"How do product responsibility and corporate philanthropy affect firm value?"

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NUMBER OF REFERENCES	NUMBER OF FIGURES	NUMBER OF TABLES
33	0	7

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HOW DO PRODUCT RESPONSIBILITY AND CORPORATE PHILANTHROPY AFFECT FIRM VALUE?

Abstract

Satisfying the consumer and contributing to societal well-being have been globally acknowledged, and these developments consequently boost corporate image, attract investors, increase stock prices, enhance firm value, and enable industrial and other firms to contribute to national development. This paper examines how product responsibility and philanthropy affect the performance of industrial goods firms in Nigeria. A sample of 7 firms was selected from 24 listed firms after employing a judgmental sampling technique and using secondary data and a quantitative research method. Data validation and analysis were aided by econometric views statistical software, panel data regression, fixed and random effects estimators, stationarity test, cross-section dependence test, Durbin-Watson test, and Hausman test. The study revealed that investment in product responsibility, as evidenced by the rising stock turnover rate, is value-enhancing in Nigeria {B1 = 0.076807, P = 0.0171 or P < 0.05}, while philanthropic donation is value destroying {B1 = –0.369535, P = 0.5817 or P > 0.05}. It was concluded that consumers' confidence in corporate institutions can enhance corporate value, while investment in philanthropy is not usually value-enhancing when done irresponsibly and non-strategically. The study, therefore, recommended that investment in product responsibility should be consolidated to sustain the rising stock turnover rate, while investment in philanthropy should be done strategically and responsibly to make it value-enhancing.

Keywords	social responsibility, customer protection, donations, return on equity
JEL Classification	M14, M31, M30

INTRODUCTION

The social dimension of corporate social responsibility includes the well-being of employees, product responsibility and consumer protection, good corporate citizenship, human rights, sponsorship, and charity (Niskala et al., 2009 as cited in Jokinen, 2012). There is currently a growing need all over the world for business practices to be economically, environmentally, and socially friendly. Shareholders and other stakeholders usually have confidence in business enterprises that support social initiatives and, at the same time, achieve their profit-maximization objective. When too much emphasis is being continuously placed on making a high profit, a bad public image for the business will be created in the future, especially when the negative impacts of business operations on society are jettisoned (Barnett & Vaicys, 2000 as cited in Hamidu et al., 2018).

From 2003 to 2021, i.e. 19 years precisely, the financial statements of seven (7) companies in the industrial goods sector of Nigeria revealed a persistent decline in return on equity even when the rate of stock

turnover (a measure of evidence of product responsibility) reached the required 5 to 10 times industry average. The rate of stock turnover even rose above 12 times in some years, making the authenticity and validity of the financial statement information of these companies an enigma or puzzle. There was, therefore, no direct link between the rising annual stock turnover rate (an indicator of product responsibility) and corporate value (measured as return on equity). During the same period, a persistent increase in philanthropic donations, which should have ideally boosted the corporate image of these companies, did not have any direct link with return on equity. It, therefore, becomes a puzzle when increasing evidence of product responsibility or rate of stock turnover and rising corporate donations fail to enhance corporate value. There was definitely no apparent justification for the persistent decline in return on equity when stock turnover rates and philanthropic donations were rising. The foregoing scenarios constitute a threat to the wealth maximization objectives and going concern of the companies involved, which, if not immediately addressed, might lead to conflicts between management and shareholders. Agency costs and risks will arise, and shareholders might consequently be forced to withdraw their investments to where they will earn better returns. It is in the light of the above-mentioned scenarios that this study was carried out.

1. LITERATURE REVIEW AND HYPOTHESES

The 1984 Edward Freeman's stakeholder theory of corporate social responsibility and 2004 Bigg's business ethics theory provide the basis for this paper. Business success, according to Freeman, is enhanced when all stakeholders are carried along and are satisfied.

Similarly, Bigg asserted that profitability and business relations are sustained and enhanced by behaving ethically. Unhealthy business practices according to Bigg, will cause problems for business owners and their enterprises. The relationship between the aforementioned theories and the current study is justified by studying how product responsibility and philanthropy affect profitability. For corporate profitability to improve, consumers and society should be carried along.

The social responsibility concept, according to Eze and Bello (2016), has existed for over 30 years, and they reported in their study that various scholars made dogged attempts to define the concept, but they all ended up defining it according to their upbringing, interests, and experiences without arriving at any acceptable definition. It is also not easy to know the Nigerian company that started the practice of social responsibility. However, ReDahlia (2022) asserted that the award of scholarships to children of serving and retired employees by UAC Nigeria Plc began in 1948, and the company, according to ReDahlia, is presently supporting education through 'Goodness League Initiative' and 'Schools Support Programme'. Socially responsible organizations such as low-profit limited liability companies, Social Purpose Corporations and B Corporations have emerged (Stobierski, 2021).

