

ECOPRENEURSHIP AND COMPETITIVE ADVANTAGE OF SMALL AND MEDIUM SCALE ENTERPRISES (SMEs) IN ENUGU URBAN, ENUGU STATE NIGERIA.

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ABSTRACT

In today's business environment, the activities of small and medium scale enterprises (SMEs) in Nigeria are not without some inhibiting problems emanating from various environmental factors which pose serious challenges to their operational capabilities, survival and performances. This study investigates how ecopreneurship practices influence the competitive activities of SMEs. The work among others things evaluate the impact of green products on the continued survival of SMEs business in Nigeria. It assesses the effect of environmental sustainability on indigenous SMEs business growth and as well determines the impact of eco-creativity and innovation on the competitive edge of SMEs. To achieve the spelt objectives, the study utilized survey design; and the sample size of 263 was obtained using Stat Trek's Sample Planning Wizard tool. The non-probability convenience sampling technique was used for this study. The questionnaire was the primary source of data collection which was structured in four point likert scale and validated with face-to-face approach. The reliability was done using test split-half method. The result gave a reliability coefficient of 0.96 indicating a high degree of item consistency. Data was collected through a self-administered questionnaire. Out of 263 copies of questionnaire administered, 198 were returned and found good for analyses and respondents were manager/owners of selected SMEs in Enugu Urban, Enugu State Nigeria. Hypotheses formulated were tested using z-test and regression analysis test. Findings from the study revealed that green products have a positive impact on the continued survival of SMEs business ($z = 6.119 > \text{at } p < 0.05$), environmental sustainability positively affects the indigenous SMEs growth ($R^{**} \text{ calc} = 0.711 > \text{at } p < 0.05$) and that eco-creativity and innovation have positive impact on the competitive edge of SMEs over rival firms ($z = 9.181 > \text{at } p < 0.05$). The study concludes that green product is the best tactic for sustaining operational survival of SMEs and they would continue to enjoy competitive advantage

against rival firms if they imbibe the tools of eco-creativity and innovation. The work among other things, recommends that academics, entrepreneurs, and government entities should work together to expand research, publications, and other initiatives to promote ecopreneurship. Again, environmental entrepreneurs must destroy the old practices and create new products, technologies, etc., to solve our environmental problems.

Keywords: Ecopreneurship, Eco-Innovation, SMEs, Green Products, Competitive Advantage.

1.0 INTRODUCTION

Environmental degradation is perhaps the most prominent global issue of the 21st century. Academics, policymakers, nongovernmental agencies and governments are all concerned about the increasing levels of land degradation, soil erosion, deforestation, and industrial toxins (Volery, 2002). In addition, there are very serious concerns about the negative consequences of ozone depletion, climate change, nuclear radiation, and the destruction of biodiversity (Intergovernmental Panel on Climate Change (IPCC), 2007; United Nations Environment Program (UNEP), 2004, World Resources Institute, 2004). A recent joint report by the World Resources Institute, the World Bank, and the United Nations show the diminishing capacity of five of earth's most critical ecosystems.

In a market system, sustainable development requires sustainable innovations and entrepreneurs are those who can achieve environmental goals with superior innovations that are successful in the marketplace. Market innovations that drive sustainable development do not occur by accident; they have to be created by leaders who put them into the core of their business activities. Actors and companies making environmental progress in their core business may be called 'ecopreneurs'. They generate new products, services, techniques and organizational modes that substantially reduce environmental impacts and increase the quality of life.

Schumpeter (1934) referred to such entrepreneurial activities as 'creative destruction'. 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. Economics and management theory neglected the phenomenon of entrepreneurship for a long time. So did the environmental management literature. However, over the past couple of years, more and more authors have started to deal with entrepreneurship, following from the work of Schumpeter (1934) and Kirzner (1973).

The term 'ecopreneurship' is a combination of two words, 'ecological' ('eco') and 'entrepreneurship'. Ecopreneurship can thus be roughly defined as 'entrepreneurship through an

environmental lens'. Ecopreneurship is characterized by some fundamental aspects of entrepreneurial activities that are oriented less towards management systems or technical procedures and focused more on the personal initiative and skills of the entrepreneurial person or team to realize market success with environmental innovations. After a first wave of literature, beginning in the 1990s, only recently have some authors started to deal in more detail with environmentally oriented entrepreneurship (Keogh and Polonsky 1998; Kyrö 2001; Larson 2000; Lober 1998; Pastakia 1998; Schaltegger and Petersen 2001; Staber 1997; Wiklund 1999).

