EFFECT OF GREEN BUSINESS PRACTICES ON ORGANIZATIONAL PERFORMANCE OF SELECTED MANUFACTURING FIRMS IN NIGERIA

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Abstract

This study presents an empirical investigation of the effect of green business practices on organizational performance of selected manufacturing firms in Nigeria. This study was also motivated by the urgent need to solve the environmental problems caused by the activities of profit driven entrepreneurs in developing economy as well as exploring the benefits to organizations. The study was guided by one key objective, from which appropriate research question and hypothesis were formulated. The specific objective of this study was to determine the extent to which green business practices affect the manufacturing firm's productivity in Nigeria. This study adopted the survey design. Simple random sampling technique was used in selecting the 10 manufacturing firms in Nigeria. A sample size of 543 respondents was determined from the population of 5705 drawn from management, middle and lower cadre of the selected manufacturing firms using Cochran (1977) statistical formula. A stratified sampling technique was also used to determine the proportional allocation of questionnaire to management cadre, middle cadre and lower cadre. Designed questionnaire and personal interview were used for primary data collection. The questionnaire was structured on 5-point Likert scale. The validity of the instrument was ascertained using content validity. The instrument was checked for reliability using test re-test method through Cronbach alpha, with a value of 0.90, which shows consistency in the items of survey. Data were analyzed and the hypotheses were tested using linear regression analysis. Probability level of significance was given at 5%. Data were presented using simple percentages. Findings revealed that green business initiatives had significant and positive effect on the selected manufacturing firm's productivity (r=.756, F=346.024; T=18.602;p=.000). In conclusion, the implementation of green business practices, principles and processes

will lead to very positive outcome that will be visibly manifested in the organization and the environment.

Keywords: Green business practice; Ecopreneur; Developing economy; Productivity; Performance; Manufacturing firms.

1.0 Introduction

Green business initiatives is a practice of an ecopreneur who creates economic value through environmental sustainability. "Go Green" is a popular sustainability phrase in this 21st century which has been suggested as an eco-solution to environmental challenges. This is a recent trend that has metamorphosed into a continuous call by ecopreneurist, the media, international conventions, as well as United Nations Organization and International Conference on Climate Change and Global Warming. This call is as a result of the turbulent nature of our business environment and the undervaluing natural resources. Developing economies of the world today are having greater percentage of the world environmental problems (World Bank, 1995), hence the need for this research. Green business practices refers to all the related projects with a specific aim of helping businesses reduce the environmental impacts of their business operations as well as also helping them to save money (Chukwuka, 2016). This means that they will use less raw materials, less natural resources, less energy, and less water which will lead to producing less waste and less cost of running the business. Developing economies of the world today are having a greater percentage of the world environmental problems which can be largely attributed to the activities of profit driven entrepreneurs. In pursuit of profit, entrepreneurs have carried out activities that resulted in the turbulent nature of our business environment and the negative environmental externalities as well as the undervaluing natural resources, leading to their over-exploitation and depletion which constrains sustainable development and the performance of business organizations (International Conference on Climate Change and Global Warming, 2016). Environmental degradation is a major cause of productivity losses (World Bank, 1995). The crude oil exploration and exploitation activities of multinational oil companies in South-South Nigeria have led to oil spillages, gas flaring and depletion of natural resources as well as water and air pollution through oil spills and carbon dioxide emission by oil exploration heavy duty engines which affect manufacturing firms productivity (World Bank, 1995). Oil spillages, gas flaring, land take, construction activities of multinational oil companies have resulted to income loses and lack of profitability of business firms in Niger Delta region of Nigeria (Opukri and Ibaba, 2008). This is reflected in their poor product quality and limited quantity which is presented to the market at an expensive rate (Oteh and Eze, 2012). Gas flaring generates heat that kills vegetation around the flare area, destroys mangrove swamps and salt march, suppresses the growth and flowering of some plants, induces soil degradation, and diminishes agricultural production (UNDP, 2006; Mba, 2000). This situation has affected the productivity and market shares as well as employee job satisfaction of the manufacturing firms that operate in the region and the sustainable development of the host communities (UNDP, 2006; Mba, 2000). These environmental challenges have also led to lack of jobs for the youth which have led to youth agitations and restiveness (Opukri and Ibaba, 2008). It is

estimated that the manufacturing sector in Nigeria has to bear extra indirect costs amounting to sixteen percent of sales because of bottlenecks in the business environment. Loss due to poor power supply amount to 10 percent of sales and production cost, while, losses on transit occasioned by dilapidated road networks accounts for 4% of sales, is quite significant (Oteh and Eze, 2012). This affects business by making their products uncompetitive both in terms of quality and prices.