In Nigeria, civil society organizations have come together to support social causes. For example, at Nnewi, in Eastern Nigeria, a business cluster trading on auto spare-parts provides city-wide security for the development of their local community (Amaeshi et al, 2006). Over ₦43 billion was mobilized by business operators in the private sector to fight COVID-19 in Nigeria through the collaboration between the Central Bank of Nigeria and Aliko Dangote Foundation (Olatunji, 2020). Similarly, FCMB, i.e., First City Monument Bank in Nigeria, has partnered with a Nigerian-Indian not-for-profit organization called Tulsi Chanrai Foundation (TCF) since 2009 to help over 200,000 Nigerians obtain free access to eye care (FCMB, 2022).

Corporate success has a strong connection with companies' social responsibilities. If companies, according to Singh and Verma (2016), fail to exhibit a sincere motto of social engagement, they cannot earn consumer rewards. Singh and Verma further affirmed that firms that have undertaken activities that satisfy the community will be perceived by consumers positively. A very violent future may be in store for the companies unless they give back to society some of what they are getting out of it (Baxi & Prasad, 2013 as cited in Singh & Verma, 2016).

Johnson & Johnson incurred a loss of over $100 million when people died after using its Tylenol products, but the company bounced back to financial success after the immediate and voluntary withdrawal of more than 30 million Tylenol products from circulation (ReDahlia, 2022). Product responsibility and product safety satisfy consumers and enhance corporate value. Doing what is good for society positively affects corporate profitability in the long run.

According to Euromonitor.com (2021), Euromonitor International continue to honor their annual pledge to dedicate 1% of their revenue to the Euromonitor CSR initiative. 2020–2021 had a £1.5 million budget. Direct donations of more than £1.2 million have been made to charitable organizations, including 160 regional charity partners, 2 environmental partners, and 10 Headline charity partners.

About 10 percent of Standard and Poor's (S&P) firms and over half of the companies in Fortune Global 250 now report regularly on corporate social responsibility (*The Economist*, 2008; Kotler & Lee 2004a; Baskin & Gordon, 2005 all as cited in Kitzmueller & Shimshack, 2012). Similarly, over 33 percent of big firms and close to 11 percent of U.S investments were certified as corporate social responsibility compliant. Furthermore, the United States and markets in Europe own assets worth over 300 billion euros and 2 trillion dollars duly certified as corporate social responsibility compliant (Social Investment Forum, 2006 as cited in Kitzmueller & Shimshack, 2012).

International Business Machines (IBM), General Motors, and Microsoft disclose their social initiatives to prospective employees, while over 50 percent of U.S consumers say that purchase behaviors are determined by a firm's social status and 70 percent of consumers in the U.K say they will pay more for goods they believed are ethically better (Turban & Greening, 1996; Ipsos MORI, 2003 as cited in Kitzmueller & Shimshack, 2012).

In Nigeria, studies concerning how industrial goods companies' performances are influenced by good quality products and philanthropic donations are few in relative terms. Scholars in foreign countries have carried out few studies in this important field of sustainability accounting.

Attempts have been made by past studies to establish that the rate of stock turnover leads to positive changes in a firm's profitability like an increase in net profit (Al Hayek, 2018; Ray, 2021), higher return on assets (Mburu, 2019), or improved financial performance (Kalash & Bilen, 2021). Singh and Verma (2016) asserted that most studies have established that eco-friendly products are preferred by customers only if they are of good quality, fairly priced, and convenient for use.

However, sales growth does not always lead to the expected outcomes. In a study conducted by Mwangi (2008) over a decade ago, it was found that profitability and shareholder value were adversely affected after an optimal point of sales growth was reached implying that not all levels of sales growth increase profitability. According to Nasution (2020), there was no positive relationship between return on assets and inventory turnover ratio, while another related study carried out by Oyeyemi et al. (2019) discovered that sales growth had a non-significant negative effect on firm value. A firm's performance is enhanced when satisfied customers repeatedly maintain their patronage, but corporate social responsibility initiatives that are not innovative and lack positive social impact will definitely reduce customers' satisfaction (Luo & Bhattacharya, 2006 as cited in Singh & Verma, 2016).

Two determinants of stock turnover rate, namely, customer perceptions and customer satisfaction, both defined as product attributes, benefits, trust, commitment, and customer behavioral loyalty, were found to have positive effects on organizational financial performance (Liang et al., 2009). Profitability and market share in the banking sector had a positive relationship (Etale et al., 2016). Sales promotion, another determinant of stock turnover rate, had a significant relationship with organizational performance (Ubabuike, 2020). The majority of respondents acknowledged during the course of the research that sales promotion (determinant of stock turnover rate) has an impact on the volume of sales and organizational performance. To sum up, the efficient utilization of sales promotional tactics results in a rise in sales volume and ultimately elevates earnings (Odunlami & Ogunsiji, 2011).

Liao (2020) used the Two-stage Heckman selection model to investigate how the social responsibility of making donations towards social initiatives leads to change in companies' financial performance and found that donations and firm performance had a positive relationship. Rehman and Jun (2020) discovered in their study that a linear relationship exists between philanthropy and stock returns. The relationship between philanthropy and performance becomes stronger when a company has greater public visibility and better past performance (Wang & Qian, 2011).