Ecopreneurs show personal mastery (Senge 1996) and consider their professional life as a creative act. Differences between personal goals and the perceived reality are taken as a challenge and not as a problem (Senge, 1996). Ecopreneurs influence their company substantially with their personal goals and preferences in a way that these are reflected in the company's goals. This is more often and to a larger extent the case with start-up companies and small companies than with larger enterprises.

Whereas environmental managers can leave a company without the firm losing substantial character, ecopreneurs constitute and shape the 'face' of their company. Because of the strong influence of the personality of the company leader (or leaders) on company goals, ecopreneurship and the status of an ecopreneur can also be important to the whole company. As a consequence, ecopreneurship—defined in a narrow sense—deals with a start-up of a very innovative company supplying environmental products and services (Ripsas, 1997).

However, ecopreneurs can also be seen in established firms, as the process of creating substantial market success with environmental products and services also exists in established companies (e.g. in the process of building up profit centers', spin-offs and so on). Defined more widely, ecopreneurship can thus be described as an innovative, market-oriented and personality-driven form of value creation through environmental innovations and products exceeding the start-up phase of a company. This wide definition of ecopreneurship takes intrapreneurs (Pinchot, 1988), as an important subgroup of ecopreneurs, into account, as intrapreneurs represent actors inside an organization who substantially change and shape the environmental and business growth development of an existing company.

Ecopreneurship is thus distinguished from other forms of corporate environmental development by the company's vivid commitment to environmental progress and its strong desire for business growth. Companies contribute most to the overall environmental progress of an economy and society if their core business deals with environmental solutions and environmentally superior products and if their innovations substantially influence the mass market (Kyrö, 2001). Ecopreneurs run companies that fulfill both requirements. Ideally, ecopreneurship pulls the

whole market towards more environmental progress. Ecopreneurs strive for business success through environmental solutions for the mass market. To measure how well a company has done, the dimensions of ecopreneurship can be further subdivided. The priority of environmental goals range 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). The market effect of the company and its businesses can be small (i.e. the alternative scene), medium (i.e. the successful occupation of an eco-niche) or large (i.e. through a strong influence on the mass market) (Keogh & Polonsky 1998)

Much of the work that has been done to date on ecopreneurship and environmental issues has largely taken the form of anecdotal reports and case study analysis. More studies are needed to demonstrate how ecopreneurship may or may not enhance the performance of organizations. The present study aims to bridge the gap by examining the implications of ecopreneurship activities in sustaining advantage in a sample of selected small and medium enterprises in Nigeria.

The business activities of SMEs businesses in Nigeria are not without some inhibiting problems emanating from their various environmental factors. Today, these problems are posing serious challenges to their operational capabilities, survival and performances. A cursory analysis of some of these problems prompted the crucial need for embarking on this proposed study. The environment factors in the small scale industry in Nigeria tend to be harsh on indigenous firms and their operational activities nowadays. This has brought such consequences as low productivity, increasing risks, low profitability, and tensed competition, heavy investment on equipment, increased operational cost and high rate of business failures with many other threats.

In Nigeria, many indigenous businesses and small and medium scale enterprises have failed to fully imbibe the spirit of ecopreneurship so as to shun out those products that will be environmentally friendly and socially responsible. Only multinational enterprises have put this issue into concern in their want satisfying operations. Many of these SMEs complain on lack of realistic estimates on how to successfully implement eco-practices.

Furthermore, market systems particularly in the area of agricultural related SME businesses have adversely affected the environment by failing to deal with negative environmental externalities and undervaluing natural resources, leading to their over-exploitation and depletion. Governments have sought to deal with the problem through a mix of command-and-control and market-based instruments, with limited success. One of the most potent alternatives for dealing with such market failures is ecopreneurship, which refers to a process by which entrepreneurs introduce eco-friendly (or relatively more eco-friendly) products and process into the

marketplace. But unfortunately, most of Nigeria SMEs failed to imbibe the eco-practice and these have severely affected the continue survival of these enterprises in the industry clustered with many global rival firms. It is in the light of these aforementioned problems that this work seeks to examine ecopreneurship as a determinant of competitive advantage of small and medium businesses against rival firms in Nigeria.

