

The Effect of Ecopreneurship on Organisational Performance as Moderated by Firm Size among Selected Foods and Beverages Manufacturing Firms in Lagos State and Ogun State, Nigeria



Balogun, S. M.¹, Adefulu, A. D.², Makinde, O. G.³, Akinlabi, B. H.⁴

^{1,2,3,4}Department of Business Administration and Marketing, School of Management Sciences, Babcock University, Ilishan-Remo, Ogun State, Nigeria

ABSTRACT: The efficiency and effectiveness of management in Food and Beverage Manufacturing Firms (FBMF) can be gauged by their organizational performance. Studies have shown that manufacturing activities in Nigeria have resulted in significant negative environmental consequences, such as degradation of natural environments, depletion of ozone layers, and the release of harmful substances. These outcomes have had a detrimental impact on the performance of Food and Beverage Manufacturing Firms, leading to reduced profitability, declining market share, low productivity, and sluggish sales growth. These outcomes suggest a lack of adequate implementation of ecopreneurship practices, including environmental expenditure, corporate environmental responsibility, non-adherence to environmental regulations, eco-innovation, and pro-environmental orientation. Furthermore, based on the reviewed extant literature, it was found that, prior literature gave little consideration to the moderating role of firm size on ecopreneurship and organisational performance nexus. Therefore, this study examined the effects of ecopreneurship on organisational performance of FBMF moderated by the firm size. This study adopted a quantitative approach. Using a survey research design, data were collected from a sample of 415 employees of 10 selected FBMF in Lagos and Ogun States, Nigeria. The respondents were selected using Simple random sampling technique. Hierarchical Multiple Linear Regression Analysis (HMLR) was used to test the hypotheses. The findings revealed that, at 0.05 significance level, ecopreneurship had significant effect on organizational performance of selected food and beverage manufacturing firms in Lagos and Ogun States, Nigeria ($Adj.R^2 = 0.86$, $F(5, 364) = 459.20$, $p < 0.05$). And the effect of ecopreneurship on organisational performance was not significantly moderated by firm size ($\beta = -0.00$, $\Delta R^2 = 0.00$, $\Delta F = 1.38$, $p > 0.05$). By implication, the findings of this study emphasize the importance of ecopreneurship across all sizes of FBMF. Implementing ecopreneurship practices not only drives performance but also enhances sustainability efforts and provides a competitive advantage in the market. Based on the findings, it was recommended that management of selected FBMF in Lagos and Ogun States should continuously work on policies that can enhance their capacity to adopt environmentally friendly manufacturing processes, audit their existing ecopreneurship environment, identify vulnerable areas, and implement best practices.

KEYWORDS: Ecopreneurship, Firm size, Organisational performance, Eco-innovation, Environmental regulation, Corporate environmental responsibility, Nigeria

INTRODUCTION

The twenty-first century has witnessed copious environmental problems such as land degradation, increasing pollution level, loss of biodiversity and climate change which still remain unresolved. These environmental problems, to a large extent, have been traced to human entrepreneurial activity that triggered a continual increase in consumption of environmental resources and an alteration to the natural composition of the environment (Cohen & Winn, 2007; McEwen, 2013). The activities of manufacturing firms in Nigeria are not without some inhibiting problems emanating from various environmental factors such as land degradation, soil erosion, deforestation, industrial toxins, ozone depletion, climate change, nuclear radiation, and the destruction of biodiversity (Agricdemy, 2018). These problems are opposing challenges to the operational capabilities, survival, and performances of manufacturing firms in Nigeria (Ihemeje et al., 2020). The environmental factors in the manufacturing industry in Nigeria is harsh on manufacturing firms and their operational activities. This has led to such consequences as low productivity, increasing risks, low profitability, and tensed competition, heavy investment on equipment, increased operational cost, and a high rate of business

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failures with many other threats (Zwingina et al., 2020). It was further reported that many manufacturing firms have failed to fully imbibe the spirit of ecopreneurship to allow only products that will be environmentally friendly and socially responsible.

