

Eco-Labeling and Corporate Sustainability of Consumer Goods Manufacturing Companies in Nigeria

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ABSTRACT

This study investigated the relationship between eco-labeling and corporate sustainability of consumer goods manufacturing companies in Nigeria. The study adopted correlational research design. The researchers adopted cluster sampling technique in grouping the 28 Consumer Goods Manufacturing Companies in line with the six geopolitical zones (North-East, North-West, North-Central, South-East, South-West and South-South) that make up Nigeria. The researcher administered two copies of structured questionnaire to Business and Marketing Managers from each of the 28 companies across the six geopolitical zones making it a total of 336 respondents. Regression analysis was used in testing the various hypotheses with the help of the Statistical Packages for Social Sciences Version 23.0. The findings revealed existence of significant relationship between eco-labeling and corporate sustainability of consumer goods manufacturing companies in Nigeria. Based on the findings, the study concluded that eco-labeling significantly relates with corporate sustainability of consumer goods manufacturing companies in Nigeria. The study recommended that managers of consumer goods companies in Nigeria should boost their corporate sustainability through the use of eco-labeling as this will distinguish their products from that of competitors; managers of consumer goods companies in Nigeria should boost customer trust through eco-labeling, by providing transparent information about their products' environmental impact.

Keywords: Eco-Labeling, corporate sustainability, product excellence, product stewardship, value creation.

40.0 INTRODUCTION

Since the inception of industrialization, the world has continued to experience environmental distortions in areas such as climate change, water, energy, biodiversity and agriculture. According to Iraldo et al. (2020), many environmental problems are man-

made, originating from irresponsible business practices. Historically, businesses have exploited the natural environment recklessly, leading to significant negative impacts on humanity. Reducing the adverse effects of industrial activities on the environment has become crucial for our sustainability. To address these environmental issues, scholars and policymakers are advocating for a shift from conventional production behaviors to more sustainable practices. Researchers like Goossens (2017) and policymakers such as Grover & Bansal (2019) have proposed various policies and schemes, including marketing orientations, strict bans on harmful production processes, and other regulatory measures (Ihemezie, 2018).

Following the call for a more responsible business practice by researchers and policy makers, voluntary actions for environmental protection have gained preeminence and have been recognized as effective measures to reduce environmental problems (Masocha, 2021). Eco-labeling as a dimension of enviropreneurial marketing is one of the most important schemes of voluntary environmental actions (Chen *et al.*, 2018). Eco-label represents a seal of certification awarded to an environmentally-friendly product which meets the criteria specified by the government through ministries, agencies and parastatal (Hameed & Waris, 2018). The idea behind the development of eco-labels is to increase green consumerism and production sustainability (Champalal, 2012).

The message of corporate sustainability within the consumer goods sector can only be passed with organizations adopting eco-labeling in their marketing orientation (Liu *et al.*, 2017). However, documented evidence reveals that the level of eco-friendly products implementation within the consumer goods sector in Nigeria is rather low (Lekhanya *et al.*, 2017). Studies point to high failure rates of products within consumer markets (Liu *et al.*, 2017). The reason for this lacuna may not be unconnected with many organizations' ineptitude to adopt and implement eco-labeling practices. Management's interest in understanding those factors that impact corporate sustainability within the sector shows that most companies within the Nigerian consumer goods sector do not apply environmentally-friendly product labels (Ndubuisi-Okolo *et al.* 2020) and this affects their corporate sustainability. These problems exist because many studies have not emerged to demystify managers on how eco-labeling can enhance their corporate sustainability. Although few studies have been carried out on the relationship between eco-labeling and firms performance, little or none of those studies systematized how eco-labeling can bring about corporate sustainability among consumer goods manufacturing companies in Nigeria (Song *et al.*, 2019; Taufique *et al.*, 2019; Nguyena and Le, 2020; Nyremo and Widerberg, 2020; Potter *et al.*, 2021; Wojnarowska *et al.*, 2021; Pawar, 2023). None of these studies focused on the significance of eco-labeling on corporate sustainability within consumer goods manufacturing sector in Nigeria. Motivated to fill the identified gap, this paper sought to explain the nexus between eco-labeling and corporate sustainability of consumer goods manufacturing sector in Nigeria.

