

Ecopreneurship and Organisational Performance: A Study of Quoted Paint Manufacturing Firms in Nigeria

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Abstract

This study investigates the impact of ecopreneurship on the organisational performance of quoted paint manufacturing companies in Nigeria. The objective of the study is to examine the dimensions of ecopreneurship, including eco-innovation, eco-production, green supply chain management, waste management, and eco-marketing, and their influence on organizational performance. The study also explores the moderating effects of environmental commitment and government regulations on this relationship. The study adopts a positivist research philosophy and employs a quantitative research approach. The study population consists of 438 employees from four paint manufacturing companies listed on the Nigerian Exchange, namely CAP Plc, Berger Paints Plc, Meyer Paint Plc, and Premier Paints Plc. Questionnaires were used as the primary data collection method, and a pilot study was conducted to validate the questionnaire. The data were analyzed using descriptive and inferential statistical methods, including multiple regression analysis and hierarchical regression analysis. The findings of the study indicate that eco-marketing has a positive and significant effect on the organizational performance of quoted paint manufacturing companies in Nigeria ($\beta = 0.466$, $t = 5.195$, $p < 0.05$). Eco-innovation ($\beta = 0.082$, $t = 0.748$, $p > 0.05$) and waste management ($\beta = 0.057$, $t = 0.511$, $p > 0.05$) show positive but insignificant effects, while eco-production ($\beta = -0.136$, $t = -1.093$, $p > 0.05$) and green supply chain management ($\beta = -0.051$, $t = -0.447$, $p > 0.05$) exhibit negative but insignificant effects on organizational performance. The overall relationship between ecopreneurship dimensions and organizational performance is positive but relatively low, with the dimensions accounting for only 9.5% of the variations in organizational performance. An environmental commitment was found to moderate the relationship between ecopreneurship and organizational performance. In conclusion, the study highlights the importance of adopting ecopreneurial practices, particularly eco-marketing, to enhance the organizational performance of quoted paint manufacturing companies in Nigeria. It emphasizes the need for a strong commitment to environmental sustainability within organizations and suggests the integration of environmentally friendly production processes. Regulators and policymakers are encouraged to formulate and enforce policies that promote ecopreneurship practices in order to ensure environmental protection and enhance organisational performance.

Keywords: *Ecopreneurship, Organizational performance, Eco-innovation, Eco-production, Green supply chain management, Waste management, Eco-marketing, Environmental commitment, Government regulations, Paint manufacturing companies*

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Background to the Study

The challenges posed by climate change and global warming, resulting from the unsustainable use of environmental resources by humans and organizations, have highlighted the need for effective implementation of ecopreneurial practices to enhance organizational performance. The organizational performance serves as a crucial measure of an organization's ability to achieve its objectives and align its business functions with its strategic goals. Achieving high levels of organizational performance is essential in both the short and long term, as managers worldwide seek ways to improve asset management, measurement, and control, leading to enhanced customer value and positive key performance indicators recognized by internal and external evaluators.

The performance of organizations, including the paint industry, has become a major concern for researchers and business managers globally. The COVID-19 pandemic further exacerbated the situation, with a projected 5.2% drop in global gross domestic product (GDP) in 2020 (World Bank, 2020). The decline in growth is expected to affect every region, with varying degrees of contraction. It is crucial for every sector, industry, and function to reinvent itself to achieve maximum growth and sustainability in the post-COVID era (Gregurec et al., 2021). The paints and coatings market, valued at USD 160.03 billion in 2021, witnessed the highest market share in terms of revenue and volume in the Asia Pacific region, while Europe remains the fastest-growing region (Fortune Business Insights, 2020).

In Nigeria, the paint industry was projected to experience a 5% annual growth rate, with an estimated value of \$377 million (N135.80 billion) by 2025, along with an increase in local paint consumption from 391.75 million liters in 2020 to 1,002.63 million liters by 2025 (Kiwanu, 2018). However, the outbreak of the COVID-19 pandemic negatively affected these projections, halting manufacturing and construction activities and creating a significant impact on the demand for paints and coatings. Challenges such as high inflation and limited access to foreign exchange for raw materials further hampered the operations and price management of local producers in Nigeria (Adekoya, 2021). Despite these setbacks, there is hope for improvement in 2021.