The studies of Chukwuka (2018); Chukwuka and Eboh (2018); Ihemeje et al. (2020); Ogunleye et al. (2018); Solaja (2017) among other authors that examined effect of ecopreneurship on organizational performance of selected manufacturing firms in Africa evidence from Nigeria; ecopreneurship and green product initiative: an agenda for Nigeria's sustainable development in the 21st century have not utilized firm size as moderating variables in relation to ecopreneurship and organisational performance in Nigeria manufacturing industry. These serve as gaps in the knowledge and qualified to be investigated. Babalola (2013) posited that the size of a firm plays an important role in determining the kind of relationship the firm enjoys within and outside its operating environment. The larger a firm is, the greater the influence it has on its stakeholders. Adding to the significance of size in corporate discourse, Bhayani (2010) argue that an interesting aspect of economic growth is that much of it takes place through the growth in the size of existing organizations. One of the most influential areas where the influence of firm size has not been much queried is the area of practice of ecopreneurship. It would not be wrong to say that firms have been playing a central role in today's global and capitalist world economy and their performance is one of the most important issues for many firm stakeholders such as shareholders, creditors, employees, suppliers, and governments (Bhayani, 2010; Madrid-Guijarro et al., 2007). By this reason, investigating how firm size moderate the effect of ecopreneurship on organisational performance has been regarded as an important research focus in this study.

2. LITERATURE REVIEW

2.1 Conceptual Framework

Ecopreneurship

Ecopreneurs are the players and the companies with the creative and innovative skills to incorporate environment advancement into their core businesses, expanding the green and sustainable economy (Ismail, 2022; Affolderbach & Krueger, 2017). Ecopreneurs are drivers of entrepreneurial actions that contribute to identify commercial business opportunity, as well as producing net environmental gains, namely: environmental, social and economic. Chukwuka (2018) stated that the ideal type of ecopreneurs is defined as one who creates green business in order to radically transform the economic sector in which he or she operates. Described as innovative disruptors, Ghasi et al. (2018) confirmed that ecopreneurs destroy existing conventional production methods, products, market structures and consumption patterns and replace them with superior environmental products and services. They create the market dynamics of environmental progress. They are actors and companies making environmental progress in their core business. They influence their company substantially with their personal goals and preferences in a way that these are reflected in the company's goals.

Ecopreneurship differs from conventional entrepreneurs for the reason that they also build bridges between environmental progress and market success. The concept of ecopreneurship is based on three pillars: innovation, caring for the environment, and long-term sustainability (Rodriguez-Garcia et al., 2019). The priority of environmental goals ranges from low priority (environmental protection is regarded as a trustee duty), to medium priority (environmental issues are seen as supplemental to conventional business issues) and high priority (environmental issues are regarded as an integral part of core business activities). York et al. (2016) characterized ecopreneurship as a type of hybrid organization that is combining the ecological logic of protecting the environment and answering to natural challenges, with the commercial/economic logic of economic efficiency and profit. The key attribute of hybrid firms is their dual mission of serving a commercial as well as ecological purpose, something which often has been portrayed as creating an obvious tension within these firms.

In view of the various positions by authors, the researcher defines ecopreneurship as a triple bottom line business approach (people, planet and profit) which views entrepreneurship from social, environmental and economic perspective. In the view of this paper, ecopreneurship comprises environmental expenditure, corporate environmental expenditure, eco-innovation, environmental regulations and pro-environmental orientation.

Environmental expenditure was ascribed similar definitions by (Berliner & Prakash 2013; Ferreira et al., 2014; Testa et al., 2015) as company's efforts in managing environmental issues, strategy to gain and maintain legitimacy and enables companies to manage the impacts of their business on environment by minimizing the use of energy and decreasing carbon emissions and other negative impacts. Pereira and Neto (2018) while examining environmental expenditure from the public sector viewpoint pointed those public environmental expenditures are related to environmental preservation and recovery, and such public sector expenditures are carried out by agencies in charge of environmental control, reforestation programs, monitoring of degraded areas, environmental prevention programs, waste removal in areas of protection and maintenance of environmental reserves. Kim and

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Kim (2018), argued environmental expenditure includes all expenditures on environmental protection to prevent, reduce, and control environmental aspects, impacts, and hazards, in addition to disposal, treatment, sanitation, and clean-up expenditures. Corporate environmental responsibility refers to being accountable and disclosing the impacts of organization's activities on environment, such as water, air, land and noise pollution (Aggarwal, 2013). Karassin and Bar-Haim (2018); Wong et al. (2018) refer to corporate environmental responsibility as the commitment and action of firms to reduce the impact of production and organizational processes on environment and society. Aligning with the above, Carrillo-Higuera et al. (2018) also defined corporate environmental responsibility from the perspective of environmental commitment which the authors described as efforts made by firms in terms of environmental management and protection. They opined that a high level of environmental commitment indicates that firms usually have a strong willingness to adopt sustainable practices to balance firm development and environmental protection. Corporate environmental responsibility is the driving factor for firms to align environmental protection with firm value (Li et al., 2020). According to stakeholder theory, CER can generate good reputation among employees, consumers and other public organizations, and this not only enhancing firm value, but also enhance firms position and competitive advantages in the market (Dixon-Fowler et al., 2017). Adopting corporate environmental responsibility leads to product differentiation. The products which are made in an environmentally responsible way and/or integrate environmentally friendly characteristics attracts consumers and other key stakeholders with environmentally-friendly orientation, raising the revenues and therefore the corporate financial performance.