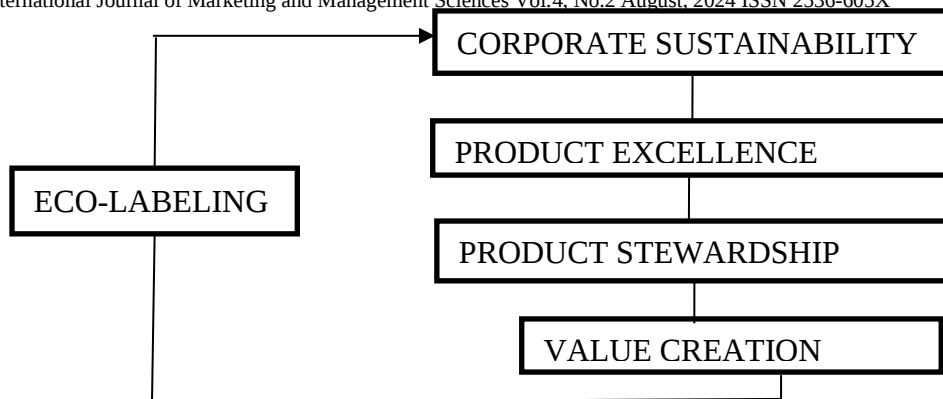


Figure 1: Conceptual framework of the relationship between eco-labeling and corporate sustainability of consumer goods manufacturing companies in Nigeria.

Source: Conceptualization model from Literature Review, 2024.

THEORETICAL FOUNDATION

Resource-Based View

The resource-based view (RBV) was propounded by Barney in 1991 (Pawar, 2023). The RBV postulates that organizational performance outcomes are dependent on its resources and capabilities. Such resources are strategically divided into tangible and intangible. Tangible resources are resources that can have a physical presence. They include among others, a firm's technology, property, assets, plant, and equipment, as well as cash. In contrast, intangible resources are not physically present. Among these comprise, the knowledge and skills of employees, a firm's reputation, and a firm's culture, capabilities which are key element of intangible resources, information in form of labeling, organizational processes (Khan *et al.*, 2018). Applying the RBV to the present study context, it can be said that when firms focus their effort on enviropreneurial marketing practices (reflected in eco-labels) as internal resources than their competitors, the resultant effect is corporate sustainability.

CONCEPT OF ECO-LABELING

In order for markets to be effective in addressing environmental challenges, consumers need to be able to assess a product's environmental credentials, and to be able to compare them with those of competing products. Eco-labelling has become a marketing tool to promote environmental performance, legitimize business activities, protection from public regulation (Pawar, 2023), and product differentiation (Delmas & Lessem, 2017; Nguyena & Le, 2020; Taufique, *et al.*, 2013). Eco-labeling means providing information about the environmental friendliness of a product or service; it reflects a value-added characteristic of a product or service (Pawar, 2023). Labeling

schemes aim to provide consumers with credible information about a product's environmental performance and benefits, increase consumer's environmental awareness, help consumers make informed decisions, and thus, promote sustainable food consumption (Ihemezie, 2018; Iraldo *et al.*, 2020).

CORPORATE SUSTAINABILITY

Corporate sustainability implies an organization's commitment to achieving competitive advantage through the strategic adoption and development of ecologically and socially supportive production processes, products, and services, as well as innovative human resource management practices. Pradhan and Misra (2014) describe corporate sustainability as a profit-driven corporate response to environmental and social issues that are caused by the organization's primary and secondary activities. From a more focused business perspective, corporate sustainability can be defined as "a business approach that creates long-term shareholder value by embracing opportunities and managing risks derived from economic, environmental, social, and corporate developments" (Petticrew & Roberts, 2006).