With the increased awareness of environmental issues, there has been a shift from conventional manufacturing practices to ecopreneurship, driven by the need to embrace a green economy. While ecopreneurship is well-known in developed countries, it has received limited recognition in developing countries, including Nigeria (Olateju, 2020). Businesses are now expected to contribute to sustainable development, as adopting sustainable practices can lead to a competitive edge, increased market share, and enhanced shareholder value (International Institute for Sustainable Development, 2020). International standards, such as the International Organization for Standardization (ISO) 14000, have set the benchmark for businesses worldwide to become more sustainable in both their operations and environmental impact (Gunawan, 2012). Given the increasing importance of environmental issues, there is a growing interest in finding innovative ways to address them, leading to the emergence of the concept of "ecopreneurship." As businesses and individuals have contributed to environmental degradation over the years, conscious efforts are required to minimize the

negative impact of business activities on the environment while ensuring organizational sustainability (Yammama, 2021).

Although research has explored the positive link between various dimensions of ecopreneurship (e.g., eco-innovation, eco-production, green supply chain management, waste management, and eco-marketing) and organizational performance in different sectors and countries, including Malaysia, the manufacturing industry, ICT, tourism, textile, SMEs, tech, and industrial sectors, no known research has investigated the relationship between ecopreneurship and organizational performance specifically in quoted paint manufacturing firms in Nigeria. Previous studies have provided mixed results, highlighting the need for further research in this context (Hashmi & Akran, 2021; Tjahjadi et al., 2020; Fatoki, 2019; Abdul-Rashid et al., 2017; Sambu, 2016). Researchers such as Elzek et al. (2021), Simionescu et al. (2020), Maziriri (2020), Tang et al. (2017), and Brasil et al. (2016) have examined the relationship between ecopreneurship dimensions and organizational performance in various sectors. However, there is a significant research gap regarding ecopreneurship and organizational performance in quoted paint manufacturing firms in Nigeria. Scholars, including Ekawati et al. (2017), Ramadani et al. (2019), Simionescu et al. (2020), and Saad and Siddiqui (2019), have called for further research to address this gap.

Therefore, this research paper aims to evaluate the impact of ecopreneurship dimensions (eco-innovation, eco-production, green supply chain management, waste management, and eco-marketing) on the organizational performance of quoted paint manufacturing firms in Nigeria. By examining this relationship, the study seeks to contribute to understanding how ecopreneurial practices can enhance the performance and sustainability of organizations operating in the paint industry in Nigeria.

The paper is structured as follows: the next section reviews relevant literature on ecopreneurship, organisational performance, and their relationship. Subsequently, the research methodology, including the sample selection, data collection, and analysis techniques, will be described. The findings of the study will be presented and discussed, followed by implications for theory and practice. Finally, the paper will conclude with recommendations for future research and a summary of the key findings. Overall, this research endeavours to shed light on the role of ecopreneurship in enhancing the organizational performance of quoted paint manufacturing firms in Nigeria, providing valuable insights for both academic researchers and business practitioners seeking to promote sustainability and improve performance in the paint industry.

Literature Review

Conceptual Review

Organisational Performance

Performance is a critical concern for firms, encompassing operational, financial, and marketing aspects (Borin et al., 2011). It refers to the ability of a firm to create value for its stakeholders by effectively utilizing its resources (Sajjad et al., 2020). Organizational performance (OP) reflects the efficiency and productivity of business activities (Enuoh et al.,

2020). One of the key concepts attached to the performance of a firm is the way a firm utilizes its resources to generate value for the stakeholders and gain competitiveness for itself (Nnorom et al., 2023). It represents the positive outcomes and benefits resulting from tangible and intangible investments (Okwata et al., 2022). Chukwuka (2018) defines organizational performance as a series of processes and applications aimed at optimizing the execution of business strategy. It involves monitoring the accomplishment of tasks against established standards of accuracy, completeness, cost, and speed to achieve set goals or objectives (Chukwuka, 2018). Xanthopoulou et al. (2022) define organizational performance as creating or modifying a structure to meet organizational and technological expectations. Abolade (2018) views OP as a metric used by companies to track output and deliver value to shareholders and clients. Firm performance is a continuous positive result and benefits from the tangible and intangible investments of firms (Olowe et al., 2020). Cho and Dansereau (2010) perceive it in terms of the organization's aims and objectives. Tomal and Jones (2015) define performance as the actual results or outputs compared to desired outcomes. It is observed in line with these definitions that organisational performance fits in properly as an outcome in an organisation given the adoption and execution of the right principles and utilization of resources (Asikhia et al., 2020).