The study sought to;

- i. Examine the impact of green products on the continued survival of SMEs business
- ii. Assess the effect of environmental sustainability on indigenous SMEs business growth
- iii. Determine the impact of eco-creativity and innovation on the competitive edge of SMEs over rival firms.

The research attempts to provide answers to the questions:

- i. What impact would green products have on the continued survival of SMEs business?
- ii. How could environmental sustainability affect the indigenous SMEs business growth?
- iii. What impact would eco-creativity and innovation have on the competitive edge of SMEs over rival firms?

To achieve the objectives of this study, it was hypothesized that:

H₁: Green products would have no impact on the continued survival of SMEs business

H₂: Environmental sustainability can not affect the indigenous SMEs growth

H₃: Eco-creativity and innovation cannot have any impact on the competitive edge of SMEs over rival firms

2.0 LITERATURE REVIEW

2.1 Conceptual Review

2.1.1 Nature and Types of Ecopreneurship

The term "ecopreneurship: sometimes referred to as "green entrepreneurship" (Schaper, 2002; Taylor & Walley, 2003) "ethical entrepreneurship" (Taylor & Walley, 2003) "enviropreneurship" (Keogh & Polonsky, 1998) and "environmental entrepreneurship" is a combination of two words 'ecological (eco) and entrepreneurship which implies the creation of an innovative company that supplies environmentally friendly products and services i.e., "entrepreneurship through environmental lens" (Schaltegger, 2001). Eco-entrepreneurs enter these eco-friendly markets, not only to make profits, but also because they have strong, underlying, green values. They are the

combination of strong environmental and social values with an energetic entrepreneurial attitude (Anderson, 1998; Gibbs, 2009). Volery (2002) defined ecopreneurship as environmental responsibility in entrepreneurship, while for Isaak (2002), it is an "existential form of business behavior committed to sustainability"

For the purposes of this paper, ecopreneurship means entrepreneurial action that contributes to preserving the natural environment (Pastakia, 1998; Schaper, 2002). Ecopreneurs are therefore entrepreneurs who found their businesses based on the principle of sustainability (Kirkwood and Walton, 2010). They are a new breed of eco-conscious change agents who are redefining the way business is conducted and are introducing eco-friendly ideas and innovations in the marketplace (Pastakia, 1998). Ecopreneurship is distinguished from social entrepreneurship which focuses on enhancing the social wellbeing of the society (Zahra, Gedajlovic, Neubaum, Shulman, 2009). Ecopreneurship is also different from sustainability entrepreneurship which integrates the three strands of the triple bottom line (economic, social and environmental). Tilley and Young (2009) argues that sustainability entrepreneurship goes further than "environmental" or "social" entrepreneurship as it encompasses a more comprehensive range of the triple bottom line.

Most researchers agree that there are two categories of environmental entrepreneurs -those who have a profit or economic orientation and those who have the sustainability orientation and want to help change or improve the environment (Taylor & Walley, 2003; Isaak, 2002; Koester, 2011). Schnick, Marxen & Freiman, (2002) refer to the categories as the two ends of the ecological orientation continuum. At one end are ecopreneurs who constantly adopt environmentally-friendly practices and at the other end are entrepreneurs who give no ecological consideration to the businesses at all. In other words, environmental entrepreneurs are either starting green businesses or making their businesses green (OECD, 2011). Table 2 presents the different types of ecopreneurs related to each category.

Reference	Types of Ecopreneur
Volery, T. (2002)	<ul style="list-style-type: none"> • <i>Environmental Conscious</i> Develops innovations that either reduces resource and impact or improve cost efficiencies. • <i>Green Entrepreneurs</i> Aware of environmental issues and have their businesses in the environmental marketplace