Stavropoulos et al. (2018) described environmental regulations by reference as regulatory economics: environmental regulations are the general rules and specific actions enforced by administrative agencies so as to control pollution and manage natural resources with the purpose of protecting the environment and internalizing externalities, including direct and indirect interventions. According to Jiayue and Jing (2020) environmental regulation are pollution control policies, such as laws and regulations that are established to support the sustainable development of the ecological environment. International Organization for Standardization (ISO) described environmental standards as part of the management system used to manage environmental aspects, fulfill compliance obligations, and address risks and opportunities. Prior to 1988, Nigeria responded to most environmental problems on an ad hoc basis (Ogbodo, 2009). The trajectory of environmental regulation in Nigeria began slowly and later became reactive. Today, Nigeria's environmental regulations are firmer, with institutions being put in place for environmental management and monitoring (Ogunba, 2016). The Nigerian government's green policies and laws, venture investors, CSR, and communities played the most significant roles in inspiring ecopreneurs. By providing subsidies to green-oriented businesses, for instance incentivizing ecopreneurs helps promote sustainable business models that contribute to sustainable economic development (Domanska et al., 2018).

Eco-innovation emerged from the harmonization of business practices with environmental expectations (Ghisetti & Rennings, 2014). The author went further to define eco-innovation as new ideas, orientation, products, and processes that contribute to a decreased environmental burden. Arundel et al. (2019) while adding their perspective described eco-innovation as a new or significantly improved product, process, or business method that helps to reduce environmental risks, pollution, and the negative effects of resource use instead of traditional methods that do not consider environmental impacts. Ociepa-Kubicka et al. (2016) refer to eco-innovation as various forms of innovation which create opportunities for companies and bring benefits to the environment while Munodawafa and Johl (2019) reinforces the definitions of eco-innovation in the light of economic performances. Also included in the definition of eco-innovation are organizational changes where stakeholders (groups or individuals, whose actions affect the organization and vice-versa are the key elements). Paillé and Halilem (2019) described environmental innovativeness as the blueprint to eco-innovation. Ultimately, Eco-innovation contributes towards the reduction of greenhouse gases or the more efficient use of various resources. Chukwuka (2018) opined that an eco-driven firm will use fewer raw materials, less natural resources, less energy, and less water which will lead to producing less waste and less cost of running the business. Yurdakul and Kazan (2020) confirmed that eco-innovation ensures the reuse of waste or prevents waste at the beginning of the production process thereby creating a positive environmental benefits and competitive advantage for an organization.

Environmental orientation refers to the planning, organizing, implementing and controlling marketing resources and programs to satisfy consumers' wants and needs while considering social and environmental criteria and meeting corporate objectives (Peattie, 2016). They stated further that environmental orientation is about living responsibly; it is a collective effort, an economic, social and environmental issue. It is about consuming differently and consuming efficiently. Andersén and Ljungkvist (2021) described environmentally friendly manufacturing processes as those that utilize less toxic chemicals as well as less energy and raw material than the same methods used by their competitors. Followers of Ecopreneurship are well aware of what is required of them and

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are willing to put forth any effort to assist the company in achieving its goals. As a consequence of this, they are consistently looking for new and inventive ways to approach their work, which is reflected in their inventive orientation (Pasha et al., 2022). Adding to the perspective of environmental orientation is green environmental orientation (GEO) which is combination of entrepreneurial orientation and green entrepreneurship. GEO is reflected in green innovativeness, proactiveness and risk-taking of a firm. GEO allows the identification of business opportunities, while considering environmental aspects (Jiang et al., 2018). As advantages, both types of orientations contribute to organizations' good functioning and business goal attainment. Although the extra-role orientations are not systematically monitored or rewarded, they can benefit organizations both directly by conserving energy and resources and indirectly by safeguarding the natural environment. Overall, PEBs ultimately contribute to more sustainable production (Duarte & Mouro, 2020; Kim & Kim, 2017)

Organizational Performance

Hitherto, the main focus of many conventional business enterprises is profiting maximization which is one of the cardinal goals of many business concerns. But the recent advocate for green economy has brought a lot of concern for entrepreneurs on the need not to only focus on profit earning, but also to preserve their environment, that is shifting attentions to entrepreneurship model that aims to build a business that balances the bottle line of three economic, social and environmental aspects (Belz & Binder, 2017; Gast et al., 2017; Jiang et al., 2018; Olateju et al., 2020). In fact, sustainable organisational performance is the key factor in the success of any organization (Ukko et al., 2019; Wei et al., 2017). Compared with other industries, organisational performance of manufacturing companies in some developed economies has been below the average (Lujing et al., 2020). Developing green new products have been marked to have a great impact on manufacturing firms' environmental performance (Huang & Li, 2017; Long et al., 2017; Singh et al., 2019) as well as on their financial performance (Andersén, 2021; Marín-Vinuesa et al., 2020) and this highlights the importance of examining factors influencing the organisational performance of manufacturing industry.