Ecopreneuership

Ecopreneuership as a concept is multifaceted and researchers have alternatively referred to it as green entrepreneurship, ethical entrepreneurship, environmental entrepreneurship, ecological entrepreneurship and sustainable entrepreneurship in the literature (Obisanya et al., 2020). Specifically, different scholars such as (Solaja, 2017; Schaltegger, 2016; Rodríguez-García et al., 2019; John et al. 2019; Gu et al. 2022) have referred to it as ecopreneuership, (Dixon & Clifford, 2007; Dean & McMullen, 2007; Hendrickson & Tuttle, 1997; Keogh & Polonsky, 1998) as environmental entrepreneurship; Kumar and Kiran, (2017) and Yin et al. (2022) preferred to designate it as green entrepreneurship while (Hockerts & Wüstenhagen, 2010; Schaltegger & Wagner, 2011; Muñoz-Martín, 2013) referred to it as sustainable entrepreneurship. This is due to the lack of an acceptable or universal definition which is related to prematurity and efforts to define it based on green programmes and efficiency which are critical (Muo & Azeez, 2019; Damirel et al., 2017). In this study, ecopreneuership was conceptualized using, Eco-Innovation, Eco-Production, Green Supply Chain Management, Waste Management, Eco-marketing.

Eco-innovation encompasses the development of new products, services, processes, or market opportunities aimed at reducing the environmental impact of business activities while capitalizing on environmental issues (Urbaniec, 2015). It involves introducing innovative green solutions that improve performance across social, environmental, and economic dimensions of sustainable development (Szekely & Strbel, 2013). This can involve technological advancements, process improvements, and changes in operational practices, business models, and organizational systems (Adams et al., 2016). Eco-production focuses on minimizing waste, and energy consumption, and optimizing material usage through the implementation of the 6Rs: reduce, reuse, recycle, recover, redesign, and remanufacture (Rehman et al., 2016). It involves various aspects of manufacturing, such as waste

management, environmental protection, regulatory compliance, and pollution control. Embracing green production principles often requires significant redesigns, including mission, competitive strategies, technological systems, performance measurement, organizational processes, and culture (Hart & Shrivastava, 1992).

Green Supply Chain Management (GSCM) is a critical consideration for organizations, driven by internal and external pressures. GSCM involves integrating environmental considerations into all functions of the supply chain (Srivastava, 2017). It encompasses activities such as product design, material sourcing, manufacturing processes, product delivery, and end-of-life management. The aim of GSCM is to protect the environment by preserving natural resources, reducing global warming, and minimizing carbon emissions (Jabbour & de Sousa Jabbour, 2016; Vanalle et al., 2017; Raut et al., 2019). Efficient waste management is a crucial concern in the 21st century, involving the collection, treatment, and disposal of waste from its inception to its final disposal (Tchobanoglous et al., 1993). It encompasses activities like waste collection, transportation, treatment, and disposal, as well as monitoring and regulation. Effective waste management is essential for environmental protection and public health. Inefficient production processes generate waste, resulting in the loss of valuable resources (Cheremisinoff, 2003).

Eco-marketing, also known as ecological or sustainable marketing, emerged in response to stringent environmental regulations in developed countries (Hart & Shrivastava, 1992). It aims to minimize the negative impact on the natural environment through marketing strategies (Eneizan et al., 2016). Eco-marketing considers consumer concerns about environmental preservation and conservation. It involves incorporating social and ethical responsibility requirements into marketing practices to address growing environmental challenges (Al-Hersh & Aburoub, 2015). Green marketing entails practices, policies, and procedures that account for environmental concerns while generating revenue and achieving the objectives of organizations and individuals (Eneizan et al., 2016).

Theoretical Framework

The underpinning theory for this study is the ecological modernization theory. The concept of ecological modernization, originally proposed by Joseph Huber (1982), posits that modern society's central institutions can be transformed to address ecological crises (Janicke, 1985). This theory emphasizes the connection between ecological modernization and sustainable development, suggesting that economic growth can be promoted by prioritizing environmental concerns (Chukwuka & Eboh, 2018). Ecological modernization theorists argue that environmental problems act as a driving force for future industrial activity and economic development (Murphy, 2000). Entrepreneurial action, particularly through ecopreneurship, is seen as a solution to environmental problems by combining environmental awareness with entrepreneurial activities to achieve success and enhance organizational performance (Anderson, 1998). Unlike theories that perceive technological development as problematic, ecological modernization advocates for the advancement of technology and industrialization as means to address environmental challenges.