Sometimes donations reduce corporate profitability if companies fail to do it strategically or fail to desist from rent-seeking. Donations and gifts significantly decreased employees' job performance (Otuya & Akporien, 2020), while companies' stakeholders reacted differently to various levels of corporate giving (Gao et al., 2019). However, Liang and Renneboog (2016) established that charitable donations had a positive relationship with firm value, and this is consistent with the value-enhancement hypothesis. In China, the effect of corporate charitable giving was studied and confirmed as corporate performance enhancing (Wang et al., 2019). Emeka-Nwokeji (2019) showed that donations and investment in human capacity building and company performance had a significant positive relationship. Three profitability indicators, namely, return on equity, return on assets, and market-to-book value had significant relationships with donations (Ndubuisi et al., 2017). Money expended on donations has assisted in boosting the economic value added of companies in the manufacturing sector (Frank & Binaebi, 2020). Corporate donations have led to corporate success (ReDahlia, 2022; Eze & Bello, 2016).

Product responsibility-corporate profitability relationship study in the industrial goods sector of Nigeria has definitely not been specifically or separately carried out and only a few philanthropy-corporate profitability relationship studies have been conducted so far in Nigeria's industrial goods sector. This review has revealed that there is lack of studies in the industrial goods sector of Nigeria that have used a time scope of 19 years (2003–2021) and 931 firm-year observations to investigate how product responsibility and philanthropic donations affect corporate profitability.

The current paper is, therefore, an attempt to fill the foregoing research gaps. This paper hypothesized that when companies in Nigeria's industrial goods sector fulfill their social responsibility of producing products and services that satisfy consumers and donate towards social initiatives, corporate profitability is enhanced.

This paper, therefore, aims to examine how product responsibility and corporate philanthropy affect the value of industrial goods firms in Nigeria. Based on the foregoing survey of literature, the study developed the following hypotheses:

H_1: *Investing in the fulfillment of a company's product responsibility will have a significant positive effect on corporate value.*

H_2: *Investing in the fulfillment of a company's responsibility of donating towards social initiatives will have a significant positive effect on corporate value.*

2. METHODOLOGY

The study adopted the ex-post facto research design after purposively selecting a sample of 7 industrial goods firms from a study population of 24 listed firms using a period scope of 19 years (2003 to 2021). Sample size determination was based on the availability of complete or comprehensive annual reports. Firms with inconclusive and incomplete financial reports were excluded from the study. Secondary data were obtained from the listed firms' annual reports and from the websites of the following online databases: Wall Street Journal, African Financials, Nigerian Exchange Group, Security and Exchange Commission, African Markets, and Investing.com. The study made use of one dependent variable, such as return on equity, and two key independent variables, such as rate of stock turnover and donations. Four control variables, namely, total assets, invested capital, book value of equity, and number of shares, were included in the study models. The financial information from the industrial firms' annual reports was used to compute return on equity, rate of stock turnover, total assets, invested capital, and book value of equity. Information about companies' donations and

number of shares was obtained directly from the firms' annual reports. The foregoing additional online databases were used to confirm the authenticity of the annual reports displayed on the various companies' websites.

Using the foregoing period scope, sample size, and seven research variables, the study generated firm-year observations of 931 (7x19x7) and two multiple regression models as shown below:

The general panel data models generated by the study are stated as follows:

Model 1

$$ROE_{it} = \beta_{oi} + \beta_1 TON_{it} + \beta_2 TAS_{it} \quad (1)$$
$$+ \beta_3 IVC_{it} + \beta_4 BVE_{it} + \beta_5 NOS_{it} + \mu_{it}.$$

Model 2

$$ROE_{it} = \beta_{oi} + \beta_1 DON_{it} + \beta_2 TAS_{it} \quad (2)$$
$$+ \beta_3 IVC_{it} + \beta_4 BVE_{it} + \beta_5 NOS_{it} + \mu_{it}.$$

where i – 7 firms: Cutix, Lafarge, Julius Berger, Greif Nig., Prempa, Beta Glass and Meyer Paint, t – 19 years: 2003 – 2021, ROE_{it} – return on equity of the 7 listed firms for 19 years, β_{0i} – intercepts of the 7 listed firms, β_1-β_5 – regression coefficients, RST_{it} (RST represents turnover{TON} in Model 1 above. Please see also tables 1, 4 and 5) – rate of stock turnover of the 7 listed firms for 19 years, DON_{it} – donations made by the 7 listed firms for 19 years, TAS_{it} –

total assets of the 7 listed firms for 19 years, IVC_{it} – invested capitals of the 7 listed firms for 19 years, BVE_{it} – book value of equity of the 7 listed firms for 19 years, NOS_{it} – number of shares of the 7 listed firms for 19 years, μ_{it} – the error term representing the effects of independent variables not considered in the model of the 7 listed firms for 19 years.

Prior to regression analysis, all the study variables and residuals in the two regression models were subjected to a stationarity test and cross-section dependence test. These tests were carried out to establish the validity and reliability of the models. The Hausman test was used to determine whether or not the random effect or fixed effect model was appropriate for the study.

3. RESULTS

In Table 1, stationarity test results showed that all the key variables and control variables were stationary at 1st difference implying that the two regression models were fit for analysis. For a robust study to be conducted and to establish the validity and reliability of the two regression models, stationarity tests of the regression residuals were carried out, and these residuals were stationary at level as required as table 2 indicates.