Inspite of all these business environmental challenges, green business initiative has been suggested by McEwen (2013) as most potent and credible alternative in solving all business environmental and performance problems of developing economy. This study therefore aims at examining the effect of Green Business Initiative on organizational performance in developing economy.

Objective of the Study

The aim of the study is to determine the extent to which green business practices affect the manufacturing firm's performance in Nigeria. The specific objective of the study is : to determine the extent to which green business practices affect the manufacturing firm's productivity in Nigeria.

Hypothesis Formulation

Hi: Green business practices significantly affect the selected manufacturing firm's productivity.

2.0 Review of Related Literature of Green Business Practice

Conceptual Review of Green Business Practices

Green business initiative is a practice of an ecopreneur which refers to all the related projects with a specific aim of helping businesses reduce the environmental impacts of their business operations as well as also helping them to save money. This means that they 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. Green business initiative in the organization has the potential to affect many areas of an organization, as well as organizational and employee productivity. Some researchers have reviewed that the positive impact of green business initiative to the organization include fewer employee sick days, reduced cost of running the business, increased employee satisfaction and increased employee productivity (Nollman 2013). Sustainability Victoria and the Kador Group (2011) affirmed that one third of sick leave could be attributed to the work environment. Green business initiative will lessen the negative environmental impact of business operations as well as enhance the atmosphere and wellbeing for the workplace. The US Green Building Council defines green building as one that has reduced significantly the negative impacts not only on the environment but also on the inhabitant of the building (Abbaszadeh, Zagreus, Lehrer & Huizenga, 2014).

Green business practices involve five models of being environmentally friendly; "Five R's" namely: Reduce, Reuse, Recycle and the new introductions, Repair and Rethink. All the "five R^{s}" are taken into consideration especially rethinking part while going green. *Reduce* refers to the reduction in the use of natural resources and the reduction in waste accumulation. *Reuse* is defined as the creation of mechanisms that

ensure that products that meet today's needs can also meet future needs. *Recycle* refers to the process of converting waste into a reusable material. *Repair* in the context of green business means amending a damaged product so that it can be transferred into a reusable material instead of discarding it out rightly. Rethink involves the process of thinking through it over again in order to get a creative and innovative solution to the environmental problems (Chukwuka, 2018).

This paper considers the following green business initiatives for the study: Recycling of firms and societal waste, going paperless, producing products that can be recycled, production of Hybrid cars and engines with less carbon emission. Alternative sources of energy (geo-thermal, solar, coal etc.), Planting and the replanting of tree programme of the firms and the production of energy bulbs for less energy consumption.

Klimova and Zlek (2011), argue that green business initiative is also important because eco-innovations will be the future competitive advantage of companies and countries. They argue that if companies and countries want to be successful in the international market, they cannot rely on having low cost as their competitive advantage; but rather on new and innovative environmental technologies, services and process which will be the more important sources of competitive advantage. The long term sustainability of our economic system does not depend only on quantitative growth, but also on the ecological aspects of the growth and sustainable development (Klimova & Zitek, 2011). In addition, there are also some practical business reasons that justify the need for green business initiatives to solve our environmental problems. First, our finite resources, for example fish, minerals or gas are limited in their supply. Once consumed, many of them cannot be recreated and we will be left with diminishing or no national resources, if we do not sustain them.

Also, because of economic activity and consumption, most of our resources become waste. As a result, we have the problem of pollution, which seriously affect humans and the ecosystem and lead to greenhouse gas accumulation and potential climate change (Volery, 2000). To sustain them, ecopreneurship is important to constantly look for alternatives, e.g. recycling or new sources of energy, such as wind, water, and solar (Arber and speech, 1992: Barnes, 1994). Second, the global population growth is also influencing ecopreneurship. The world population is expected to increase by 50% by 2050 and with it will come an increase in consumption. Although part of this consumption is important for relieving poverty in many emerging countries. Most of it will be done by affluent consumers, and can have negative impact on the ecosystems (Volery, 2002). Ecopreneurship is therefore important to find the new technologies to protect the environment and to ensure that there are enough resources to fill the needs of both the current population and future generations (Volery 2012).

Biodiversity loss also justified entrepreneurship action to solve environmental problems. Volery (2002), posits that "the rates of takeover of wild life habitat, and of species extinction are the fastest they have ever been in human history and are accelerating. Goodland (1991) also reported that the tropical forest, the world's richest species habitat has already been 55% destroyed and the loss in containing. Given the need for environment sustainability, there is need for a new kind of entrepreneur who will

incorporate environmental concerns into the consideration of their bottom-line (Volerny 2002).

