the Study

The target population comprised all public and private sugar manufacturing operations from 2012 to 2021.

Table 3.1: Target Population

1.	**List of sugar-producing companies**
2.	Nzoia Sugar Company
3.	South Nyanza Sugar Company
4.	Muhoroni Sugar Company
5.	Chemelil Sugar Company
6.	West Kenya Sugar Company
7.	Sony Sugar Company
8.	Kibos and Allied Industries Limited
9.	Butali Sugar Mills
10.	Transmara Sugar Company
11.	Sukari Industries Limited
12.	Kwale International Sugar Company Limited
13.	Kisii Sugar Factory

Source: Kenya Sugar Board, 2022.

3.4 Sampling Techniques

The census-sampling technique was used because it ensures that accurate data is acquired from the entire population and captures a wide range of a company's demographic statistics and attributes. Census was also more suitable for a small target population of less than 50 (Cooper & Schindler, 2017). Since the 12 number of sugar manufacturing industries is a small number less than 50, the financial performance of Kenya's sugar industries was examined using data from all sugar manufacturing companies.

3.5 Data Collection Instruments

Audited financial statements of the 12 sugar manufacturing businesses in Kenya from the years of 2012 to 2021 were used to collect secondary data, which were obtained from both the websites and the finance departments of those companies.

3.6 Data Collection Procedures

The panel data included cross-sections and time series. The time series covered the ten years from 2012 to 2021, whereas the cross-sectional data focused on sugar-producing businesses. Net income, total net assets, and other pertinent costs are among the secondary data that were gathered.

3.7 Data Processing, Analysis, and Presentation

Before exporting obtained data to the STATA, it was edited and sanitized in Microsoft Excel. Using descriptive and inferential statistics, panel data were examined. Mean, variance, and standard deviation make up descriptive statistics, while inferential statistics include multiple linear regression, correlation analysis, and the Haussmann test for fixed and random effects.

4. Data Analysis, Results and Discussion

4.1 Descriptive Statistics

Descriptive statistics was established using mean, standard deviation, lowest and highest statistics. Table 4.1 shows the results of return on assets, community development costs, economic responsibility costs, and environmental responsibility costs of Sugar manufacturing companies in Kenya.

Table 4.1: Descriptive Statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
ROA	100	.3552	.1822	.0140	.8961
CDC	100	.5393	.2015	.0791	.9675
ERC	100	.4165	.2285	.0021	.9912
ENRC	100	.4503	.2321	.0228	.9885

Source: Stata 2014.

Table 4.1, shows that the study period ran from 2021 to 2021, giving a 10-year span with 100 observations from 10 Sugar manufacturing companies in western Kenya. Return on Assets had a mean of 0.3552 with a lowest of 0.0140 and a highest of 0.896. The maximum and minimum values were positive, indicating that Sugar manufacturing companies under this study made a profit regarding their financial performance within the study period. The standard deviation of return on assets was 0.1822, which was less than the mean, implying that there was variation in return on assets. The minimum value shows

that some firms had a low return on assets leading to low profits, while maximum values indicate that some firms had a high return on assets indicating high profits.

Community development costs had a mean of 0.5393, a standard deviation of 0.2015, a lowest value of .0791 and a highest value of 0.9675. This indicates that community development costs varied during the study period. The lowest value showed that some Sugar manufacturing companies had low community development costs since they used a small amount for community development. The highest value indicated that some Sugar manufacturing companies had high community development costs as they engaged in community development more than other firms. These results show that community development cost varies from one firm to another.

Economic responsibility costs had a mean of 0.4165 standard deviations of .2285, a lower value of .0021661 and a higher value of .9912261. This indicates wide variation in the economic responsibility costs from one firm to another. The positive minimum and maximum values indicate that Sugar manufacturing companies had been involved in economic responsibility costs. A minimum value indicates that some firms use low costs on economic responsibility which usually reduces its relation with employees who might be customers hence affecting their performance. The maximum value indicates that other firms incur high costs on economic responsibility by investing in non-core business activities that may attract their customers.

Environmental responsibility costs had a mean of .4503, a standard deviation of .2321361, a lower value of .0228 and a higher value of .9885. The mean was more than the standard deviation implying variation in environmental responsibility costs around the study period. The lower value implies that some firms have employed fewer costs on their environmental responsibility regarding the costs used to purchase chemicals for usage and discharge. Maximum value indicates that some firms spend more costs on environmental responsibility as more costs are used in chemical usage and discharge. The results imply that different Sugar manufacturing companies' environmental responsibility costs vary from firm to firm.