Diagnostic tests conducted for all the study variables and residuals in the models prior to regression analysis.

Table 1. Stationarity test results for all variables of interest at 1st difference

<div align="right">Source: EViews 9 results of stationarity test.</div>

Variables of interest	Test method	Test statistic	P value	Null hypo	Decision criteria	Remarks
KEY VARIABLES						
ROE (Return on Equity)	ADF – Fisher Chi-square	38.4976	0.0004	There is a unit root	Reject H$_0$ if P value < 0.05	Stationary at 1st difference
RST (Rate of Stock Turnover)	ADF – Fisher Chi-square	30.9162	0.0057	There is a unit root	Reject H$_0$ if P value < 0.05	Stationary at 1st difference
DON (Donations)	ADF – Fisher Chi-square	63.1756	0.0000	There is a unit root	Reject H$_0$ if P value < 0.05	Stationary at 1st difference
CONTROL VARIABLES						
TAS (Total Assets)	ADF – Fisher Chi-square	31.3707	0.0049	There is a unit root	Reject H$_0$ if P value < 0.05	Stationary at 1st difference
IVC (Invested Capital)	ADF – Fisher Chi-square	33.1394	0.0028	There is a unit root	Reject H$_0$ if P value < 0.05	Stationary at 1st difference
BVE (Book Value of Equity)	ADF – Fisher Chi-square	32.4800	0.0034	There is a unit root	Reject H$_0$ if P value < 0.05	Stationary at 1st difference
NOS (Number of Shares)	ADF – Fisher Chi-square	26.2121	0.0243	There is a unit root	Reject H$_0$ if P value < 0.05	Stationary at 1st difference

Table 2. Stationarity test results for the regression residuals at level

Regression residuals	Test method	Test statistic	P value	Null hypo	Decision criteria	Remarks
RESID FOR MODEL 1	ADF − Fisher Chi-square	36.9359	0.0008	There is a unit root	Reject H_0 if P value < 0.05	Stationary at level
RESID FOR MODEL 2	ADF − Fisher Chi-square	24.1457	0.0440	There is a unit root	Reject H_0 if P value < 0.05	Stationary at level

3.1. Testing hypothesis one

Pooled OLS regression followed by fixed and random effects estimators were tried, leading to a Hausman test that revealed a probability value of 0.0000, i.e., less than 0.05, indicating that the fixed effects model is appropriate (see Table 5). Table 4 shows the regression output for the effect of product responsibility (rate of stock turnover) on corporate value (ROE) and return on equity, and regression model 1 is now written as $ROE_{it} = 2.180000 + 0.076807RST_{it} + \mu_{it.}$ It can be deduced from this model 1 that as the rate of stock turnover (RST) increases by 1%, the return on equity (i.e. ROE) of Nigeria's listed industrial goods firms increases by 8%. The relationship between RST and ROE was assumed to have been influenced by other extraneous variables (control variables) as follows: TAS (β_2 = -0.214988), IVC (β_3 = 0.134176), BVE (β_4 = 0.218614) and NOS (β_5 = 1.159113). A probability value of 0.0171 for RST is effectively below the alpha level of 0.05, which indicates that the positive relationship between RST and ROE is significant (p < .05). Three of the control variables, namely, IVC, BE, and NOS, have significant positive relationships with ROE with p values of 0.0000, 0.0000 and 0.0070, respectively, while TAS has a significant negative relationship with ROE (p < .05). The regression output of model 1 shows an R squared of 0.753962 indicating a high variation in ROE that can be explained by RST, TAS, IVC BE, and NOS. The residuals of the regression model 1 were derived as 0.246038, representing the unexplained variation in ROE. Model 1 reliability was further confirmed by the stationarity of the regression residuals at the level and supported by the fact that these residuals passed the cross-section dependence test (see Table 3). The f-Statistic value of 33.70858 was significant (p < .05), confirming that model 1 is significant. The Durbin-Watson statistics of 2.427658 lies within the range of 2 and 4 and is greater than the R-squared value of 0.753962, signaling that autocorrelation and serial correlations are not present in model 1 and this makes the foregoing regression model reliable and fit for prediction purposes (see Table 4).

The Hausman test was used to establish the appropriateness of the fixed-effects regression model 1. It was revealed by the regression output of the fixed effects model that the rate of stock turnover (RST) has a significant positive effect on ROE. F-statistic test, Durbin-Watson statistic test, stationarity test, and cross-section dependence test all confirmed that model 1 is reliable. Therefore, hypothesis one (*H1*) is accepted. Hence, investing in the fulfillment of a company's product responsibility will have a significant positive effect on corporate value.