Schumpeterian views on green business initiatives provided the theoretical basis for environmental entrepreneurship. Schumpeter (1942) establishes that entrepreneurs are the innovators and as society's needs evolve the entrepreneur provides the innovation or "creative destruction" that gives society a new way of addressing problems. He argues that "environmental problem are inherently calls for innovation, as most of them are caused by the outdated applications of old, polluting and inefficient technology". Giving that the current solutions to our environmental problems are inadequate for sustainability, there is need for entrepreneurial action to develop something new, whether it is a production method, technological development product/services distribution system, or even a new organizational form (Lennoy & York, 2011; Beveridge & Gug, 2005).

Ecological modernization theorists believe that "the environmental problems facing the world today act as a driving force for future industrial activity and economic development" (Murphy, 2000). The theory calls for the progressive modernization theory.

Productivity is a measure of performance. Organizational performance is measured among several others including customer satisfaction, employee satisfaction, operational efficiency, cost effectiveness, productivity, service quality, market share, profitability (Poister 2003). Sometimes productivity is narrowly defined as "output per unit input" or simply put "how much and how well we can produce from the available resources" (Bernolak 1997) cited in Nollman (2013). This paper considers productivity as a measure of performance for this study.

2.1 Typologies of Green Business (Ecopreneurship)

Most researchers agree that there are two categories of environmental entrepreneurs. Entities with a profit or economic orientation and entities with the sustainability orientation want to help change or improve the environment (Talylor and Walley, 2003; Isaak, 2002; Koester, 2011). Schnick, Marxen & Freiman (2002) cited in McEWen (2013) refer to the ecological orientation as a continuum. From one angle are Ecopreneurs who continually adopt environmentally friendly practices and at the other angle are entrepreneurs who give no ecological consideration to the business at all. In other words; environmental entrepreneurs are either starting green business or making their businesses green (OECD, 2011).

The table 2.1 below presents the different types of Green Business practices of an Ecopreneur related to each category.

Table 2.1: Typologies of Green Business (Ecopreneur)

Reference	Types of Ecopreneurs
Volery, T. (2002)	**Environmental conscious** Develops innovation that either reduces resources and impact or improve cost efficiencies. **Green entrepreneurs** Aware of environmental issues and have their business in the environmental market place

Walley and Taylor (2002)	**Innovative opportunist** Financially oriented entrepreneur who spots a green niche or business opportunity that happens to be green. **Ad hoc or accidental entrepreneur** Spots opportunities that are green, rather than seek out a niche in green spaces. **Visionary Entrepreneur** Built their business based on sustainability principles **Ethical maverick** Sets up alternative style business on the fringes of society
Linnanen (2002)	**Self employer** Advocates nature oriented enterprises e.g. wild life habitat preservation, eco tourism etc. Low desire to change the world and low financial drive. **Opportunist** Involved in environmental technology to help businesses and communities reduce environmental load on water, air and soil. They have a low desire to change the world and high financial drive. **Non –Profit business** Entrepreneur have high desire to change the world and low financial drive **Successful idealist** Entrepreneurs have high desire to change the world and high financial drive.
Isaak (2002)	**Green Business** Entrepreneurs did not start green business from scratch, but later discovered the advantages of greening their existing business. **Green –Green Business** Entrepreneurs designed business to be green in its products an process from scratch.
Schick, Marxen, Freiman (2002)	**ECO-dedicated** Consistently adopts environmentally friendly business practices **ECO –Open** Partially adopts environmentally friendly business practice. **ECO- reluctant** Adopts environmentally friendly business practices only when they are forced by regulations.
Schaltegger (2002)	**Alternative actors** Businesses exist to support alternative lifestyle e.g. types of counter culture **Bioneers** Inventors with strong RandD focus in high technology sectors e.g. alternative energy sources.

Source: McEwen (2013). Ecopreneurship as a solution to environmental problems: Implication for intention. *Journal of Academic Research and Social Sciences; Business Venturing*, 22(1): 50-76

However, one criticism of ecopreneurship typologies is that they do not account for the changes that might occur among entrepreneurs. For example, could ecopreneurs move between different typologies and which drives mainly guide their behaviour (DeBruin and Lewis, 2005 cited in Gibbs, 2007). In response, Isaak (1998) argues that the various types of ecopreneurs are not pure forms, but represent reference points for broad change within businesses. The process theory of entrepreneurship support Isaak view point, which emphasizes the fact that you can't pin people down to one type, because entrepreneurs are always in the process of becoming.