Support for ecological modernization theory has been expressed by authors such as Christoff (1996), Rinkevicius (2000a, 2000b), and O'Neill (1998). O'Neill argues that ecological modernization offers an innovative approach to understanding national environmental policy within a changing international context (Fisher & Freudenburg, 2001). Furthermore, ecological modernization considers environmental protection as a precondition for future sustainable growth rather than a burden on the economy (O'Neill, 1998). However, critics of the theory, such as Foster (2002), argue that ecological modernization is not feasible and is bound to fail. They contend that technological advances and business self-regulation practices cannot guarantee resource conservation or effective environmental protection (York & Eugene, 2003). Some critics also highlight the theory's neglect of social equity concerns and its focus on favourable situations while disregarding conflicts and challenges that may arise (Pellow et al., 2000). Additionally, ecological modernization has been criticized for its similarity to Beck's Risk Society theory, which highlights the risks associated with technological advancement and industrialization (Mol & Spaargaren, 2000).

In the context of this study, ecological modernization assumes that environmental problems can be solved without sacrificing modernization. The responsible use of natural resources can contribute to future growth, similar to labour and capital productivity. This aligns with the hypothesis of the study, which suggests that the adoption of green practices such as eco-innovation, eco-production, green supply chain management, waste management, and eco-marketing has a positive effect on firm performance. The study, therefore, believes that ecological modernisation theory addresses all the variables appropriately to buttress the interrelationship among ecopreneurial practices, environmental commitment and government regulations. Its conviction that the environmental problems facing the world today act as a catalyst for future industrial activity and economic development depicts the story of ecopreneurship which is finding environmentally friendly ways to carry out sustainable economic activities with minimal harm to the natural environment. Therefore, ecological modernisation theory gives a holistic view of the effect of ecopreneurship dimensions on the organizational performance of the quoted paint companies in Nigeria, and also the moderating effects of environmental commitment and government regulations.

Empirical Review

A growing body of research has explored the relationship between ecopreneurship dimensions and organizational performance, highlighting both positive and negative associations. Chen et al. (2013) notes the increasing attention given to environmental issues in organizations, with terms like "green," "eco," "sustainability," and "earth-friendly" becoming common in initiatives. Several studies have found a positive and significant relationship between green innovation and organizational performance, such as in ICT firms in Taiwan (Huang & Li, 2015) and companies in China (Zhang & Walton, 2017). Similarly, the adoption of sustainable manufacturing practices has been shown to positively affect the sustainable performance of SMEs in China (Ali et al., 2021). However, Brasil et al. (2016) found that process eco-innovation did not have a significant effect on business performance in the textile industry in Brazil. The impact of green practices extends beyond innovation. Studies have indicated that green supply chain management (GSCM) positively affects organizational

performance (Saad & Siddiqui, 2019; Chin et al., 2015). Green marketing orientation and green innovation have also been found to have positive effects on business performance (Tjahjadi et al., 2020), as well as eco-marketing practices on competitive advantage and business performance (Maziriri & Liu, 2020). Furthermore, green financing and eco-innovation were found to significantly reduce energy intensity in developed countries (Wu et al., 2022).

While most studies support the positive impact of ecopreneurship dimensions on organizational performance, there are exceptions. For example, Xanthopoulou et al. (2022) found no relationship between the strength of organizational culture and performance in Greek public administration. It is worth noting that studies conducted in various countries and industries have contributed to our understanding of the relationship between ecopreneurship dimensions and organizational performance, with results varying based on specific contexts and measures. Empirical evidence suggests that green practices such as green innovation, sustainable manufacturing, green supply chain management, green marketing, and eco-innovation can have a positive and significant impact on organizational performance. However, there are exceptions and variations depending on industry, country, and specific measures used. Overall, organizations should pay attention to factors that affect environmental, social, and economic aspects to enhance performance, including cost efficiency, increased profit, improved product quality, and better reputation.