Product Excellence

Excellence has become a veritable part of organizations' economic sustainability (Sekarani *et al.* 2019). It is no longer enough to achieve quality in product and service delivery; the increasing competition in the market place has necessitated that organizations must pursue product excellence in order to obtain sustainable output (Idris *et al.*, 2020). Product excellence is a customer-focused framework that helps develop a significant and impactful product or feature.

Product Stewardship

Product stewardship provides processes that enable organizations to meet or exceed these critical expectations (Jensen & Remmen, 2017) as it focuses on the environmental quality of future generations, which is shaped by business development. The stewardship of a product starts from the conception and product development stage, then continues through its manufacturing, introduction, and use (including recycling) and, if no practicable alternative exists, to final disposal (Ohno *et al.*, 2015).

Value Creation

Value creation offers a powerful tool to characterize, achieve, and develop sustainability (Lautermann, 2013; Nadube & Didia, 2018). Traditionally, value creation is treated as something that a firm creates and that is usually linked to tangible goods. Nwulu and Hamilton-Ibama (2022) define value as a special benefit, experience, contextual and full reward a stakeholder receives.

EMPIRICAL REVIEW

Several empirical studies have elucidated the nexus between eco-labeling and different performance criteria. For instance, Anrong and Makiko (2017) carried out an

empirical analysis on the relationship between environmental labeling and firm value. The sample include listed Japanese manufacturing firms. The results suggest that a firm that attaches environmental labels to its products has higher value than a firm that does not attach environmental labels. Cai *et al.* (2017) studied eco-label credibility and retailer effects on green product purchasing intentions. The variables that are used in this study. The methodology of this study employed Bayesian approach. The results revealed that consumers' past green furniture purchase and their perceived credibility of eco-labels have a positive and significant impact on their future purchase intentions. Acee-Eke and Gladson-Nwokah (2018) studied the dynamics of eco-product labeling strategy for marketing success in quoted food and beverages firms in Nigeria. The population and sample size comprised all 15 quoted food and beverages firms in Nigeria as at 2016. Data on eco-labeling was obtained through a structured questionnaire. The study results indicated that eco-product labeling has positive and highly significant influence on market share of food and beverages firms.

Huwei and Chien-Chiang (2020) examined the impact of environmental labeling certification on firm performance in China. The study population covered listed manufacturing firms in China for the 2004–2018 periods. The study showed that manufacturing firms significantly increase their financial performance and productivity after obtaining environmental labeling certifications. Nyremo and Widerberg (2020) examined eco-label knowledge and eco-label trust, and their relationships to planned sustainable behaviour within the Swedish FMCG sector. The study adopted a deductive research approach which follows a quantitative research method. The data was collected through an online survey and used a non-probability sampling method. The data was analyzed with Structural Equation Modelling. Eco-label was found to influence planned sustainable behaviour through the mediators; attitude and subjective norms.

Masocha (2021) investigated three independent variables (eco-branding, eco-labeling, and environmental advertisements) as green marketing practices with firm performance being a dependent variable of Small and Medium Enterprises (SMEs) in Polokwane, Limpopo Province of South Africa. Convenience sampling was utilised to select a sample size of 156 participants from the Limpopo province of South Africa. The research established that all the independent variables had significant nexuses with firm performance. Dzomonda (2021) assessed the link between the green products strategy and financial performance of firms listed on the Johannesburg Stock Exchange. The study adopted a quantitative research method informed by a positivism research philosophy. The population of the study was all firms listed on the Johannesburg Stock Exchange. The relationship between the green strategies and financial performance (EPS) were found to be significant at 10% significance level. The following hypotheses were formulated to guide the study:

H01: There is no significant relationship between eco-labeling and product excellence of consumer goods manufacturing companies in Nigeria.

H02: There is no significant relationship between eco-labeling and product stewardship of consumer goods manufacturing companies in Nigeria.

H03: There is no significant relationship between eco-labeling and value creation of consumer goods manufacturing companies in Nigeria.