Table 2.2: Diminishing Capacity of Critical Global Ecosytems

Ecosystem	**Diminishing capacity**
Agriculture	40% of agricultural lands worldwide have been severely degraded through erosion, solemnization, nutrients depletion, biological degradation and pollution.
Costal	20% of fish and shellfish has been diminished due to over fishing destructive trawling technique
Ecosystem	Diminishing capacity and destruction of nursery habitat. • Pollution problems have plagued coastal lands because of use of synthetic chemicals fertilizers. • Global warming impacts ecosystem through rising sea levels, warming of the ocean temperatures and changing storm frequency.
Forest	• More than 20% of global forest covered has been removed due to logging and conversion to other land uses. • Deforestation has significant impact on biodiversity, loss of unique plants and animal species.
Fresh water	Humans currently use more than 50% of all accessible fresh water; by 2025 demand will reach 70%.
Grassland	Road building, land conservation and human induced fires have caused significant loss of grassland and thus loss of biodiversity.

Source: World Resources Institution (2000) and Cohen and Winn, 34.

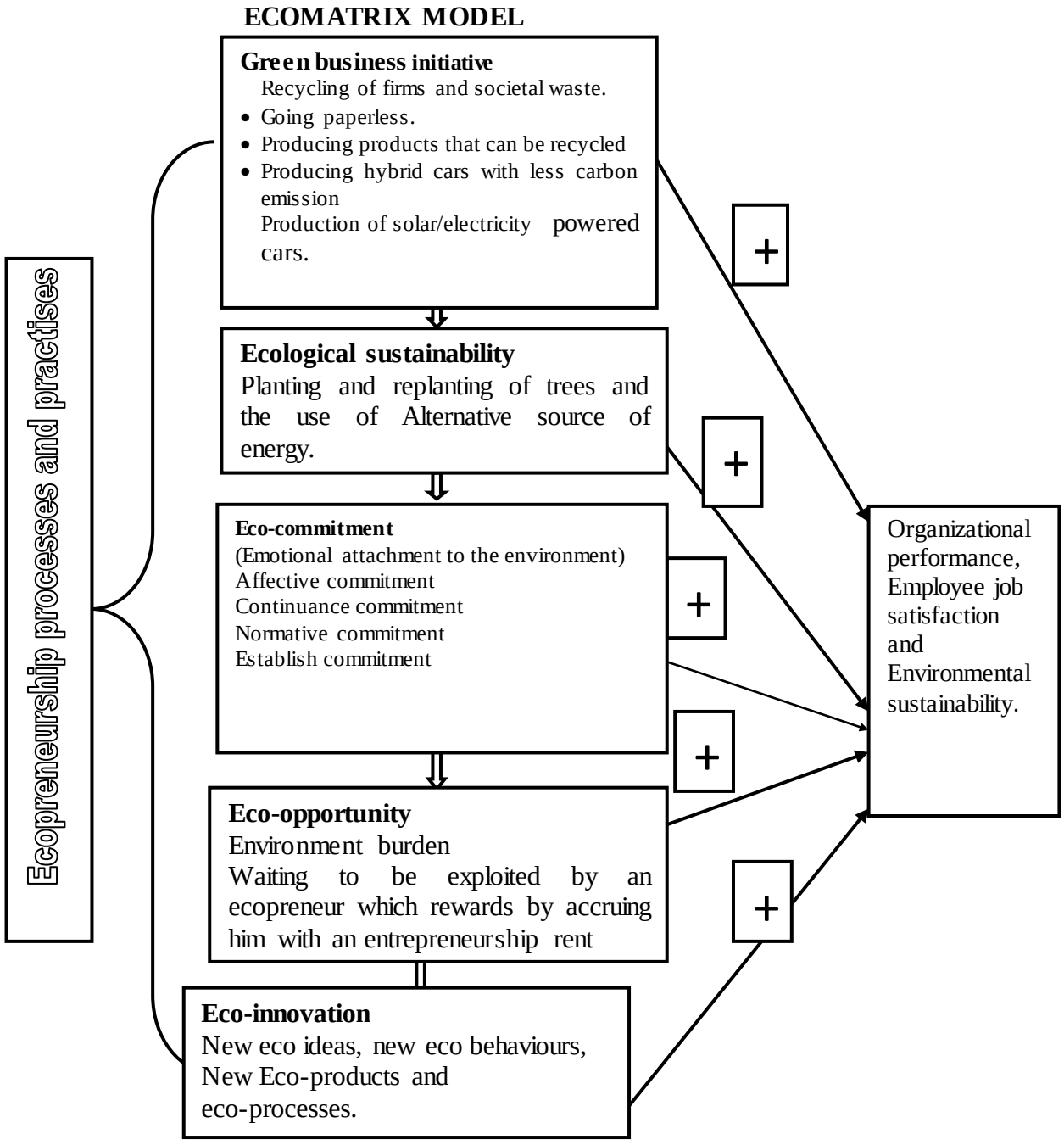

Fig 2.1: "Ecomatrix" Model for the Operation of Ecopreneurship Principles, Practices and Processes for Improved Organizational Performance and Environmental Sustainability.