4.2 Correlation Analysis

The study used Pearson product-moment correlation to understand the nature and direction of the relationship between the financial performance (Return on Assets) of Kenyan sugar manufacturing enterprises and the cost associated with community development, economic responsibility, and the environment. Given that the study's data set was regularly distributed, the correlation approach was ideal. Correlation coefficients were developed to show the linear relationship between the variables, with p values indicating the significance of the association between the two sets of data.

The Pearson correlation coefficient ranges from 1 to -1, with values closer to 1 indicating a high correlation to the positive and values closer to -1 indicating a strong correlation to the negative. The 95% confidence interval was used to evaluate the p values of the correlation coefficients in order to measure the importance of the interrelationship between the variables. The association between the variables was determined by the two-

tailed nature of the test, which deemed all results greater than 0.05 to be insignificant. Table 4.2 shows the correlation matrix of community development, economic, and environmental responsibility costs.

Table 4.2: Correlation Matrix

	ROA	CDC	ERC	ECRC
ROA	1.000			
CDC	0.2559*	1.000		
	0.0102			
ERC	0.3314*	0.0013	1.0000	
	0.0008	0.9901		
ENRC	0.3190*	0.0586	-0.1017	1.0000
	0.0012	0.5628	0.3142	

Table 4.2 above, shows the correlation results of the variables. The study results established that community development costs had a positive and significant association with the financial performance of sugar manufacturing firms in Kenya. This is supported by r of 0.2559 and a p-value of 0.0102. This meant that the high cost of community development increases the financial performance of sugar-producing companies in Kenya.

The study also established that economic responsibility costs had a positive and significant association with the financial performance of sugar manufacturing companies in Kenya. This is backed up by an r of 0.3314 and a profitability value of 0.008. These results implied that higher economic responsibility costs will lead to the improved financial performance of sugar firms in Kenya.

The study findings also found out that environmental responsibility costs have a positive and significant relationship with the financial performance of sugar manufacturing enterprises in Kenya. These results are supported by the r of 0.3190 and profitability value of 0.0012. These results implied that an increase in environmental responsibility costs will lead to a subsequent increase in the financial performance of sugar manufacturing firms in Kenya.

4.3 Test for Normality

In panel data regression, the assumption of a normal distribution is required for residues to decide whether to use a parametric or non-parametric test. To verify whether the data set is normally distributed, a normality test was performed. The Shapiro Wilk Test was used to evaluate normality. The null hypothesis of Shapiro Wilk is data is normally distributed. The null hypothesis failed to be rejected when the p values are greater than 0.05, the W values are approximately to one and the Z-values are less than Z-critical. The outcomes of Shapiro Wilk Test for normality are shown in Table 4.3.

Table 4.3: Shapiro Wilk Test for Normality

Variable	Obs	W	V	z	Prob>z
ROA	100	0.97652	1.939	1.468	0.07098
CDC	100	0.97652	0.712	0.712	0.23832
ERC	100	0.97633	1.954	1.486	0.06865
ENRC	100	0.97619	1.966	1.500	0.06684

Source: Stata 2014.

From Table 4.3, all of the W-values are near to 1, all of the p-values are greater than 0.05, and all of the Z-values are less than the Z-critical value of 1.96. As a result, at the 5% level of significance, the study failed to reject the null hypothesis that variables were normally distributed.

4.4 Residual Normality

Normality tests of residues are always conducted to ensure residues are normally distributed. When residues are normally distributed, it implies no problem of model fit, stability and reliability. Shapiro Wilk Test was used to determine whether residues were normal. The null hypothesis of the test is residuals are normally distributed. We can infer that residues are normally distributed if W-values are roughly equal to 1, Z-values are smaller than the Z-critical value of 1.96, and probability values are greater than 0.05. Table 4.4 shows the results of the test.

Table 4.4: Normality of Residues

Variable	Obs	W	V	Z	Prob>z
Residues	100	0.97735	1.870	1.388	0.08251

The results of the Shapiro Wilk Test for residues from Table 4.4 showed that the W-values were nearly equal to 1, the Z-value was below the Z critical of 1.96, and the p-values were greater than 0.05. As a result, the residues were distributed normally.

4.5 Multicollinearity Test

This occurs when there is a significant correlation between two independent variables in the regression model. Multicollinearity decreases the estimated coefficient, which may reduce the regression model's statistical power because it is challenging to rely on p-values to identify statistically significant independent variables. The Variance Inflation Factor was used to assess the degree of multicollinearity. Multicollinearity is present when the VIF value is greater than 10. Table 4.5 provides the findings.