Table 3. Regression residuals' cross-sectional dependence test results

Regression residuals	Test method	Test statistic	P value	Null hypo	Decision criteria	Remarks
RESID FOR MODEL 1	Bias-corrected scaled LM	1.686454	0.0917	No cross-section dependence (correlation)	If P value > 0.05, Accept H_0	No cross-sect dependence
	Pesaran CD	−0.816597	0.4142			No cross-sect dependence
	Pesaran scaled LM	1.880898	0.0600			No cross-sect dependence
RESID FOR MODEL 2	Pesaran CD	1.156329	0.2475	No cross-section dependence (correlation)	If P value > 0.05, Accept H_0	No cross-sect dependence

Table 4. Fixed effects panel regression results

Dependent Variable: ROE
Method: Panel Least Squares
Date: 04/21/22 Time: 09:24
Sample: 2003 2021
Periods included: 19
Cross-sections included: 7
Total panel (balanced) observations: 133

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	2.18E+09	7.76E+08	2.806643	0.0058
RST	0.076807	0.031761	2.418277	0.0171
TAS	−0.214988	0.027112	−7.929649	0.0000
IVC	0.134176	0.023818	5.633447	0.0000
BE	0.218614	0.023302	9.381949	0.0000
NOS	1.159113	0.422808	2.741462	0.0070
Effects Specification				
Cross-section fixed (dummy variables)				
R-squared	0.753962	Mean dependent var		3.30E+09
Adjusted R-squared	0.731595	S.D. dependent var		1.27E+10
S.E. of regression	6.56E+09	Akaike info criterion		48.13292
Sum squared resid	5.21E+21	Schwarz criterion		48.39371
Log likelihood	−3188.839	Hannan-Quinn criterion		48.23889
F-statistic	33.70858	Durbin-Watson stat		2.427658
Prob(F-statistic)	0.000000			

Table 5. Hausman test results showing the appropriateness of the fixed effects model

Correlated Random Effects – Hausman Test
Equation: RANDOMEFFECTSROERST
Test cross-section random effects

Test Summary	Chi–Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	32.567981	5	0.0000
** WARNING: The estimated cross-section random effects variance is zero.			
Cross-section random effects test comparisons:			
Variable	Fixed	Random	Var(Diff.)	Prob.
RST	0.076807	0.148475	0.000161	0.0000
TAS	−0.214988	−0.201787	0.000019	0.0024
IVC	0.134176	0.104672	0.000035	0.0000
BE	0.218614	0.178828	0.000086	0.0000
NOS	1.159113	1.111855	0.005849	0.5366

3.2. Testing hypothesis two

Pooled OLS regressions followed by fixed and random effects estimators were tried, leading to the Hausman test that showed a probability value of 0.0000 lower than 0.05, indicating that the fixed effects model is appropriate (see Table 7). Table 6 shows the regression output for the effect of fulfilling a company's responsibility of donating towards social initiatives (philanthropy) (i.e., DON) on corporate value (ROE), return on equity, and regression model 2 is now written as $ROE_{it} = 2.560000 - 0.369535DON_{it} + \mu_{it}$. It can be deduced from this model two that as a donation towards social initiatives (DON) increases by 1%, the return on equity (i.e., ROE) of the listed industrial goods firms in Nigeria decreases by 37%. The relationship between DON and ROE was assumed to have been influenced by other extraneous variables (control variables) as follows: TAS ($\beta2 = -0.166113$), IVC ($\beta3 = 0.130293$), BVE ($\beta4 = 0.209236$), and NOS ($\beta_5 = 1.169870$). A probability value of 0.5817 for DON is definitely above the alpha level of 0.05 which indicates a non-significant negative relationship between DON and ROE ($p > .05$). Three of the control variables, namely, IVC,

BE, and NOS have significant positive relationships with ROE with respective probability values of 0.0000, 0.0000, and 0.0093, while TAS has a significant negative relationship with ROE having a probability value of 0.0000. The regression output of model 2 reveals an R-squared value of 0.743622, indicating a high variation in ROE that can be explained by DON, TAS, IVC BE, and NOS. The residuals of the regression model 2 were derived as 0.256378, representing the unexplained variation in ROE. Model 2 reliability was further confirmed by the stationarity of the regression residuals at the level and supported by the fact that these re-

siduals passed the cross-section dependence test (see Table 3). The f-Statistic value of 30.85070 was significant at a probability value of 0.000000, confirming the significance of model 2. The Durbin-Watson statistic of 2.351528 lies within the range of 2 and 4 and is greater than the R-squared value of 0.743622, signaling that autocorrelation and serial correlations are not present in model 2, and this makes the foregoing regression model reliable and fit for prediction purposes. The Hausman test was used to establish the fact that the fixed effects model is appropriate for the regression model 2. It was revealed by the regression output of the fixed

Table 6. Fixed effects regression output

Dependent Variable: ROE
Method: Panel Least Squares
Date: 04/21/22 Time: 09:39
Sample: 2003 2021
Periods included: 19
Cross-sections included: 7
Total panel (unbalanced) observations: 129