Source: Researcher's Field Work, 2016

Green Business Model

Green business initiative involves five models of being environmentally friendly; "five Rs" namely: Reduce, Reuse, Recycle and the new introductions, Repair and Rethink. All the "five Rs" are taking into consideration especially rethinking part while going green. The Reduce refers to the reduction in the use of natural resources and the reduction in waste accumulation. Reuse is defined as the creation of mechanisms that ensure that products that meet today's needs can also meet future needs. Recycle refers to the process of converting waste into a reusable material. Repair in the context of green business means amending a damaged product so that it can be transferred into a reusable material instead of discarding it out rightly. Rethink involves the process of thinking through it over again in order to get a creative and innovative solution to the environmental problems.

This paper considers the following green business initiatives for the study: Recycling of firms and societal waste, going paperless, producing products that can be recycled, Production of Hybrid cars and engines with less carbon emission. Alternative sources of energy (geo-thermal, solar, coal etc.), Planting and the replanting of tree programme of the firms and the production of energy bulbs for less energy consumption.

Theoretical Model Review

Ecological Modernization Theory

The proponent of Ecological Modernization theory also provides the rational theory for environmental entrepreneur (Hajer, 1995; Mol, 1995). According to the theory, it is possible to promote economic growth by giving higher priority to the environment. It is no longer necessary to trade off economic growth for environmental quality (Tillery and Young, 2009,). The capitalist system is seen as having the capacity to develop sustainable solutions to environmental problems. That capitalist drive for innovation can be harnessed to produce environmental improvements (Beveridge and Gug, 2005). Ecological modernization theorist believes that "the environmental problems facing the world today, act as a driving force for future industrial activity and economic development" (Murphy, 2000,). The theory calls for the progressive modernization theory. Entrepreneurs are the central agents of change in that process of transformation to avoid an ecological crisis (Gibbs, 2009: Mol and Spaargaren, 1993; Tillery and Young 2009). Entrepreneurial action therefore is the best solution to our environmental problems because this new generation of ecopreneur is seeking to combine environmental awareness and conventional entrepreneurial activity to achieve entrepreneurial success (Anderson, 1998). Ecopreneurs have the potential to be a major force in the overall transition towards a more sustainable business paradigm (Schaper, 2002).

The justification for using this theory is that ecological modernization theorist believes that "the environmental problems facing the world today, act as a driving force for future industrial activity and economic development" The theory also believes that it is possible to promote economic growth by giving higher priority to the environment. It is no longer necessary to trade off economic growth for environmental quality. This theory has served as a morale booster for ecopreneurs. This theory has given credence to the study of ecopreneurship.

Empirical Reviews

In a study done in France, Delmas and Pekovic (2012) investigated the effect of green business practices on employee's productivity in French green companies.

They were set out to solve the problem of how a firm's environmental commitment affects its productivity. The methodology used for the study is survey design which includes the collection of data from a survey of employees at 5,220 frenches companies, randomly selecting two employees from each company for a pool of more than 10,000 people. Companies that had voluntarily adopted international standards and labels such as "trade "and companies with International Organization for Standardization's ISO 14001 certification, a voluntary industry standard programme were also considered green for the purposes of the study. "It's a counterpoint to people thinking that environmental practices are detrimental to the firm." The research findings include that companies that adopt eco-friendly green practices have employees that are more productive than those that do not. On average, employees at companies that observe eco-friendly practices were 16 percent more productive than average employees. Delmas (2012) further states that adopting green practices aren't just good for the environment, "It's good for your employees and it's good for your bottom line. Employees in such green firms are more motivated, receive more training and benefit from better interpersonal relationships. The employees at green companies are therefore more productive than employees in more conventional firms" (Delmas 2013).

Nollman (2013) investigated effect of sustainability initiatives on workplace and employee productivity. The researcher's goal was to solve a problem of what are the sustainability initiatives in workplace and employee productivity. The methodology used to arrive at his finding was a peer-review of academic journal database using performance measures and sustainability in the workplace. The study concluded that overall employee satisfaction and workplace productivity increased an average of 21.4% from the non-sustainable workplaces to the sustainable workplaces. Scores ranged from 1.30 to 2.36 with an average of 1.86 on the satisfaction scale.