METHODOLOGY

This study adopts correlational design. The study population comprises the 28 consumer goods manufacturing companies operating within the geographical boundaries of Nigeria as enlisted on the Nigerian Stock Exchange (2021) and the Nigeria Galleria (2021). The researchers adopt the Cluster Sampling Technique in grouping the 28 consumer goods manufacturing companies in line with the six geopolitical zones (North-East, North-West, North-Central, South-East, South-West, and South-South) that make up Nigeria. The researchers then administered two copies of the structured questionnaire to Business Managers and Marketing Managers from each of the 28 consumer goods manufacturing companies across the six geopolitical zones, using Adamawa (North-East), Kano (North-West), Nasarawa State (North-Central), Anambra State (South-East), Lagos State (South-West) and Rivers States (South-South) to represent each of the geopolitical zones that make up Nigeria. This means that 336 business managers and marketing managers of consumer goods manufacturing companies from six states formed the respondents for the study. These states have functional consumer goods manufacturing companies with a presence in each of the selected geographical locations. With the help of Statistical Packages for the Social Sciences (SPSS) version 23.0, Pearson's Product Moment Correlation (PPMC) is used to test the hypotheses and figure out the relationship between environmental proactiveness and corporate sustainability.

Table 1: Reliability Test - Cronbach's Alpha Analysis

S/N	Variables	Number of Items	Cronbach's Alpha Coefficients
1	Eco-Labeling	4	0.960
2	Product Excellence	4	0.924
3	Product Stewardship	4	0.864
4	Value Creation	4	0.844

Source: SPSS Output from Field Data

From results of the Cronbach alpha analysis in Table 1, it is revealed that all the variables in the study produced high Cronbach's Alpha coefficients indicating that, there is inter-item consistency among the variables in the study. This means that, if this study

is conducted again in a similar condition the results will be similar to the results of our study.

Table 2: Descriptive statistics of eco-labeling

	N	Sum	Mean	Std. Deviation	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
We educate our consumers on the health benefits of our products	296	1254	4.24	1.306	-1.667	.142	1.331	.282
We also have labels to help inform our consumers of the environmental implications of our products	296	1273	4.30	1.246	-1.834	.142	2.092	.282
Most of our labels have green stickers to signify environmental friendliness	296	1313	4.44	1.203	-1.960	.142	2.305	.282
Our consumers can differentiate our products from imitated ones through our unique stickers	296	1270	4.29	1.316	-1.618	.142	1.017	.282
To get environmentally friendliness certification for our labels from health and environmental management agencies	296	1278	4.32	1.224	-1.843	.142	2.082	.282
Valid N (listwise)	296							

Source: Field Survey, 2024

Table 2 depicts high mean scores of the questionnaire items ranging over 3.00, this means that greater number of the respondents agreed and strongly agreed to the research question with respect to eco-labeling. However, it can be seen that question 3

which sought to determine the extent to which consumer goods manufacturing companies in Nigeria use green sticker labels to signify environmental friendliness, has the highest mean score of 4.44. This shows that question 3 has the strongest influence on the variables.

Table 3: Descriptive statistics of product excellence

	N	Sum	Mean	Std. Deviation	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
We have deep understanding of the market demands	296	1196	4.04	.901	1.759	.142	3.827	.282
Our product management team are typical about getting our customers the right products in line with the market and environmental demands	296	1184	4.00	.924	-1.712	.142	3.284	.282
We consider timeliness as basis for our product delivery	296	1229	4.15	1.196	-1.636	.142	1.681	.282
We have a well inspiring roadmap for pursuing the right product delivery	296	1295	4.38	1.024	-2.023	.142	3.559	.282
We deploy unique strategies to deliver the best to customers in a timely manner	296	1208	4.08	1.173	-1.655	.142	1.961	.282
Valid N (listwise)	296							

Source: Field Survey, 2024

Table 3 depicts high mean scores of the questionnaire items ranging over 3.00, this means that greater number of the respondents agreed and strongly agreed to the research question with respect to product excellence. However, it can be seen that question 4 which sought to determine the extent to which consumer goods manufacturing companies in Nigeria have a well inspiring roadmap for pursuing the right product delivery, has the highest mean score of 4.38. This shows that question 4 has the strongest influence on the variables.