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	2.56E+09	7.96E+08	3.220678	0.0017
DON	−0.369535	0.668992	−0.552376	0.5817
TAS	−0.166113	0.019474	−8.529782	0.0000
IVC	0.130293	0.024840	5.245240	0.0000
BE	0.209236	0.023859	8.769538	0.0000
NOS	1.169870	0.442624	2.643031	0.0093
Effects Specification				
Cross-section fixed (dummy variables)				
R-squared	0.743622	Mean dependent var		3.22E+09
Adjusted R-squared	0.719518	S.D. dependent var		1.28E+10
S.E. of regression	6.80E+09	Akaike info criterion		48.20608
Sum squared resid	5.41E+21	Schwarz criterion		48.47211
Log likelihood	−3097.292	Hannan-Quinn criterion		48.31418
F-statistic	30.85070	Durbin-Watson stat		2.351528
Prob(F-statistic)	0.000000			

Table 7. Hausman test results for regression model 2

Correlated Random Effects – Hausman Test
Equation: RANDOMEFFECTSROEDON
Test cross-section random effects

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	48.045396	5	0.0000
** WARNING: The estimated cross-section random effects variance is zero			
Cross-section random effects test comparisons			

Variable	Fixed	Random	Var(Diff.)	Prob.
DON	−0.369535	−0.588555	0.051958	0.3366
TAS	−0.166113	−0.090604	0.000140	0.0000
IVC	0.130293	0.093608	0.000041	0.0000
BE	0.209236	0.131841	0.000172	0.0000
NOS	1.169870	1.157323	0.005690	0.8679

effects model that donation towards social initiatives (DON) has a non-significant negative effect on ROE. F-statistic test, Durbin-Watson statistic test, stationarity test and cross-section dependence test all confirmed that model 2 is reliable. Therefore, hypothesis two (*H2*) is rejected. Hence, investing in the fulfillment of a company's responsibility of donating towards social initiatives has a non-significant negative effect on corporate value.

4. DISCUSSION

A relationship between product responsibility and corporate value was hypothesized, and this was positively significant. This confirms that the consuming public in Nigeria's industrial goods sector buys more from companies that produce good quality products, charge fair prices, and behave transparently in the marketplace. This study has established that what customers want from these companies is honesty and sincerity. Companies' involvement in the fulfillment of economic responsibilities should not prevent them from enhancing the satisfaction of the consuming public. These companies recognize that corporate success cannot be achieved when the needs and satisfaction of customers are not met. This finding is consistent with the result of a study by Turban and Greening (1996) and Ipsos MORI (2003) as cited in Kitzmueller and Shimshack (2012) where 70 percent of consumers in the UK say they will pay more for goods they believed are ethically better. Other studies that also support this finding are the ones carried out by Al Hayek (2018) and Ray (2021), Mburu (2019), and Kalash and Bilen (2021) where it was discovered that the rate of stock turnover (a measure of product responsibility) leads to positive changes in a firm's profitability like an increase in net profit, higher returns on assets and improved performance, respectively. Singh and Verma (2016) supported this finding by asserting that most studies have established that eco-friendly products are preferred by customers only if they are of good qual-

ity, fairly priced, and convenient for use. Finally, the study by Liang et al. (2009) also supports the finding that product responsibility has a significant positive relationship with corporate value. Liang et al. (2009) revealed that two determinants of stock turnover rate, namely, customer perceptions and customer satisfaction, both defined as product attributes, benefits, trust, commitment, and customer behavioral loyalty, were found to have positive effects on organizational financial performance.

Hypothesis two (*H2*) of this study, that investing in the fulfilment of a company's responsibility of donating towards social initiatives will have a significant positive effect on corporate value, moved in the opposite direction. The current paper revealed that fulfilling the social responsibility of donating towards social initiatives has a non-significant negative effect on corporate value. This suggests that paying philanthropic donations does not always enhance corporate value. This also confirms that it becomes difficult for corporate value to be enhanced when companies become socially irresponsible in giving their support for social initiatives. Payment of philanthropic donations becomes counter-productive or non-value-enhancing if it is not strategically done or if such corporate giving is carried out to favor the manager and his circles of stakeholders, and these oftentimes lead to agency problems. This finding of donations not always enhancing corporate value is supported by a study conducted by Otuya and Akporien (2020), which found that donations and gifts significantly decreased employees' job performance. Even Gao et al. (2019) revealed that company stakeholders reacted differently to various levels of corporate giving, especially when corporate giving was not done strategically to enhance corporate value. This finding is further supported by the study carried out by Okoye et al. (2016), which revealed that the profit maximization objective is threatened in the short run, when firms adhere to the requirement of corporate social responsibility, which often increases operating costs and reduces shareholders' distributable profits.

CONCLUSION

The main purpose of this study was to examine the extent to which two categories of social dimensions of corporate social responsibility, namely product responsibility and philanthropic donations, affect the value of companies in the industrial goods sector of Nigeria. This study concludes that product responsibility can enhance corporate value and can make a company have a long-standing relationship with

its customers. It enables the consuming public to have the courage and confidence in those companies they come in contact with, and this can, in turn, add value to the company.

The non-significant negative relationship between philanthropic donations and corporate value leads to the conclusion that not all corporate philanthropic gestures are value-enhancing. Managers ought to be aware that support for social causes becomes profitable when done responsibly and strategically. This research paper, therefore, helps managers to make socially responsible business decisions required in our present-day marketplace. It also provides an opportunity for business leaders to satisfy the needs of customers and society as they go about achieving corporate success and contributing to society's development.