Table 4.2: Multicollinearity Test

Variable	VIF	1/VIF
ENRC	1.01	0.986221
ERC	1.01	0.989612
CDC	1.00	0.996519
Mean VIF	1.01	

The VIF results are displayed in Table 4.5. Since none of the values were greater than 10, the independent variables did not exhibit multicollinearity.

4.6 Stationarity Test

Non-stationarity data produces spurious results, unreliable and erroneous regression models that may lead to wrong results. The study employed Levin-Len Chu test to test for stationarity. The null hypothesis of the test is that the data contains panel root. Probability values lower than 0.05 indicate that the null hypothesis was not accepted. Table 4.6. displays stationarity results.

Table 4.3: Levin-Lin-Chu unit-root test for Stationarity

Variable	Period	Panel	T-Statistic	p-value
ROA	10	10	-6.7342	0.0414
CDC	10	10	-8.0096	0.0000
ERC	10	10	-8.2763	0.0003
ENRC	10	10	-6.2767	0.0476
ADF regressions: 1 lag, LR variance: Bartlett kernel, 6.00 lags average (chosen by LLC)				

The probability value from Table 4.6 were less than 0.05 and also the t statistics values were less than the t critical values of -1.984. This indicates that at 5% significance level, the null hypothesis that variables were not stationary was rejected. This indicates that return on assets, community development costs, economic responsibility costs and environmental responsibility costs were all stationary.

4.7 Heteroscedasticity

This is the case when the variance of the error term varies between observations. It produces p-values that are lower than predicted and could skew and undermine the reliability of the regression coefficient. To determine whether there was heteroscedasticity or not, the Breusch Pagan test was applied. The null hypothesis of the test is the error terms have constant variance. If the computed probability values are less than 0.05, the residues are heteroscedastic. The results are displayed in Table 4.7.

Table 4.4: Heteroscedasticity Test Results

Breusch-Pagan / Cook-Weisberg test for heteroscedasticity
Ho: Constant variance
Variables: fitted values
Chi2(1) = 0.08
Prob > chi2 = 0.7778

Source: Stata 2014.

From Table 4.7, the derived probability value is 0.7778 which is more than 0.05, implying there is no presence of heteroscedasticity.

4.8 Test for Autocorrelation

Autocorrelation is the linear relationship between the same variables over successive intervals. Autocorrelation occurs when the error terms in the regression models correlate over time series. Test of autocorrelation ensures the R^2 is not overestimated to indicate a better fit than the one it truly exists. The study used Wooldridge test to determine whether there is autocorrelation. The panel data have no serial correlation, according to the null hypothesis. The null hypothesis is failed to be rejected if there is no serial autocorrelation in the panel data and the p-values of the Wooldridge test are greater than the 0.05 level of significance. The results are shown in Table 4.8.

Table 4.8: Wooldridge test for Autocorrelation

Wooldridge test for Autocorrelation
H_{01}: No serial correlation
F (1, 9) = 0.06
Prob> F = 0.8188

Source: Stata 2014.

The Wooldridge test results in Table 4.8 show that the probability value is more than 0.05. As a result, the investigation failed to reject the null hypothesis. The model's residues had no autocorrelation as a result.

4.9 Fixed and Random Effects

Fixed and random effects were compared in order to determine which regression model would be best for the study. The choice between fixed and random effect models was made using the Hausman test.

4.9.1 Fixed Effects

A fixed effects model considers every potential connection between the unobserved and observed variables. When using fixed effects models, time-invariant effects on time-invariant variables are either totally or partially eliminated. As a result, fixed effects change from one observation to the next. Table 4.9 presents the fixed model of the research.

Table 4.9: Fixed Effects Results

Variable	Coef.	Std. Err.	T	P>/z/
CDC	.235879	.0840624	2.81	0.006
ERC	.2697079	.0791734	3.29	0.001
ENRC	.3202246	.0775553	4.13	0.000
Constant	.4702435	.0.1902564	2.47	0.000
R-sq: Within = 0.2969 Between = 0.2404 Wald chi2(3) = 12.25 Overall = 0.2850 Prob>chi2 = 0.0000				

4.9.2 Random Effect Model

In a random effects model, it is assumed that the unobserved variables are statistically independent, or more strongly, uncorrelated, with all the observable variables. Although the fixed effects model may estimate effects for time-invariant variables, its standard errors may be pretty substantial, which is why the random effects are favored. The findings are shown in Table 4.10.