Table 4: Descriptive statistics of product stewardship

	N	Sum	Mean	Std. Deviation	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
We have a responsibility to protect the environment while in pursuit of profit	296	1250	4.22	.814	-2.255	.142	7.488	.282

We consider the health safety of our products users	296	1202	4.06	.889	-2.221	.142	6.048	.282
We take responsibility for the safety of our products from their point of production to consumption and disposal	296	1253	4.23	1.094	-1.757	.142	2.522	.282
As a way to mitigate environmental impact, we encourage distributors and consumers to return left over and over used products to the company for appropriate compensation	296	1247	4.21	.927	-1.464	.142	2.177	.282
We attach reflects to our products, to guide consumers on responsible ways of usage, the durability, the return procedure and disposal pattern	296	1213	4.10	1.012	-1.778	.142	3.126	.282
Valid N (listwise)	296							

Source: Field Survey, 2024

Table 4 depicts high mean scores of the questionnaire items ranging over 3.00, this means that greater number of the respondents agreed and strongly agreed to the research question with respect to product stewardship. However, it can be seen that question 3 which sought to determine the extent to which consumer goods manufacturing companies in Nigeria take responsibility for the safety of their products from their point of production to consumption and disposal, has the highest mean score of 4.23. This shows that question 3 has the strongest influence on the variables.

Table 5: Descriptive statistics of value creation								
	N	Sum	Mean	Std. Deviation	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
Our company deliver high quality products to our customers	296	1267	4.28	.998	-1.843	.142	3.161	.282
We use reflects to enlighten users on the benefits imbedded in our products	296	1257	4.25	.896	-1.843	.142	4.103	.282

Customers acknowledge the high quality of our company's products in relation to our competitors' products	296	1236	4.18	.976	-1.681	.142	2.859	.282
Customers believe in us because they experience the value our products have promised	296	1248	4.22	.946	-1.725	.142	3.224	.282
We deploy modern technology and competent staff to create products that are of high value	296	1231	4.16	1.054	-1.862	.142	3.218	.282
Valid N (listwise)	296							

Source: Field Survey, 2024

Table 5 depicts high mean scores of the questionnaire items ranging over 3.00, this means that greater number of the respondents agreed and strongly agreed to the research question with respect to value creation. However, it can be seen that question 1 which sought to determine the extent to which consumer goods manufacturing companies in Nigeria deliver high quality products to customers, has the highest mean score of 4.28. This shows that question 1 has the strongest influence on the variables.

Bivariate Analysis

The secondary data analysis was carried out through the use of regression analysis tool at a 95% confidence level. Specifically, the tests cover hypotheses Ho₁ to Ho₃ based on the conceptualized model. The following information guide the interpretation of the results

Beta Coefficient: This is the standardized coefficient that represents the degree of change in the dependent variable for every unit change in the independent variable.

R²: This is the coefficient of determination which indicates the proportion of the variance in the dependent variable that is predictable from the independent variable.

Sig.: This is the p-value which indicates the significance of the relationship. A p-value less than 0.05 indicates a significant relationship

Table 6: Regression analysis for the three hypotheses

Hypotheses	Dependent Variable	independent Variable	Beta Coefficient	R ²	Sig
Ho1	Product Excellence	Eco-Labeling	0.612	0.374	0.000
Ho2	Product Stewardship	Eco-Labeling	0.695	0.483	0.000
Ho3	Value Creation	Eco-Labeling	0.521	0.271	0.000

Interpretation and Decision

Ho1: There is no significant relationship between eco-labeling and product excellence of consumer goods manufacturing companies in Nigeria.