<p>Walley and Taylor (2002)</p>	<ul style="list-style-type: none"> • <i>Innovative Opportunist</i> <p>Financially oriented entrepreneur who spots a green niche or business opportunity that happens to be green</p> <ul style="list-style-type: none"> • <i>Ad hoc or accidental entrepreneur</i> <p>Spots opportunities that are green, rather than seek out a niche in green spaces</p> <ul style="list-style-type: none"> • <i>Visionary Entrepreneur</i> <p>Built their businesses based on sustainability principles</p> <ul style="list-style-type: none"> • <i>Ethical Maverick</i> <p>Sets up alternative style business on the fringes of society</p>
<p>Linnanen (2002)</p>	<ul style="list-style-type: none"> • <i>Self-Employer</i> <p>Advocates nature-oriented enterprises e.g. wild life habitat preservation, eco-tourism etc; low desire to change the world and low financial drive</p> <ul style="list-style-type: none"> • <i>Opportunist</i> <p>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</p> <ul style="list-style-type: none"> • <i>Non-profit Business</i> <p>Entrepreneurs have high desire to change the world and low financial drive</p> <ul style="list-style-type: none"> • <i>Successful Idealist</i> <p>Entrepreneurs have high desire to change the world and high financial drive</p>
<p>Isaak (2002)</p>	<ul style="list-style-type: none"> • <i>Green Business</i> <p>Entrepreneur did not start green business from scratch, but later discovered the advantages of greening their existing businesses</p> <ul style="list-style-type: none"> • <i>Green-Green Business</i> <p>Entrepreneurs designed business to be green in its products and processes from scratch</p>
<p>Schick, Marxen, Freiman (2002)</p>	<ul style="list-style-type: none"> • <i>Eco-dedicated</i> <p>Consistently adopts environmentally friendly business practices</p> <ul style="list-style-type: none"> • <i>Eco-open</i> <p>Partially adopts environmentally friendly business practice</p> <ul style="list-style-type: none"> • <i>Eco-reluctant</i> <p>Adopts environmentally friendly business practices only when they are forced by regulations</p>

Schaltegger (2002)	<ul style="list-style-type: none"> • <i>Alternative Actors</i> Businesses exist to support alternative lifestyle e.g. type of counter culture • <i>Bioneers</i> Inventors with strong R&D focus in high technology sectors e.g. alternative energy sources
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One criticism of the ecopreneurship typologies is that they do not account for the changes that might occur among entrepreneurs, e.g., could ecopreneurs move between different typologies, and which drivers mainly guide their behavior (deBruin & Lewis, 2005 cited in Gibbs, 2009). In response, Isaak (1998) argued that the various types of ecopreneurs are not pure forms, but represent reference points for broad changes within businesses. The process theory of entrepreneurship supports Isaak's "viewpoint, which emphasizes the fact that "you can't pin people down to one type, because entrepreneurs are always in the process of 'becoming'".

2.1.2 Justification, Evolution and Innovative potentials of Ecopreneurship

Ecopreneurship is also important because eco-innovations, according to Klimova & Zlek, (2011) will be the future competitive advantage of companies and countries. They argued 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 processes 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 ecopreneurship 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 natural 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 affects humans and the ecosystem and could lead to greenhouse gas accumulation and potential climate change (Volery, 2002). 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 & Speich, 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 (World Business Council for Sustainable Development, 2002). Although part of this consumption is important for relieving poverty in many emerging countries, most it will be done by affluent consumers and can have a 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, 2002).

Third, biodiversity loss also justifies entrepreneurial action to solve environmental problems. According to Volery (2002), "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 is continuing. Given the need for environmental sustainability, there is need for a new kind of entrepreneur who will incorporate environmental concerns into the consideration of their bottom-line (Volery, 2002)

The relationship between business and the environment is not new. There was an upsurge of interests in environmental degradation during the 1960s, in Western Europe and North America because of the incidents of heavy smog in London caused by business activities. At that time, people became more aware of the negative environmental consequences of business activities. Business response to the environmental concerns was antagonistic, with little care about the cost of business activities to the environment. They saw the environmental concerns as a nuisance to their businesses and opposed any effort to control performance (Tillery, 1999).

Ecopreneurship literature is still comparatively young (Linnanen, 2002; Pastakia, 1998; Schaltegger, 2002). The growth so far has been supported by various consumer groups as well as the strong demand for green products, especially in the developed countries (Schaper, 2002). Ecopreneurship has thus become a market-based approach for identifying opportunities for improving the quality of life through sound environmental practices.