Methodology

This study used positive research philosophy and a quantitative research approach. It focused on the impact of ecopreneurship (eco-innovation, eco-production, green supply chain management, waste management, and eco-marketing) on the performance of selected paint manufacturing companies in Lagos State, Nigeria. The choice of paint manufacturing companies was based on their experience and years of existence. The study also aimed to examine how environmental commitment and government regulations moderate the relationship between ecopreneurship and organizational performance. The study population consisted of 438 employees from four paint manufacturing companies listed on the Nigerian Exchange. The paint industry was chosen due to the environmental impact of its waste products. The selected companies were seen as capable of practicing ecopreneurship to improve their performance. The quoted paint manufacturers included CAP Plc, Berger Paints Plc, Meyer Paint Plc, and Premier Paints Plc. Questionnaires were used as the primary data collection method, and a pilot study was conducted to refine the questionnaire. The questionnaire was administered to 45 employees of Chemstar Paints Industries (Nig) Limited and President Paints Nigeria Limited for validation.

Table 1: Number of employees of the quoted paint manufacturing companies in Nigeria

S/No.	Firm	No. of employees
1	CAP Plc	202
2	Berger Paints Nigeria Plc	152
3	Meyer Plc (Nigeria)	63
4	Premier Paints Plc	20
Total population		438

Source: 2020 Annual Reports of the quoted paint manufacturing companies

Table 2: Extant Literature Sources for Adapted Questionnaire

Section	Variables	Sources of adaptation
A	Ecopreneurship	
	Eco-innovation	Guo et al., (2020); Sambu, (2016).
	Eco-production	Adebambo et al., (2015).
	Green supply chain management	Habib et al.,(2020).
	Waste management	Osuga and Okello, (2015).
	Eco-marketing	Tjahjadi et al., (2020); Hussain et al.,(2020).
B	Organizational performance	

Table 3: Factor Analysis Results for Validity

Variables	Number of Items	Kaiser-Meyer-Olkin (KMO)	Bartlett's Test of Sphericity	Sig.	Average Variance Extracted
Eco-innovation	5	0.816	186.088	0.001	0.808
Eco-marketing	5	0.701	152.595	0.001	0.704
Eco-production	5	0.733	103.911	0.001	0.649
Green supply chain management	6	0.729	152.948	0.001	0.644
Waste management	4	0.680	48.910	0.001	0.578
Organisational Performance	5	0.726	156.098	0.001	0.694

Source: Pilot study Field Survey, 2023

Table 3 reveals that the Exploratory Factor Analysis (EFA) reveals high values of the Kaiser-Meyer-Olkin (KMO) and Average Variance Explained (EVA) for all variables, indicating the suitability of the research data for structure detection, i.e., the proportion of variance in items that may be due to underlying factors. The significance of Bartlett's test of sphericity with high chi-square values at .000, which is less than the permissible index of 0.05, confirms the results for all variables. In addition, the AVE values for all variables above the 0.5 thresholds for valid constructs. Indicating a highly significant link between the variables, the findings need further investigation. These indicated that the research instrument was valid and may be used for additional study of the testing of hypotheses.

The instrument's discriminant validity is determined using the Fornell and Larcker criterion. The rule of thumb is that the square root of any construct should be much more than the

correlation between that construct and any other constructs in the model, which must be at least 0.5. (Fornell & Larcker, 1981). In addition, discriminant validity verifies if the diagonal element in the table is superior to the off-diagonal construct. The outcomes are shown in tables 4a&4b

Table 4a: Discriminant Validity for Ecopreneurship

	Eco-innovation	Eco-marketing	Eco-production	Green supply chain management	Waste management
Eco-innovation	0.899				
Eco-marketing	0.857	0.839			
Eco-production	0.805	0.728	0.805		
Green supply chain management	0.894	0.901	0.76	0.802	
Waste management	0.842	0.819	0.704	0.774	0.76

Source: Pilot study Field Survey, 2023

Table 4b: Discriminant Validity for Organizational Performance

	Financial performance	Market share	Operational performance	Sales growth
Financial performance	0.901			
Market share	0.676	0.827		
Operational performance	0.417	0.701	0.835	
Sales growth	0.782	0.885	0.589	0.844

Source: Pilot study Field Survey, 2023

Table 4a, and 4b, shows the results of the discriminant validity analysis of the constructs (Ecopreneurship, and Organisational Performance). Findings in the Tables showed that all the square roots of AVE for the constructs are greater than the off-diagonal coefficients or elements in the corresponding rows and columns as recommended by Fornell & Larcker (1981), hence, establishing evidence of discriminant validity.