Fatoki (2019) defined performance as the results of activities of an organisation or investment over a given period. He added that performance measures provide the yardstick to evaluate a firm's strategies and its level of commitment to achieve established standard criteria, either as a metric or as an initiative. According to Chen et al. (2019), firm performance is a measurement carried out by a company on part or all of the activities of a company in a certain period with predetermined and projected standards based on efficiency, accountability, or management accountability. Authors such as (Ahmad & Zabri, 2016; Mjongwana & Kamala, 2018; Silvi et al., 2015) gave an all-encompassing definition of performance measures based on financial and non-financial indicators while Nnamani et al. (2017) elucidate that financial performance is an objective measure of how a firm effectively and efficiently utilises its assets to generate resources.

Firm Size

Kartikasari and Merianti (2015) refer to firm size as the ability a firm possesses and the variety and number of production capability or the quantity and multiplicity of services a firm can be offered concomitantly to its customers. Similarly, Emmanuel et al. (2019) defined the size of a business as the quantity and range of production capacity and potential of a firm, or the quantity and variety of services that a firm may make available simultaneously to its clients. Firm size reflects the number of assets and resources owned by companies to achieve their business objectives. As large companies have more opportunities to invest than that of smaller companies, stakeholders are more concerned with large companies as such investment may influence their interests (Nawaiseh, 2015; Youn et al., 2015; Yu et al., 2016).

The size of an organization is very significant in today's world due to the trend of economies of scale. Bigger companies, as opposed to smaller firms, may produce products at much lower costs. Firms of the modern era are seeking to expand their scale in order to give their rivals a competitive advantage by reducing their cost of production and growing their market share. The firm size is seen as a significant determinant of the success of any company. It has always been the aim of firms to multiply in size in order to have an advantage over their competitors (Hosseini et al., 2018).

According to Charlesa et al. (2018), firm size is one of the internal factors with financial characteristics. The size of a firm can be measured in a number of ways: assets, sales, employees and value added are the commonly used measures (Islami et al., 2020). Technological theories of the firm that focus on economies of scale arising out of capital inputs would argue for using assets or sales as a measure of size (Becker-Blease et al., 2010; Teece, 2019). However, assets or sales are not especially good measures of size for organizational theories of the firm. With these theories, the primary concern is with how transactions, agency and span of control costs affect profitability – costs that are associated primarily with how the organization is controlled through a hierarchy rather than with the value and number of physical assets (Becker-Blease et al., 2010). The advantage that large firms have is that typically, they are more established, have greater access to funding and also enjoy more repeat business, which generates higher sales and larger profits than smaller scale companies (Becker-Blease et al., 2010).

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2.2 Empirical Review

Several authors have found a positive correlation between ecopreneurship variables and organisational performance as measured by Return on Asset. These authors include (Cheong et al., 2018; Falope et al., 2019; Fujii et al., 2013; Kihamba, 2017; Udeh & Ezeji for 2018) this effect is more pronounced for businesses in developing nations than in industrialised nations.

In a similar vein, Zeng et al. (2019) discovered a positive correlation between environmental responsibility on the part of businesses and the effectiveness of their investments. However, this effect is not immediate but rather builds over time. The influence of environmental responsibility on investment efficiency is greater for companies based in locations with strong institutional frameworks. As another example, Jiang et al. (2018) studied Proactive Corporate Environmental Responsibility and Financial Performance: Evidence from Chinese Energy Enterprises and showed that PCER positively affects financial performance even after controlling for endogeneity. The findings also show that private ownership promotes the link between proactive corporate environmental responsibility and financial performance at a higher rate than public ownership does.

However, research conducted by Buallay et al. (2021); Delmas et al. (2015); Kounetas et al. (2018); Kim and Kim, (2018) and others have shown a negative correlation between ecopreneurship and business success on a variety of levels. Nevertheless, limited research yielded contradictory and ambiguous findings. There is a considerable, inverted U-shaped association between return on investment (ROI) and ecopreneurship (Fujii et al., 2013).