The construct of product responsibility can be further decomposed into other components such as pricing, product quality, product availability, and safety and separately operationalized by future researchers using primary data as the current study used only the rate of stock turnover, secondary data obtained from financial reports to measure product responsibility. Furthermore, this study analyzed only 7 industrial goods firms, and it was not possible at the time of conducting this research to include all the industrial goods firms and firms from other industries in the study sample. Future research in this study area should go for a sample size that is bigger so that results that are more robust can be obtained. To have unbiased outcomes, future researchers should get samples from other industries to accommodate consumers and other stakeholders who perceive firms' social responsibilities differently. The outcomes of this study are limited to Nigeria and other developing countries with similar circumstances and may be different from those of developed countries when considerations are given to economic status, culture, lifestyle, and other related factors. The current study attempted to examine only two elements of the social dimension of corporate social responsibility, namely, product responsibility and corporate philanthropic donations. Future research works may consider other aspects of social dimensions of corporate social responsibility like employee well-being, good corporate citizenship, human rights, and sponsorship.

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ACKNOWLEDGMENT

REFERENCES

1. Al Hayek, M.A. (2018). The relationship between sales revenue and net profit with net cash flows from operating activities in Jordanian industrial joint stock companies. *International Journal of Academic Research in Accounting, Finance and Management Sciences, 8*(3), 149-162. http://dx.doi.org/10.6007/IJARAFMS/v8-i3/4757

2. Amaeshi, K. M., Adi, B. C., Ogbechie, C., & Amao, O. O. (2006). Corporate social responsibility (CSR) in Nigeria: Western mimicry or indigenous practices? *International Centre for Corporate Social Responsibility, 39,* 1-44. Nottingham University Business School, ICCSR Research Paper Series.

3. Emeka-Nwokeji, N. A. (2019). Nexus between corporate social responsibility disclosures and market value of listed non-financial firms in Nigeria. *International Journal for Innovative Research in Multidisciplinary Field, 5*(3), 247-255. Retrieved from https://www.ijirmf.com/wp-content/uploads/IJIRMF201903037.pdf

4. Etale, L. M., Bingilar, P. F., & Ifurueze, M. S. (2016). Market share and profitability relationship: A study of the banking sector in Nigeria. *International Journal of Business, Economics and Management, 3*(8), 103-112. https://doi.org/10.18488/journal.62/2016.3.8/62.8.103.112

5. Euromonitor.com (2021). *2020 Corporate Social Responsibility Year in Review.* Retrieved from https://www.euromonitor.com/article/2020-corporate-social-responsibility-year-in-review

6. Eze, S. C. & Bello, A. O. (2016). Corporate social responsibility in Nigeria: A critical review of the literature. *International Journal of Business and Management Review, 4*(10), 86-103.

7. FCMB (2022). *Corporate social responsibility. Our corporate social responsibility in action.* Retrieved from https://www.fcmb.com/node/157

8. Frank, B. P., & Binaebi, B. (2020). Corporate social responsibility and the economic value added (EVA) of non-bank financial organizations in Nigeria. *International Journal of Scientific & Engineering Research, 11*(4), 1427-1441. Retrieved from https://www.ijser.org/researchpaper/CORPORATE-SOCIAL-RESPONSIBILITY-AND-THE-ECONOMIC-VALUE-ADDED-EVA-OF-NON-BANK-FINANCIAL-ORGANIZATIONS-IN-NIGERIA.pdf

9. Gao, Y., Yang, H., & Hafsi, T. (2019). Corporate giving and corporate financial performance: The S-curve relationship. *Asia Pacific Journal of Management, 36,* 687-713. https://doi.org/10.1007/s10490-019-09668-y

10. Hamidu, A. A., Haron, M. H., & Amran, A. (2018). Profit motive, stakeholder needs and economic dimension of CSR: Analysis on the moderating role of religiosity. *Indonesian Journal of Sustainability Accounting and Management, 2*(1), 1-14. http://dx.doi.org/10.28992/ijsam.v2i1.39

11. Jokinen, M. (2012). *Corporate responsibility reporting based on GRI reporting standard development of reporting of case companies Cargolux, Finnair and SAS* (Thesis). Helsinki Metropolia University of Applied Sciences.

12. Kalash, I., & Bilen, A. (2021). *The role of sales growth in determining the effect of operating leverage on financial performance: The case of Turkey.* Retrieved from https://www.proquest.com/openview/0312c04d87de769a9f2cfbb925867d3a/1?pq-origsite=gscholar&cbl=2042221

13. Kitzmueller, M., & Shimshack, J. (2012). Economic perspectives on corporate social responsibility. *Journal of Economic Literature, 50*(1), 51-84. https://doi.org/10.1257/jel.50.1.51

14. Liang, C. J., Wang, W. H., & Farquhar, J. (2009). The influence of customer perceptions on financial performance in financial services. *International Journal of Bank Marketing, 27*(2), 129-149. http://dx.doi.org/10.1108/02652320910935616

15. Liang, H., & Renneboog, L. (2016). *Corporate donations and shareholder value* (European Corporate Governance Institute (ECGI) – Finance Working Paper No. 491/2016). http://dx.doi.org/10.2139/ssrn.2885936