Russo and Fouts (2014) investigated the effect of corporate environmental sustainability on profitability and economic performance. They were set out to solve a problem of how corporate environmental sustainability, profitability and economic performance relate. The methodology used was survey design which includes the collection of data from a survey and the test of hypotheses with an analysis of 243 firms over two years, using independently developed environmental ratings. Results indicate that "it pays to be green" and that this relationship strengthens with industry growth. They concluded by highlighting the study's academic and managerial implications, making special reference to the social issues in management literature. The finding of the study was that environmental sustainability, profitability and economic performance are positively linked and that industry growth moderates the relationship, with the returns to environmental performance higher in high-growth industries.

Lin and Geng (2013) in a study done in Vietnam investigated "market demand, green product, and eco-innovation on firm's performance". This study examines how market demand affects green product innovation, and firm performance in the context of

Vietnamese motorcycle industry. The study seeks to answer two key questions: how does market demand influence a firm's green product innovation? And how can green product innovation affect firm performance? The methodology used for the study was survey design through the collection of a total of 208 valid questionnaires from four leading foreign motorcycle firms in Vietnam. The finding shows that market demand is positively correlated to both green product innovation and firm performance; while green product innovation performance is also positively correlated to firm performance. In addition, this study also categorizes three types of green product innovation and discusses their effects on market demand and firm performance.

Delmas and Pekovic (2012) investigated effect of green business practices on employee's job satisfaction. They were set out to solve the problem of how a firm's environmental commitment affects its productivity and employee job satisfaction. The methodology used for the research was survey design through the collection of data from a survey of employees at 5,220 frenches companies, randomly selecting two employees from each company for a pool of more than 10,000 people. Companies that had voluntarily adopted international standards and labels such as "trade" "and companies with International Organization for Standardization's ISO 14001 certification, a voluntary industry standard programme, were also considered green for the purposes of the study. Their finding shows that on average, employees at companies that observe eco-friendly practices were 16 percent more productive as well as have more job satisfaction than average employees. Employees in such green firms are more motivated, receive more training and benefit from better interpersonal relationships. The employees at green companies are therefore more productive and have more job satisfaction than employees in more conventional firms.

In a study done in Kenya, Mercyline and Kamande (2014) investigated an "eco-efficiency and eco-commitment analysis of Kenyan manufacturing firms". This study examines the linkage between the profitability of firms measured by Return on Assets (ROA) and environmental performance measured by eco-efficiency and eco-commitment and also the impact of a good Environmental Management System on profitability and eco-efficiency of firms. The methodology used for the study is survey design through which questionnaire was shared to six Kenyan manufacturing firms. The finding shows that there is a potential gain in the profitability of the firm by improving eco-efficiency in resource use. Further, proactive firms are found to perform better than reactive firms in terms of profitability and eco-efficiency but firms that combine both proactive and reactive EMS perform even better which shows the benefit of adopting commitment based approaches alongside the compliance based approaches to environmental management.

Singh and Panackal (2014) investigated youth ecopreneurship: A key for success of first generation entrepreneurs. This study examines how youth involvement in ecopreneurship can lead to youth employment and the host community profitability. Using ISM structural modeling as a methodology, study found that there is a strong link between entrepreneurism and environmentalism. They also found that there is a strong link between eco-opportunity and youth employment. They assert that eco-opportunity creates green jobs for environmental conscious youth. There are numerous job opportunities in green business because the sector is underutilized. Green business opportunities have not been

harnessed, so more employment opportunities still hover around ecopreneurship practices. They recommended that youth should embrace eco-opportunity for job creation and host community development.

4.0 Methodology

This study adopted the descriptive survey design which allows for the collection of original data from the respondents, describes the present situation and problems in their natural setting and permits a sample representing the population to be drawn. This research design is considered most suitable for the study because it was well suited to the description and correlative nature of ecopreneurship study, the questionnaire and oral interview collected quantitative and qualitative data of 543 employees of ten manufacturing firms in Nigeria (Management cadre, middle cadre and lower cadre) with rich ecopreneurship profiles randomly selected. Out of the 543 copies of questionnaire distributed, 528 were returned valid and 15 copies of questionnaire were discarded for incomplete information. The data collected were useful in measuring the ecopreneurship variables and testing the specified hypothesis of the study, most of the data generated from the questionnaire survey were ordinal in nature (responses were mainly ratings measured on the Likert scale.