Using firm size as a moderator has been shown to have a positive impact on ecopreneurship, environmental, social, and financial performance as established by (Abdullah et al., 2019; Andries & Stephan, 2019; Dremptic et al., 2019; Seroka-Stolka & Fijorek, 2020). Environmental innovations prompted by regulation or industry norms of conduct have been proven to be financially beneficial to larger enterprises, while environmental innovations brought by smaller firms in response to customer demand have had the opposite effect. It appears that larger corporations can withstand greater opposition from stakeholders before giving in and implementing environmental safeguards than their smaller counterparts. It is more feasible for a huge corporation to enact laws protecting the environment because of their size. In another dimension, the results of the study by Zhao et al. (2022) show that board size has a significant positive impact on green innovation, and the openness breadth plays a partial mediating role. Although the heterogeneity analysis of same study indicates that this relationship is more significant in stated own enterprises. Similarly, Emuebie et al. (2021) discovered that environmental accounting has negative effect on GPM while firm size and leverage both have positive relationship with performance.

There are counterexamples, many researchers, including Axenbeck (2019), D'Amato and Falivena (2019); Edesiri et al. (2016); Yook et al. (2018); Krisdayanti and Widodo (2022), argue that firm size is a negative, non-significant moderator of performance. The results support the theory that green initiatives may not be as successful in younger and smaller businesses due to a lack of capital, technology, and experience. Moreover, the level of dynamic skills rather than company size is what determines the high economic performance.

A few research found contradictory results. It was discovered by Madaleno et al. (2020) that eco-innovations may have a detrimental impact on turnover growth and employment growth and this finding is insensitive to the size of enterprises. Customers' demands for environmental benefits included into products vary depending on the company's size. Human capital and the number of eco-innovation techniques a firm adopts both positively affect firm performance, with the latter proving to be more size-dependent. In line with these findings, Hockerts and Wüstenhagen (2010), Karakaya et al. (2014); Triguero et al. (2013) found that medium-high technology manufacturing firms are more over-represented in eco-product innovations, while medium-low technology firms are more over-represented in performing eco-process innovations. However, no group was found to be over- or under-represented in eco-organizational innovation. In addition, research from Jové-Llopis and Segarra-Blasco (2018); Kiani et al. (2019) found that different firms (considering size dimension) incur different environmental costs and adopt different eco-innovation strategies, largely as a result of money scarcity and difficult financing access. Moreover, businesses of varying sizes respond to distinct incentives. On the above controversial revelations, this study hypothesizes that:

H₀₁: The effect of ecopreneurship on organisational performance is not significantly moderated by firm size.

2.3 Theoretical Review

This study was anchored on Ecological Modernizations Theory (EMT). The reason for the choice of this theory was that the principles of the EMT are tied to the objectives of the current study and the variables under investigation, thus, served as the baseline theory for the study.

Ecological modernization theory emphasizes the possibility of a process of re-embedding economic practices with respect to their ecological dimension, within the institutions of modernity. This process should result in the institutionalization of ecology in the

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social practices of production and consumption, with the consequence to redirect economic practices into more ecologically sound ones (Mol, 1995).

Ecological modernization is primarily a strategy intended to maintain or improve market competitiveness, in which the environmental benefits of technological change are related to companies' cost minimizing responses to new pressures from the market itself and broader society (Christoff, 1996). Industrial ecology is frequently cited as a good example. The theory has also been linked with sustainability. A frequently used phrase in the ecological modernization literature is 'cradle to cradle' manufacturing, contrasted against the usual 'cradle to grave' forms of manufacturing - where waste is not re-integrated back into the production process. Ecological modernization identifies four key features that distinguish it from other theoretical approaches (Christoff, 1996; Mol, 1996); ecological modernization as technological adjustment, ecological modernization as belief system, ecological modernization as policy discourse and ecological modernization and environmental policy making.

3. METHODOLOGY

This study employed quantitative research approach to examine the effect of ecopreneurship dimensions (environmental expenditure, corporate environmental responsibility, environmental regulations, eco-innovation and pro-environmental orientation) on organizational performance of selected FBMF and how this effect was moderated by firm size. This research adopted survey research design. This design was employed by authors who have carried out similar studies (Afsar & Umrani, 2020; Baah et al., 2021; Chukwuka, 2018). The survey included 1,863 employees of 10 selected FBMF broken into 548 and 1,315 for Lagos and Ogun States respectively. The 10 FBMF were selected after taking into consideration their age and size (Ashikia et al., 2022). These companies contribute over 70% of the industry output, as reflected in their market capitalization and performance (Shodiya et al., 2019). The food and beverage manufacturing sector was considered for this study because of their large environmental impacts (Christopher et al., 2015; Guo et al., 2018). The survey sampled the junior and senior employees of selected FBMF in Lagos and Ogun States. These classes of employees are important stakeholders in the companies. Also, they can help to make strategic decisions that can lead to cleaner production processes and protect the environment without compromising their firms' economic objectives (Fatoki, 2019; Solaja 2019; Xinpeng et al., 2019 & Zazli, 2018). The Cochran (1977) sample size formula yielded 319, and an attrition rate of 30% was applied to get 415 samples (Arokodare et al., 2019). Simple random sampling technique was used to select the respondents from the study population. The respondents filled out an adapted and modified questionnaire. The questionnaire adopted a 6-point Likert scale which range from Very High Extent to Very Low Extent, with scale ratings from 6 to 1. The Cronbach's alpha reliability coefficients for the components of ecopreneurship are environmental expenditure (0.768), corporate environmental responsibility (0.756), Environmental Regulation (0.726), Eco-innovation (0.737) and Pro-environmental orientation (0.806) while the average for organizational performance is 0.756. Hierarchical regression in SPSS 25 was used to test the hypothesis. Study regression equation:

$$OP = \beta_0 + \beta_1ECO + \beta_2FSZ + \beta_3ECO_CCxFS_CC + \epsilon_i \dots\dots\dots \text{Eqn. 1}$$

Where (ECO= Ecopreneurship; FSZ = Firm Size; $\beta_3ECO_CCxFS_CC$ = interaction term between ecopreneurship and firm size; β_0 = Constant coefficient of regression. β_1 - β_3 = coefficients of the Independent variables; ϵ_i = Error term.

4. RESULTS AND DISCUSSION

The study collected data from junior and senior employees of the selected food and beverages firms in Lagos and Ogun States. The researcher distributed a total of 415 copies of the questionnaire to the respondents, out of which 370 copies were rightly filled and returned. The response rate of the participants to the questionnaire administered is 89.15%. The analysis was conducted by using hierarchical regression analysis at a 5% level of significance. The analysis involved combining the items within each dimensions of ecopreneurship to create a composite index of ecopreneurship. The results of the analysis are presented in Table 4.1.

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Table 4.1 Model Summary (Goodness of Fit for Regression of Ecopreneurship on Organisational Performance with the inclusion of the Moderating Variable

Model	R	R Square	Adjusted Square	R Std. Error of the Estimate	Change Statistics				
					Change	F Change	df1	df2	Sig. F Change
1	.927 ^a	.859	.859	2.16797	.859	2242.074	1	368	.000
2	.949 ^b	.901	.900	1.82169	.042	154.202	1	367	.000
3	.949 ^c	.901	.900	1.82076	.000	1.375	1	366	.242

a. Predictors: (Constant), ECOPRENEURSHIP

b. Predictors: (Constant), ECOPRENEURSHIP, FIRM SIZE

c. Predictors: (Constant), ECOPRENEURSHIP, FIRM SIZE, ECO_CCxFS_CC

Source: Researcher's Computation 2023

The results in Table 4.1 shows that $R^2 = 0.859$ and adjusted $R^2 = 0.859$ for Model I. This indicates that ecopreneurship explained 85.90% variations or changes in organisational performance. With the inclusion of Firm size in Model II as a moderator, there was an increase R^2 change of 0.042 or 4.2 % from 0.859 to 0.901. Hence, ecopreneurship and firm size explains 90.1% of the variation in organisational performance. In the model III, when the interaction variable (ECO_CCxFS_CC) is introduced, in the model $R^2 = 0.901$ while adjusted R^2 is 0.900. Introducing the interaction variable did not bring any change to R^2 , R^2 change = 0.000. The result shows that there is no improvement in the explanatory power of the model. The interaction of the moderator (FS) and ecopreneurship did not amplify the change in organisational performance.

Table 4.2. ANOVA for Regression of Ecopreneurship on Organisational Performance with the inclusion of the moderating variable

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	10537.946	1	10537.946	2242.074	.000 ^b
	Residual	1729.633	368	4.700		
	Total	12267.579	369			
2	Regression	11049.673	2	5524.837	1664.837	.000 ^c
	Residual	1217.906	367	3.319		
	Total	12267.579	369			
3	Regression	11054.230	3	3684.743	1111.482	.000 ^d
	Residual	1213.349	366	3.315		
	Total	12267.579	369			

a. Dependent Variable: ORGANISATIONAL PERFORMANCE

b. Predictors: (Constant), ECOPRENEURSHIP

c. Predictors: (Constant), ECOPRENEURSHIP, FIRM SIZE

d. Predictors: (Constant), ECOPRENEURSHIP, FIRM SIZE, ECO_CCxFS_CC

Source: Researcher's Computation 2023

Tables 4.2 show an F statistic of $F(1, 368) = 2242.074$, $p = 0.000 < 0.005$ for Model 1, where ecopreneurship is the main independent variable in the model. The finding reveals that ecopreneurship has a significant effect on organisational performance of selected food and beverage manufacturing firms in Lagos and Ogun States, Nigeria.