Table 4.10: Random Effect Model

Variable	Coef.	Std. Err.	Z	P>/z/
CDC	.2146234	.0780595	2.75	0.006
ERC	.289616	.0694496	4.17	0.000
ENRC	.2728325	.0684623	3.99	0.000
Constant	.4521736	.0.1736135	2.60	0.001
R-sq: Within = 0.2927 Between = 0.3118 Wald chi2(3) = 39.36 Overall = 0.2907 Prob>chi2 = 0.0000				

4.10 Hausman Test for Fixed and Random Effect

The choice between a fixed and a random effects model is crucial in panel data analysis. Hausman testing is commonly used in panel data analysis to distinguish between fixed and random effect models. Table 4.11 presents the results of the Hausman test of the study.

Table 4.11: Hausman Test for Fixed and Random Effects

Variable	(b) Fixed	(B) Random	(b-B) Difference	Sqrt(diag(v_b_B) S.E.
CDC	.235879	.2146234	.0212557	.0311963
ERC	.2607079	.289616	-.0289081	.0380155
ENRC	.3202246	.2728325	.0473922	.0364382
B = consistent under Bo and Ba; obtained from xtreg				
B = inconsistent under Ba, efficient under Bo; obtained from xtreg				
Test: Bo: difference in coefficients not systematic				
Chi2(3) = (b-B') [(v_b-v_B)9-1)](b-B) = 2.31				
Prob>chi2 = 0.5104				

According to the Hausman test results in Table 4.11, the chi2 was statistically insignificant at a 5% level of significance with a P-value of 0.5104. The study came to the conclusion that the random effect model was most appropriate for the study therefore the study adopted the null hypothesis. As a result, the research used a random effect model to extract a regression model that assessed the effects of CSR costs on Kenya's sugar businesses' financial performance.

4.11 Discussion of Findings

4.11.1 Corporate Social Responsibility Costs and Financial Performance of Sugar Companies in Kenya

Results in Table 4.10 demonstrates that the model is statistically significant according to the random effects analysis. The Prob > chi2 value of 0.0000 that was discovered, which is below the significance level of 0.05, supports this. These results also determined that CSR expenditures are a significant determinant of the financial performance of Kenya's sugar manufacturers. The overall R-squared of 0.2907 lends credence to this. The results showed that cost associated with community development, environmental responsibility, and economic responsibility accounted for 29.07% of the variance in the financial performance of sugar firms in Kenya. 70.93% of the profit is actually due to factors that weren't considered in this analysis. As per the results, the estimated model is shown below:

$$ROA_{it} = 0.4522 + 0.2146CDC_{it} + 0.2895ERC_{it} + 0.2728ENRC_{it}……..4.1$$

Where:
CDC = Community Development Costs
ERC = Economic Responsibility Costs
ENRC = Environmental Responsibility Costs.
ROA = Return on Asset.
t = time in years
i = Sugar Manufacturing Companies

As per the regression model results, the constant of 0.4521 indicates that the financial performance of sugar businesses, as evaluated by return on investment, would be 0.4521 if the expenditures associated with corporate social responsibility costs were not incurred.

4.11.2 Community Development Costs and Financial Performance

The primary goal of the study was to ascertain how Kenyan sugar producers' financial performance was affected by community development costs. The study's null hypothesis was that community development costs have no significant effect on the financial performance of Kenyan sugar companies. The financial performance of sugar-producing enterprises is positively and significantly affected by community development cost, as shown in Table 4.10. This is backed up by regression coefficients of 0.2146 with

Probability values of 0.006<0.05 and Z-statistics 2.75 more greater than the Z-critical of 1.96, implying that community development cost positively and significantly affected financial performance, thus rejecting the null hypothesis.

According to these findings, a rise in the costs of community development by one unit would result in a rise of 0.2146 units in the financial performance of sugar firms.

4.11.3 Economic Responsibility Cost and Financial Performance

The second objective of the study was to examine the effect of economic responsibility cost on the financial performance of Kenyan sugar-producing companies. The objective's null hypothesis was that economic responsibility cost had no significant effect on sugar firms' performance in financial activities. The findings in Table 4.10 established that economic responsibility costs positively and significantly affect sugar-producing firms' financial performance. This is supported by regression coefficients of 0.2896 with p-values of 0.000<0.05 and z-statistics of 4.67 greater than z critical of 1.96; therefore, the null hypothesis was rejected. The study adopted the alternative hypothesis that economic responsibility costs significantly affect sugar firms' financial performance.