4.1 Discussion and Result

A total of five hundred and forty three copies of questionnaire were distributed to the randomly selected ecopreneurship profiled firms in Nigeria. A total of five hundred and twenty eight were returned completed. Fifteen copies were invalidated for incomplete information**.**

Descriptive Analysis

Table 4.4: The Extent to which Green Business Initiative affect Manufacturing Firm's Productivity

Statements on variables	SA	A	U	D	SD	Mean	St.d
Your organization has adopted green business initiative as a way of doing business.	252(47.7)	210(39.8)	28(5.3)	18(3.4)	20(3.8)	4.2	.24
Green business practice in your organization has led to increase in productivity.	260(49.2)	180(34.0)	60(11.4)	12(2.3)	16(3.0)	4.2	.24
Antecedent factors like individual attitudes and behaviour towards green business practice, directly affect productivity of your firm.	235(44.5)	270(51.1)	15(2.8)	5(0.9)	3(0.6)	4.4	.23
Planning and organizing for green business practice in your organization have a positive effect on employee productivity.	248(46.97)	190(35.9)	30(5.7)	32(6.1)	28(5.3)	4.1	.24
Labour or workforce involvement in green business practice is positively associated with your firm's productivity.	198(37.5)	240(45.5)	38(7.2)	42(7.5)	10(1.9)	4.1	.24

Source: Field Survey, 2016.

Table 4.4 shows the participants responses towards the extent to which green business initiative affects manufacturing firm's productivity. The result shows that 252(47.7%) of the participants strongly agree that the organization has adopted green business initiative as a way of doing business. while 210(39.8%) agreed, 28(5.3%) remained undecided. Meanwhile 18(3.4%) and 20(3.8%) disagreed and strongly disagreed respectively. With the mean and Std 4.2 $\pm$ .24, it therefore implies that the organization has adopted green business initiative as a way of doing business.

Also the result of the study shows that 260(49.2%) of the participants strongly agreed that green business practice in the organization has led to increase in productivity. About 180(34.0%) agreed and 60(11.4%) are undecided. Meanwhile, up to 12(2.3%) disagreed and 16(3.0%) strongly disagreed. Going by the mean and Std of 4.2 $\pm$ .24, it means that the green business practice in the organization has led to increase in productivity.

In addition, the result reveals that the antecedent factors like individual attitudes and behaviors towards green business practice, directly affect productivity with the mean and Std (4.4 $\pm$ .24). This findings is due to 235(44.5%) who strongly agreed that in view that antecedent factors like individual attitudes and behaviors towards green business practice, directly affect productivity of the firm. 270(51.1%) agreed and 15(2.8%) were undecided. Only about 5(0.9%) and 3(0.6%) disagreed and strongly disagreed respectively.

Subsequently the study indicates planning and organizing for green business practice in the organization have a positive effect on employee productivity with a mean and Std (4.1 $\pm$ .24). In view of this, 248(46.9%) strongly agreed indicate planning and organizing for green business practice in the organization have a positive effect on employee productivity and 190(35.9%) agreed while 30(5.7%) are undecided. Meanwhile 32(6.1%) disagreed and 28(5.3%) strongly disagreed.

Similarly, the result of the study shows that 198(37.5%) participants strongly agreed that labour or workforce involvement in green business practice is positively associated with your firm's productivity. While 240(45.5%) agreed and 38(7.2%) are undecided. However, 42(7.5%) participants disagreed and 10(1.9%) strongly disagreed. Going by the result of the study, the labour or workforce involvement in green business practice is positively associated with your firm's productivity (4.1 $\pm$ .24)

4.2 Test of Hypothesis

Hypothesis may be defined as a tentative statement made in order to draw out a relationship between two or more variables. Having given a careful analysis of response, the hypothesis is now tested.

Hypothesis One

Hi Green business initiatives significantly affect the selected manufacturing firm's productivity.

Productivity Model:

$P = f(B_o + B_1GBP + B_2GBI + B_3EAB + B_4MF + B_5LI + e)$

Where:

P = Productivity
f = Function
B_0 - B_6 = Constants
GBP = Green Business Project
GBI = Green Business Initiative
EAB = Employee Attitude and behaviour
MF = Management Function
LI = Labour Involvement
e = Error Margin

Table 4.9: Descriptive Statistics

	Mean	**Std. Deviation**	**N**
Green Business Initiatives	3.3779	1.35272	528
Manufacturing Firm's Productivity	1.9122	1.11586	528

Source: SPSS version 17.0

Table 4.10: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.756[a]	.571	.569	.88774	.232

a. Predictors: (Constant), Green Business Initiatives
b. Dependent Variable: Manufacturing Firm's Productivity.
Source: SPSS version 17.0

Table 4.11: Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.626	.109		14.923	.000
	Green Business Initiatives	.916	.049	.756	18.602	.000

a. Dependent Variable: Manufacturing Firm's Productivity
Source: SPSS version 17.0

Result Summary
R = . .756
R^2 = .571

F = 346.024
T = 18.602
DW = 1.931

4.3 Interpretation

The descriptive statistics shows that green business practices have a mean of 3.38 $\pm$ 1.35 while manufacturing firm's productivity has a mean of 1.91 $\pm$ 1.12. This implies that that there is about the same variability of data points between the dependent and independent variables as there is no much difference in standard deviation values, in terms of the standard deviation scores.