Model II which includes firm size as an independent variable (moderator) shows an F statistic of $F(2, 367) = 1664.837$, $p = 0.000 < 0.005$. This implies that the fitted model of ecopreneurship with the inclusion of firm size (Moderating variable) as an independent variable has a significant effect on organisational performance of selected food and beverage manufacturing firms in Lagos and Ogun States, Nigeria.

Model III which introduces the interaction factors with the independent variable show an F statistic of $F(3, 366) = 1111.482$, $p = 0.000 < 0.005$. This implies that the fitted model of ecopreneurship and firm size with the interaction variables (moderating variable) has a significant effect on organisational performance of selected food and beverage manufacturing firms in Lagos and Ogun States, Nigeria.

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Table 4.3. Regression coefficients for Regressing Ecopreneurship on Organisational Performance with the inclusion of the Moderating variable

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	.725	.424		1.710	.088
	ECOPRENEURSHIP	.951	.020	.927	47.351	.000
2	(Constant)	.245	.359		.683	.495
	ECOPRENEURSHIP	.623	.031	.607	19.834	.000
	FIRM SIZE	.358	.029	.380	12.418	.000
3	(Constant)	.637	.490		1.300	.195
	ECOPRENEURSHIP	.608	.034	.592	17.931	.000
	FIRM SIZE	.359	.029	.381	12.457	.000
	ECO_CCxFS_CC	-.004	.003	-.024	-1.172	.242

a. Dependent Variable: ORGANISATIONAL PERFORMANCE

Source: Researcher’s Computation 2023

The regression coefficient results are presented in Table 4.3 with three models. For model 1, ecopreneurship ($\beta = 0.951, t = 47.351, p = 0.000 < 0.05$) indicate that ecopreneurship has a positive significant effect with the dependent variable organisational performance. The results of the analysis in model II when the moderator was plugged in, a change was observed in the regression coefficient of ecopreneurship on organizational performance which revealed a statistically positive and significant effect ($\beta = 0.632, t = 19.834, p = 0.000 < 0.05$) and firm size ($\beta = 0.358, t = 12.418, p = 0.000 < 0.05$) also showed a positive and significant effect on organizational performance. The result showed that firm size (Moderator) alone has a positive and significant effect on organizational performance.

The introduction of the interaction term, ECO_CCxFS_CC (Ecopreneurship *firm size) revealed a negative and insignificant effect ($\beta = -0.004, t = -1.172, p = 0.242 > 0.05$) on organizational performance indicating that interaction term has a statistically insignificant effect on organizational performance. The regression coefficient of -0.004 indicates the absence of a positive change in organizational performance when Ecopreneurship and the moderating variable interact with each other, implying that a unit change in the interaction of Ecopreneurship and the moderating variable would lead to 0.004 decrease in organizational performance of selected food and beverage manufacturing firms in Lagos and Ogun States, Nigeria.

Based on the findings in Tables 4.1 (Model III) the following model was formulated:

$$OP = 0.637 + 0.608ECO + 0.359FS - 0.004ECO_CCxFS_CC U_i \text{-----Eqn. 2}$$

Where:

- OP = Organisational Performance
- ECOP = Ecopreneurship
- FS = Firm Size
- ECO_CCxFS_CC = Interaction term

From the model, it is seen that the insignificance of the interaction term may not induce the selected firms to consider moderating the relationship between Ecopreneurship and organizational performance with firm size. Based on these findings, the null hypothesis which states the effect of ecopreneurship on organisational performance is not significantly moderated by firm size cannot be rejected.

Discussion Of Findings

The results of hierarchical multiple regression analysis for established that firm size did not moderate the effect of ecopreneurship on organisational performance of the selected food and beverage firms in Lagos and Ogun States, Nigeria ($\beta = -.004, \Delta R^2 = 0.000, \Delta F = 1.375, p > 0.05$). The combination of the independent sub variables was not significant in predicting the ecopreneurship in those firms. In other words, the effect of ecopreneurship on organisational performance of selected food and beverage firms in Lagos and Ogun States, Nigeria was not significantly moderated by firm size. This implies that for food and beverage firms in Lagos and Ogun States, Nigeria to achieve sustainable growth through ecopreneurship, they must have a certain level of firm size. The

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implications of these findings are that food and beverage firms in Lagos and Ogun States, Nigeria must invest in enhancing their ecopreneurship capability. This may involve developing the necessary technological infrastructure, training and recruiting personnel with the required skills and knowledge to manage and ecopreneurship. In addition, the findings imply that food and beverage firms in Lagos and Ogun States, Nigeria should evaluate their level of firm size before adopting ecopreneurship.