These findings suggested that an increase of one unit in the costs of economic responsibility would result in a subsequent increase of 0.2146 units in financial performance. According to these findings, social and economic responsibility have a positive and significant impact on financial performance

4.11.4 Environmental Responsibility Cost and Financial Performance

The last objective of the study was to evaluate the effects of environmental responsibility cost on the financial performance of sugar-producing companies in Kenya. The study's null hypothesis was that the financial performance of sugar-producing companies is not significantly affected by environmental responsibility costs. The findings in Table 4.10 demonstrated that environmental responsibility cost had a positive and significant effect on sugar companies' financial performance. This is backed up by regression coefficients of 0.2728 with p-values of 0.000<0.05 and z-statistics of 3.99 greater than z critical of 1.96; therefore, the null hypothesis was rejected. Therefore, the study adopted the alternative hypothesis that environmental responsibility cost significantly affects sugar firms' financial performance.

These results imply that a unit increase in environmental responsibility costs would lead to a subsequent increase in financial performance by 0.2728 units. These results are consistent with Chinedu, Udama and Ali, (2019) that environmental responsibility accounting has a positive and significant effect on the financial performance of cement manufacturing companies in Nigeria.

5. Conclusion and Recommendation

5.1 Conclusions
5.1.1 Community Development Costs and Financial Performance
From the inferential statistics, community development costs and the success of Kenyan sugar producers' bottom lines are significantly and positively correlated. An *r* of 0.2559 makes this clear. The regression model also showed that the costs associated with community development had a positive and significant impact on the financial performance of Kenyan sugar production enterprises. The regression coefficient of 0.2146234 and probability value of 0.006 both point to this. This suggests that a rise in community development costs per unit also raises the financial performance of Kenyan sugar producers. As a result, it was determined that community development costs had a positive and significant impact on the financial success of Kenyan sugar-producing enterprises.

5.1.2 Economic Responsibility Costs and Financial Performance
According to the correlational data, the financial performance of the sugar-producing enterprises was positively and significantly correlated with the costs associated with economic responsibility. An *r* of 0.3314 and a p-value of 0.0008 corroborate this. Regression research revealed a significant and positive correlation between the costs of economic responsibility and the financial success of Kenyan sugar-producing enterprises. A coefficient regression of 0.289616 with a probability of 0.0000 demonstrate. This suggests that an improvement in economic responsibility costs per unit results in better financial results for Kenyan sugar production enterprises. The financial performance of sugar production enterprises in Kenya was therefore found to be positively and significantly impacted by costs associated with economic responsibility.

5.1.3 Environmental Responsibility Costs and Financial Performance
The correlation research showed a significant and positive relationship between environmental responsibility costs and the financial success of Kenyan sugar production enterprises. An *r* of 0.3190 and a probability value of 0.0012 support this. Additionally, the regression study revealed a strong and positive correlation between the price of environmental responsibility and the success of Kenyan sugar production enterprises' bottom lines. A coefficient regression of.2728325 and a probability value of 0.0000 corroborate this. This suggests that the financial performance of Kenyan sugar production enterprises increases with each unit increase in environmental responsibility charges. The study came to the conclusion that environmental responsibility costs positively impacted the financial performance of Kenyan enterprises that manufacture sugar.

5.2 Recommendations of the Study

5.2.1 Community Development Costs and Financial Performance

The study established that community development cost positively affects financial performance. The study recommends that the management of the sugar companies should provide more funds to community development cost to ensure publicity and better coordination of community development efforts. It was also suggested that community development projects be broadened to address new social challenges, recruit additional staff members, and reach a wider geographic area. There is an urgent need to develop a community development project that delivers tangible benefits to all stakeholders from each community development project by sugar companies.

5.2.2 Economic Responsibility Costs and Financial Performance

The study established that economic social responsibility costs significantly influence sugar companies' financial performance. The study recommends that the policymakers in the sugar industry should develop strategic policies that would enhance the practice of economic, and social responsibility costs through investing in different businesses that enhance society. The study also advises sugar firms in Kenya to invest in economic activities in all forms to improve their reputation and image, which would increase their financial performance.

5.2.3 Environmental Responsibility Cost and Financial Performance

It was established that environmental responsibility cost significantly affects the financial performance of sugar companies in Kenya. The study recommends that sugar firms' management respond to environmental responsibility by ensuring they attempt to respond to environmental demands for a cleaner environment. The firms should actually spend more on protecting the environment the firm is operating in through proper discharging of firms' waste, and avoiding air and noise pollution. The sugar firms should also ensure that the institution meets all the environmental legal requirements of the land.

Conflict of Interest Statement

The authors declare no conflicts of interest.

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