Table 5: Cronbach's Alpha coefficient

Variables	Number of Items	Cronbach's Alpha coefficient	Composite Reliability
Eco-innovation	5	0.940	0.954
Eco-marketing	5	0.888	0.921
Eco-production	5	0.852	0.902
Green supply chain management	6	0.883	0.914
Waste management	4	0.703	0.841
Organisational Performance	5	0.885	0.961

Source: Pilot study Field Survey, 2023

Table 5 shows the results of the internal consistency test of the questionnaire. Composite reliability and Cronbach alpha coefficients were used to test the internal consistency of the instrument. The values obtained under Composite reliability and Cronbach alpha for all the variables are higher than the 0.70 alpha benchmark (Cooper & Schindler, 2007). Thus, on this basis, all constructs exceeded this recommended level and therefore the variables are sufficient in their representation of the constructs and are reliable.

Data Treatment

After the questionnaires were collected, various diagnostic tests were conducted to ensure the suitability of the data for analysis. The tests included the Normality test, which assessed the distribution of the data using skewness and kurtosis values; the Multicollinearity test, which examined the presence of strong correlations among the independent variables through correlation coefficients and variance inflation factors (VIF); the Linearity test, which determined the linearity of the relationship between variables using scatter plots and Pearson's correlation coefficient; and the Homoscedasticity test, which checked for consistent error variance across observations using scatter plots. These tests were crucial for validating the data and ensuring that the assumptions for regression analysis were met.

Data Analysis and Model Specification

The data analysis for this study involved both descriptive and inferential statistical methods. Descriptive analysis was used to examine demographic data and questionnaire responses. Measures such as mean, standard deviation, kurtosis, and skewness were used to assess the spread and distribution of the data. The Statistical Package for the Social Sciences (SPSS) version 26 was utilized for all statistical analyses. Inferential statistical tools. Multiple regression analysis was used to investigate the impact of ecopreneurship on the performance of quoted paint manufacturing companies in Nigeria, while hierarchical regression analysis explored the moderating effects of environmental commitment and government regulations. Descriptive statistics, such as means, standard deviations, and percentages, were used to summarize the data and facilitate comparisons. Inferential statistics, such as t-tests and ANOVA, were used to assess the significance of regression coefficients and the overall fit of the models. The significance level for hypothesis testing was set at 0.05. The data analysis process aimed to comprehensively understand the research variables and present the key findings using appropriate tabular displays.

The direct impact multiple regression model is presented as:

$$Y_i = \alpha + \beta_i X_i + \varepsilon \dots\dots\dots \text{Equation (i)}$$

- $Y_i =$ is the vector representing organisational performance measures including environmental performance, operational performance, market share, sales growth and financial performance.
- $X_i =$ is the vector representing Ecopreneurship measures such as education, eco-innovation, eco-production, green supply chain management, waste management and eco-marketing.
- $\beta_i =$ is the regression coefficient representing the effect of Ecopreneurship on

ϵ = organisational performance.
error term assumed to be normally distributed with a mean of zero and constant variance

Model Specification

$FP = f(EI, EPR, GSC, WM, EM)$

$FP = \beta_0 + \beta_1 EI + \beta_2 EPR + \beta_3 GSC + \beta_4 WM + \beta_5 EM + \epsilon_i$eq

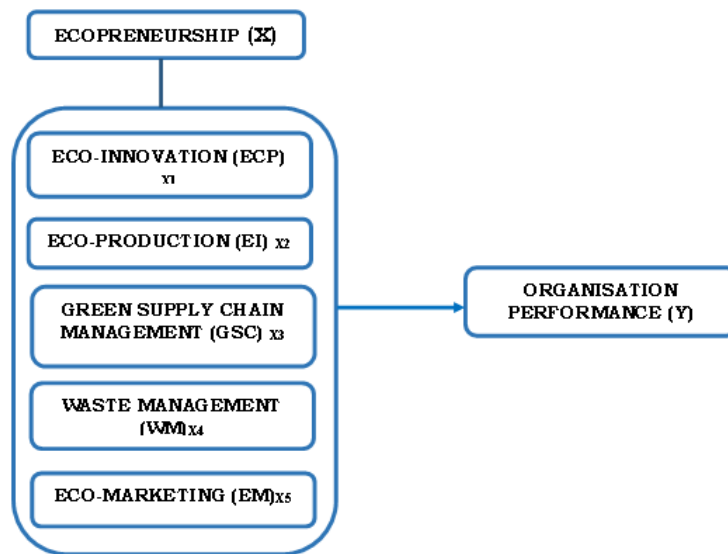


Fig. 1.