The finding is in agreement with Axenbeck (2019), D'Amato and Falivena (2019); Edesiri et al. (2016); Yook et al. (2018); Krisdayanti and Widodo (2022) who argued that firm size is a negative, non-significant moderator of performance. The results support the theory that green initiatives may not be as successful in younger and smaller businesses due to a lack of capital, technology, and experience. Moreover, the level of dynamic skills rather than company size is what determines the high economic performance. Similarly, it was discovered by Madaleno et al. (2020) that eco-innovations is insensitive to the size of enterprises. In line with these findings, Hockerts and Wüstenhagen (2010), Karakaya et al. (2014); Triguero et al. (2013) found that medium-high technology manufacturing firms are more over-represented in eco-product innovations, while medium-low technology firms are more over-represented in performing eco-process innovations. However, no group was found to be over- or under-represented in eco-organizational innovation. In addition, research from Jové-Llopis and Segarra-Blasco (2018); Kiani et al. (2019) found that different firms (considering size dimension) incur different environmental costs and adopt different eco-innovation strategies, largely as a result of money scarcity and difficult financing access. Moreover, businesses of varying sizes respond to distinct incentives.

Furthermore, our result contrasts Abdullah et al. (2019); Andries and Stephan, (2019); Drempetic et al. (2019); Seroka-Stolka and Fijorek, (2020) who established that using firm size as a moderator has been shown to have a positive impact on ecopreneurship, environmental, social, and financial performance. According to these authors, environmental innovations prompted by regulation or industry norms of conduct have been proven to be financially beneficial to larger enterprises, while environmental innovations brought by smaller firms in response to customer demand have had the opposite effect. It appears that larger corporations can withstand greater opposition from stakeholders before giving in and implementing environmental safeguards than their smaller counterparts. It is more feasible for a huge corporation to enact laws protecting the environment because of their size. In another dimension, the results of the study by Zhao et al. (2022) show that board size has a significant positive impact on green innovation, and the openness breadth plays a partial mediating role. Although the heterogeneity analysis of same study indicates that this relationship is more significant in state owned enterprises. Similarly, Emuebie et al. (2021) discovered that environmental accounting has negative effect on GPM while firm size and leverage both have positive relationship with performance.

Findings from this study were consistent with ecological modernisation theory, which focuses on a company's capacity to combine internal and external competencies in order to adapt to a dynamic business climate. The theory's premise that the world's current environmental issues spur new forms of industrialization and economic growth is persuasive (Murphy, 2000). The idea proposes that green management may be used as an innovation mechanism for businesses to incorporate environmental challenges into their operations and demonstrates that environmental crises can be overcome without abandoning the road of modernization. The theory also holds that prioritizing environmental protection might boost economic growth. The sustainability of the environment is considered to be taken care of by existing political, economic, and social institutions in eco-modernist theories.

5. CONCLUSIONS AND RECOMMENDATIONS

From the empirical findings of this study, the researcher concluded that there was a statistically significant effect of ecopreneurship on organisational performance moderated by the firm size of the selected food and beverage manufacturing firms in Lagos and Ogun States, Nigeria. In conclusion, the study established that Firm size did not have a significant moderating effect on ecopreneurship and organisational performance of selected food and beverage manufacturing firms in Lagos and Ogun States, Nigeria. It is, therefore, established that the effect of ecopreneurship on organisational performance is not significantly moderated by firm size of selected the food and beverage manufacturing firms in Lagos and Ogun States, Nigeria. Therefore, the study recommended that management of selected food and beverage manufacturing firms in both states should continuously work on policies that can enhance their capacity to adopt environmentally friendly manufacturing processes, audit their existing ecopreneurship environment, identify vulnerable areas, and implement best practices. By so doing, it will increase the confidence of the customers to continue their patronage and ultimately confer opportunities to expand the firm size.

AREAS FOR FURTHER ENQUIRIES

- i. Further research should also include comparative analysis of the organisational performance induced by ecopreneurship beyond the shores of Nigeria, enabling international comparative analyses among peer countries in sub-Saharan Africa so as to generalize findings across regions.

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ii. Further studies may consider examining the effect of ecopreneurship on organizational performance conjointly from the perspective of the industry practitioners, environmental and industry regulators such as NESREA, LASEPA, OGEPA, Ministry of Environment and National Agency for Food and Drug Administration and Control (NAFDAC). A study on ecopreneurship and organizational performance from the perspective of the industry practitioners and regulators can produce a more robust outcome that will be beneficial to food and beverage manufacturing sector.

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