Table 6 shows the beta coefficient of 0.612 indicates a strong positive relationship between eco-labeling and product excellence and an R^2 value of 0.374 suggests that approximately 37.4% of the variance in product excellence can be explained by eco-labeling. The significance value (p-value) of 0.000 is less than the critical value of 0.05, indicating that the relationship is statistically significant. We therefore reject the null hypothesis (Ho1) that there is no significant relationship between eco-labeling and product excellence and accept the alternate hypothesis that there is a significant relationship between eco-labeling and product excellence.

Ho2: There is no significant relationship between eco-labeling and product stewardship of consumer goods manufacturing companies in Nigeria.

Table 6 shows the beta coefficient of 0.695 indicates a strong positive relationship between eco-labeling and product stewardship and an R^2 value of 0.483 suggests that approximately 48.3% of the variance in product stewardship can be explained by eco-labeling. The significance value (p-value) of 0.000 is less than the critical value of 0.05, indicating that the relationship is statistically significant. Therefore, we reject the null hypothesis (Ho2) that there is no significant relationship between eco-labeling and product stewardship and accept the alternate hypothesis that there is a significant relationship between eco-labeling and product stewardship.

Ho3: There is no significant relationship between eco-labeling and value creation of consumer goods manufacturing companies in Nigeria.

Table 6 shows the beta coefficient of 0.521 indicates a moderate positive relationship between eco-labeling and value creation and an R^2 value of 0.271 suggests that approximately 27.1% of the variance in value creation can be explained by eco-labeling. The significance value (p-value) of 0.000 is less than the critical value of 0.05, indicating that the relationship is statistically significant. Therefore, we Reject the null hypothesis (Ho3) that there is no significant relationship between eco-labeling and value creation and accept the alternate hypothesis that there is a significant relationship between eco-labeling and value creation.

Based on the regression analysis, we reject all three null hypotheses (Ho1, Ho2, and Ho3) and accept the alternate hypotheses. This indicates that eco-labeling has a significant positive relationship with product excellence, product stewardship, and value creation among consumer goods manufacturing companies in Nigeria.

DISCUSSION OF FINDINGS

These findings are in tandem with the empirical findings of Anrong and Makiko (2017), who revealed that firms' attachment to environmental labels creates higher value

and competitive advantage. Similarly, Cai et al. (2017) support our findings, revealing that consumers' past green furniture purchases and their perceived credibility of eco-labels positively and significantly impact their future purchase intentions.

Moreover, Acee-Eke and Gladson-Nwokah (2018) indicated that eco-product labeling has a positive and highly significant influence on market share, although it has a negative and insignificant influence on the sales growth of food and beverages firms. The findings are in consonance with Huwei and Chien-Chiang (2020), who showed that manufacturing firms significantly increase their financial performance and productivity after obtaining environmental labeling certifications. Nyremo and Widerberg (2020) also found that eco-labeling influences planned sustainable behavior. Masocha (2021) established that eco-branding, eco-labeling, and environmental advertisements have significant nexuses with firm performance. Finally, Dzomonda (2021) revealed that the relationship between eco-labeling and financial performance is significant at the 10% significance level.

CONCLUSION

The findings of this study confirm that eco-labeling plays a crucial role in enhancing product excellence, product stewardship, and value creation among consumer goods manufacturing companies in Nigeria. This underscores the importance of adopting sustainable practices and obtaining eco-label certifications to achieve competitive advantage and improved performance.

RECOMMENDATIONS

Based on the conclusion drawn from findings of the study, the researcher puts forward the following recommendations:

- i. Managers of consumer goods companies in Nigeria should boost their corporate sustainability through the use of eco-labeling. This will distinguish their products as environmentally friendly.
- ii. Managers of consumer goods companies in Nigeria should boost customer trust through eco-labeling, by providing transparent information about their products' environmental impact,.
- iii. Managers of consumer goods companies in Nigeria should adopt eco-labeling as tool for aligning with regulatory standards aimed at achieving product excellence and stewardship and corporate reputation.

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