16. Liao, F. (2020). The effect of philanthropic activities on corporate financial performance: From the perspectives of charity donation and volunteer service. *Modern Economy, 11,* 96-108. http://dx.doi.org/10.4236/me.2020.111010

17. Mburu, J. M. (2019). *The relationship between inventory turnover and financial performance of supermarkets in Kenya.* Retrieved from http://erepository.uonbi.ac.ke/handle/11295/59696

18. Mwangi, J. K. (2008). *Relationship between sales growth, profitability and firm value in firm value creation strategy: A study of companies in young emerging market economies (EMEs).* University of Nairobi Research Archive, School of Education. Retrieved from http://erepository.uonbi.ac.ke/handle/11295/42057

19. Nasution, A. A. (2020). Effect of inventory turnover on the level of Profitability. IOP Conference Series: *Materials Science and Engineering, 725,* 012137. University of Sumatera Utara. https://doi.org/10.1088/1757-899X/725/1/012137

20. Ndubuisi, A. N., Ezechukwu, B. O., & Obi, J. C. (2017). Corporate social responsibility and financial performance of quoted deposit money banks in Nigeria. *Asian Journal of Science and Technology, 8*(12), 7183-7191.

21. Odunlami, I. B. & Ogunsiji, A. (2011). Effect of Sales Promotion as a Tool on Organizational Performance (A case Study of Sunshine Plastic Company). *Journal of Emerging Trends in Economics and Management Sciences, 2*(1), 9-13. Retrieved from https://typeset.io/

papers/effect-of-sales-promotion-as-a-tool-on-organizational-qea4sgiduv

22. Olatunji, K. (2020). Business news Dangote voted 2020 best company in CSR, infrastructure dev't. *The Guardian Nigeria News.* Retrieved from https://guardian.ng/business-services/dangote-voted-2020-best-company-in-csr-infrastructure-devt/2/13

23. Okoye, E. I. Amaefule, L. & Onyekpere, U. (2016). Implications of corporate social responsibility practice on manufacturing firms' performance in Nigeria (November 8, 2016). Chapter 27 in *Managing Diversification for Sustainable Development in Sub-Saharan Africa: Proceedings of 2016 International Conference of the Faculty of Management Sciences.* Awka: Nnamdi Azikiwe University. Retrieved from https://ssrn. com/abstract=3039478

24. Otuya, S., & Akporien, F. (2020). Do corporate social responsibility activities influence employees' job performance? *Journal of Contemporary Research in Social Sciences, 2*(2), 26-34. Retrieved from https://ideas.repec.org/a/ajp/jocrss/v2y2020i2p26-34id36.html

25. Oyeyemi, O. G., Enyi, E. P., & Emmanuel, O. G. (2019). Shareholders' return and value of

manufacturing firms listed on the Nigerian Stock Exchange. *African Journal of Business Management, 13*(10), 318-326. https://doi.org/10.5897/AJBM2018.8678

26. Ray, L. (2021). The long-term effects of customer-oriented sales promotions. *CHRON.* Retrieved from https://smallbusiness.chron.com/longterm-effects-customer-oriented-sales-promotions-21921.html

27. ReDahlia. (2022). *CSR – Organizations practicing corporate social responsibility.* Retrieved from https://www.entrepreneurs.ng/companies-practicing-csr/

28. Rehman, A., & Jun, J. C. (2020). Does corporate giving matter in firm performance? *Asian Journal of Economics, Finance and Management, 2*(4), 126-130. Retrieved from https://globalpresshub.com/index.php/AJEFM/article/view/894

29. Singh, &Verma, P. (2016). Consumer psychology towards corporate social initiatives: An empirical investigation. *Prabandhan: Indian Journal of Management, 9*(3), 32-42. http://dx.doi.org/10.17010/pijom/2016/v9i3/89179

30. Stobierski, T. (2021). *Types of corporate social responsibility to be aware of BUSINESS INSIGHTS.*

Harvard Business School. Retrieved from https://www.coursehero.com/file/102737290/Types-of-Corporate-Social-Responsibility-to-Be-Aware-Ofpdf/

31. Ubabuike, A. M. (2020). Sales force management and its impact on organizational growth (study of selected small and medium enterprises (SMES) in Aba, Abia State). *AE-Funai Journal of Accounting, Business and Finance, 6*(1), 233-254. Retrieved from https://www.fujabf.org/wp-content/uploads/2020/10/Sales-Force-Management-and-its-Impact-on-Organizational-Growth-Study-of-Selected-Small-and-Medium-Enterprises-SMEs-In-Aba-Abia-State.pdf

32. Wang, H., & Qian, C. (2011). Corporate philanthropy and corporate financial performance: The roles of stakeholder response and political access. *The Academy of Management Journal, 54*(6), 1159-1181. Retrieved from https://www.jstor.org/stable/41413614

33. Wang, K., Miao, Y., Su, C., Chen, M., Wu, Z., & Wang, T. (2019). Does corporate charitable giving help sustain corporate performance in China? *Sustainability, 11.* https://doi.org/10.3390/su11051491