The R, the correlation coefficient with the value of .756, indicates that there is strong positive relationship between green business initiatives and manufacturing firm's productivity. The R square, the coefficient of determination, shows that 57.1% of the variation in manufacturing firm's productivity can be explained by green business initiatives. The remaining 42.9% is attributed to other factor. With the linear regression model, the error of estimate is low, with a value of about .88774. The Durbin Watson statistics of .232, which is not more than 2, indicates there is no autocorrelation. The regression sum of squares (272.692) is greater than the residual sum of squares (204.899), which indicates that more of the variation in the dependent variable is explained by the model; hence variation explained that the model is not due to chance.

The value of F-statistics = 346.024 shows that the model MP = 1.626 + .916(Green business initiative) + e is significant. The extent to which green business initiatives affects manufacturing firm's productivity with .756 value indicates a positive significance between green business initiatives and manufacturing firm's productivity which is statistically significant (with t = 18.602) and p = .000 < 0.05. The significance value of (0.000) is less than 0.05, indicating that the model is significant. The decision rule is to reject the null hypothesis if the probability value of (0.000) is less than the chosen 5% alpha level otherwise do not reject the null hypothesis. Therefore, the null hypothesis is rejected and the alternate hypothesis is therefore accepted that Green business initiatives significantly affect the manufacturing firm's productivity.

5.0 Discussion of Findings

The discussion of results was addressed along with the objective of the study as a pathfinder. The researchers focused on relating the findings of the study to prior research findings as shown in the literature reviewed. The result of the study shows that Green business initiatives have a significant and positive effect on the selected manufacturing firm's productivity (r = 756; F = 346.024; T = 18.602; p = .000). From the result, the effect of green business initiative on the selected manufacturing firm productivity is highly positive. The interpretation of this finding is that manufacturing firms in developing economy that reduce the environmental impact of their businesses will be very productive than others who are not practicing green business initiatives. The result has confirmed the relationship as reviewed by the field survey that green business initiatives have very strong positive effect on the selected manufacturing firm's productivity. This finding is in agreement with Delmas and Pekovic (2012) who found out from their study that companies that adopt eco-friendly green practices have employees that are more

productive than those that do not. They also concluded that green companies are more productive than those that do not adopt green practice. Eco-friendly practices were 16 percent more productive than average employees from other firms.

5.1 Contributions and Conclusion

The review of literature has shown that there is paucity of research in area of green business research in developing economy. This paper therefore will extend the frontiers of knowledge in the field of green business. The finding of this research will motivate and encourage business organizations to consider green business initiatives which will reduce the cost of production and help to sustain our environment. The study concludes that green business initiatives significantly and positively affect the selected manufacturing firm's productivity in developing economy. This means that firms that reduce the environmental impact of its business operations will be more productive than others. This also implies that green business initiatives significantly and positively affect employee's productivity. It is the productivity of the employees that leads to the productivity of the firms. Finally, the implementation of green business practices, principles and processes will lead to very positive outcome that will be visibly manifested in the organization and the environment.

5.2 Recommendations

The under- listed recommendations were made based on the findings of this study:

i. Based on the literature review and this research findings that green business initiatives which is a practice of an ecopreneurist is the most potent alternative for dealing with environmental challenges or market failures as well as dealing with all performance problems of manufacturing firms. Therefore government should marshal out relevant tax wavers, incentives, subsidies, or grant for manufacturing firms that are going green or already practicing green business initiative. This will be a great way of encouraging green business practice in developing economy like Nigeria.

ii. Ecopreneurship course should be incorporated into the present school curriculum which will help to expose student entrepreneurs with ecological sustainability values. A model of how to do this has been created by the researchers as part of their contributions to knowledge.

5.3 Suggestions for Further Studies

The following topics have been suggested for investigation for further studies on Green Business Initiatives

1) Green business practice and ecological sustainability. Evidence from retail banking. An appraisal.
2) Green business practice, risk and the price and the rewards. Empirical study.
3) Effect of green business practice on the cost effectiveness of Nigerian telecommunication industry.

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