Results and Discussion

Table 6a: Multiple Regression of ecopreneurship dimensions on organisational performance of quoted paint manufacturing companies in Nigeria.

N	Model	B	Sig.	T	ANOVA (Sig.)	R	Adjusted R ²	F (5,331)
337	(Constant)	.1.989	.000	4.208	0.000 ^b	0.330 ^a	0.095	8.065
	Eco-innovation	.057	.610	.511				
	Eco-production	-.136	.275	-1.093				
	Green supply chain management	-.051	.655	-.447				
	Waste management	.082	.455	.748				
	Eco-marketing	.466	.000	5.195				
	Predictors: (Constant), Eco-innovation, Eco-production, Green supply chain management, Waste management, Eco-marketing							
Dependent Variable: Organisational performance								

Source: Researcher's Findings, 2023

Table 6a shows the multiple regression analysis results for the dimensions of ecopreneurship on the organisational performance of quoted paint manufacturing companies in Nigeria. The results showed that only eco-marketing ($\beta = 0.466$, $t = 5.195$, $p < 0.05$) has a positive and significant effect on the organisational performance of quoted paint manufacturing companies in Nigeria while eco-innovation ($\beta = 0.057$, $t = 0.511$, $p > 0.05$) and waste management ($\beta = 0.082$, $t = 0.748$, $p > 0.05$) both show positive but insignificant effect on organisational performance. This implies that eco-marketing is the only important factor in the workplace which in turn yields an increase in organisational performance. On the other hand, eco-production ($\beta = -0.136$, $t = -1.093$, $p > 0.05$) and green supply chain management ($\beta = -0.051$, $t = -0.447$, $p > 0.05$) have a negative but insignificant effect on organisational performance.

The R-value of 0.330 indicates that ecopreneurship dimensions have a positive relationship with the organisational performance of quoted paint manufacturing companies in Nigeria. The coefficient of multiple determination $AdjR^2 = 0.095$ indicates that only about 9.5% of variations that occurs in the organisational performance in quoted paint manufacturing companies in Nigeria can be accounted for by the dimensions of ecopreneurship while the remaining 90.5% of changes that occurs is accounted for by other variables not captured in the model. The predictive and prescriptive multiple regression models are thus expressed:

$$OP = 1.989 + 0.057EI - 0.136EPR - 0.051GSC + 0.082WM + 0.466EM + U_i \text{ ---Eqn.(vi)}$$

(Predictive Model)

$$OP = 1.989 + 0.466EM + U_i \text{ --- Eqn.(i) (Prescriptive Model)}$$

Where:

- OP = Organisational Performance
- EI = Eco-Innovation
- EPR = Eco-Production
- GSC = Green Supply Chain Management
- WM = Waste Management
- EM = Eco-Marketing

The regression model shows that holding ecopreneurship dimensions to a constant zero, organisational performance would be 1.989, which is positive. In the predictive model, it is seen that of all the variables, only waste management and eco-marketing are positive and significant, so the company's management can focus on these variables. The results of the multiple regression analysis as seen in the prescriptive model, indicate that when eco-marketing is improved by one-unit organisational performance would also increase by 0.466. This implies that an increase in eco-marketing would lead to an increase in the rate of organisational performance of quoted paint manufacturing companies in Nigeria. Also, the F-statistics $df_{(5, 331)} = 8.065$ at $p = 0.000$ ($p < 0.05$) indicates that the overall model is significant in predicting the effect of ecopreneurship dimensions on organisational performance which implies that only eco-marketing is an important determinant in the organisational performance of quoted paint manufacturing companies in Nigeria. The result suggests that

paint manufacturing companies should focus more on developing the dimension of ecopreneurship, especially eco-marketing, to increase organisational performance. Therefore, the null hypothesis (H_01), which states that ecopreneurship dimensions have no significant effect on organisational performance, was rejected.

The multiple regression analysis conducted for hypothesis six revealed a significant positive effect of ecopreneurship and its sub-variables on the organizational performance of quoted paint manufacturing companies in Lagos State, Nigeria ($Adj.R^2 = 0.095$; $F(5, 331) = 8.065$, $p < 0.05$). This implies that ecopreneurship can positively influence the organizational performance of these companies. The significant impact of the ecopreneurship sub-variables indicates that implementing ecopreneurial practices can enhance the overall performance and effectiveness of quoted paint manufacturing companies. It is important for these companies to consider the holistic implementation of ecopreneurship rather than focusing solely on individual sub-variables.

The findings align with previous studies that have shown a positive relationship between green innovation, sustainable practices, and organizational performance. For example, Huang and Li (2015) found a positive and significant relationship between green innovation and organizational performance in the ICT industry. Similarly, Soto-Acosta et al. (2016) demonstrated a positive effect of sustainability entrepreneurship on business performance. Other studies have also highlighted the positive impact of green practices, such as green product innovation, green supply chain management, and green marketing, on firm performance (Shrivastava & Tamvada, 2017; Ali et al., 2021; Zhang et al., 2017; Weng et al., 2015; Elzek et al., 2021).

Moreover, the literature supports the positive association between green manufacturing, green supply chain management, and organizational performance (Khan & Qianli, 2017; Saad & Siddiqui, 2019; Chin et al., 2015). Studies have also demonstrated the positive effects of green marketing orientation, eco-innovation, and eco-marketing on business performance (Tjahjadi et al., 2020; Maziriri & Liu, 2020; Alabo & Anyasor, 2020). Additionally, the presence of entrepreneurial orientation has been shown to contribute to small firms' business performance (Khan et al., 2020). Conversely, Brasil et al. (2016) found no significant effect of process eco-innovation on the business performance of textile firms in Brazil.

The findings of this study support the ecological modernization theory, which suggests that environmental problems can drive industrial activity and economic development. Ecopreneurship, combining environmental awareness with entrepreneurial activity, can lead to better organizational performance in terms of environmental care, operational agility, financial health, market share expansion, sales growth, and innovative marketing. The results confirm that ecopreneurship factors, including eco-innovation, eco-production, green supply chain management, waste management, and eco-marketing, significantly impact the organizational performance of quoted paint manufacturers in Lagos State, Nigeria.

Conclusion and Recommendations

This research study explored the impact of ecopreneurship on the organizational performance of quoted paint manufacturing companies in Nigeria, with a focus on the dimensions of eco-innovation, eco-production, green supply chain management, waste management, and eco-marketing. The study also examined the moderating effects of environmental commitment and government regulation on this relationship. The findings of the study provide valuable insights for managers, regulators, and academics.

The results of the study indicated that ecopreneurship dimensions have a significant positive effect on environmental performance, operational performance, market share, sales growth, and financial performance of quoted paint manufacturing companies in Nigeria. This highlights the importance of adopting ecopreneurial practices such as eco-innovation, eco-production, green supply chain management, waste management, and eco-marketing to improve overall organizational performance. The study also revealed that environmental commitment moderates the relationship between ecopreneurship and organizational performance, emphasizing the need for a strong commitment to environmental sustainability within organizations.

The findings have several implications for different stakeholders. For managers of quoted paint manufacturing companies, the study suggests adopting ecopreneurship practices and integrating environmentally friendly production processes. This can lead to improved reputation, increased sales, and competitive advantage. Additionally, managers should focus on green marketing strategies to promote eco-friendly products and services.

Regulators and policymakers can benefit from the study by formulating policies and regulations that encourage and enforce ecopreneurship practices. This can include setting standards for environmental performance, waste management, and pollution prevention. By promoting and enforcing eco-friendly practices, regulators can ensure public health and environmental protection while enhancing the organizational performance of paint manufacturing companies.

For academics, this study contributes to the body of knowledge on the relationship between ecopreneurship and organizational performance. It expands the understanding of the role of ecopreneurship dimensions in the context of the paint manufacturing industry in Nigeria. The study also extends the theoretical foundations of ecological modernization, stakeholder, institutional, legitimacy, and innovation entrepreneurship theories. While the findings of this study provide valuable insights, some limitations should be considered. The study focused on specific dimensions of ecopreneurship and organizational performance within the paint manufacturing industry in Nigeria. Future research could explore additional dimensions and extend the study to other industries and countries for broader generalizability. Longitudinal research could also investigate the acceptance and utilization of ecopreneurship practices over time. This study emphasizes the significance of ecopreneurship in improving the organizational performance of quoted paint manufacturing companies in Nigeria. The adoption of ecopreneurial practices, supported by environmental commitment and government regulation, can lead to organisational performance.

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