Given the growth of ecopreneurship, the question now is, how do we harness the innovative potential of ecopreneurs to exploit the opportunities within environmental degradation? In other words, how do we foster the development of new entrepreneurial firms that will create the innovations necessary to solve environmental problems? According to Shane and Venkataraman (2000), "entrepreneurial action is created at the nexus of two phenomena: the presence of enterprising individuals and the presence of lucrative opportunities". Ecopreneurs are the enterprising individuals. Some are motivated by profit and start businesses that happen to be

green, while others have a sustainability orientation and are motivated by environmental needs. Their businesses are founded on the principle of sustainability and they seek to combine environmental awareness with conventional entrepreneurship (Schnick, et al. 2002). Lucrative entrepreneurial opportunities exist within the environmental degradation e.g. the problems of climate change, pollution, energy, etc.

According to Shane (2003), the nexus is the place where the entrepreneur interacts with the environment, e.g. environmental degradation, to identify opportunities. How they interact and whether opportunity recognition and exploitation takes place depends on the resources the entrepreneur has at his or her disposal and the resources available in the environment (pg.8). Given that the entrepreneur-environment interaction is so critical to creating entrepreneurial action necessary for developing environmental innovations, what should be done to stimulate ecopreneurship?

i. Provide high quality and reliable information to ecopreneurs.

Lack of quality information is a major barrier to ecopreneurship. Because environmental innovations involve highly technical operations very little can be accomplished without reliable information about the nature and extent of the problems, the range of solutions available, the costs, and how to minimize them (Banks & Heaton, 1995). According to Cohen and Levinthal (1990), successful ecopreneurs recognize opportunities that others do not see because they have better access to information about the existence of the opportunities. Hermann (2011) also states that information availability and management help the entrepreneur or ecopreneur get closer to the opportunity i.e., where the market changes are and what is needed to access them. Clearly, the provision of reliable information directly to the potential business founders is a key factor in helping them make the decision to invest in an eco-innovation startup (Schnick, et al. 2002).

ii. Facilitate collaboration and networking among ecopreneurs and innovation intermediaries.

"An innovation intermediary is an organization or body, which acts as an agent or broker in any aspect of the innovation process between two or more parties." (Howells, 2006). They help the ecopreneur acquire knowledge outside their own organizational boundaries (Clarke & Roome, 1999), and as such the ecopreneur gain access to and exchange relevant ecology and sustainability-related information. Some of the different types of intermediaries are government and local authorities, NGOs, universities, industry associations and consultants. Collaboration between ecopreneurs and innovation intermediaries also provide access to direct assistance, e.g., advice on funding sources, advice on business operations, identification of potential collaborators, etc., which supplement the ecopreneurs resources and can lead to a startup involved with ecoinnovations.

iii. Refocus the publicly funded environmental technologies (Research & Development)

First, attracting more private sector funds for environmental technologies should be an important policy. In doing so, efforts should be made to reduce the risk for the private investors, while making sure that public money is used effectively and does not crowd out private initiatives (OECD, 2008). Secondly, publicly funded environmental technologies needs to be refocused. Presently, most of the funding are allocated to agencies that have very little to do with environmental technology (Department of Energy 44%, National Aeronautics and Space Association 23% and Department of Defense 11%), while a small percentage is directed to technologies that improve the environment, e.g. Department of commerce 6.2% and the Environmental Protection Agency 2% (Banks and Heaton, 1995). According to an OECD report, over 100 billion dollars are spent annually to support and conduct R&D in twenty-two agencies, but six agencies control 95 percent of the funds (OECD, 2008). If we are serious about attracting the innovative potential of entrepreneurs to develop environmental technologies, we need to refocus publicly funded R&D. This could be done by including improved environmental performance as a criterion for current R&D programs and also making environmentally relevant R&D a subcomponent of current programs (Banks & Heaton, 1995).

iv. Increase the speed of commercialization of environmental technologies

Many available environmental technologies have not been successfully introduced into the market because of market, infrastructure, production and consumption obstacles (OECD, 2009). One way to accelerate the commercialization of new technologies and the development of startups that will create clean technologies and green jobs is to establish a business incubator, e.g., cleantech business incubator. The incubator will offer flexible ready-to-go office space, lab facilities, and a supportive environment, where starting teams can share ideas with other entrepreneurs and fuel innovators. It will also give each startup the chance to work with a dedicated mentor, as well as access to a growing network of cleantech and business experts and introductions to prospective investors (Walti, 2011). Another way to speed up commercialization of new environmental technologies is technology certifications or validations. Quasi public bodies e.g. standards institutes will evaluate the effectiveness of the new technology and certifies its compliance with the standards. It is a onetime scientific and technical performance evaluation, as well as a regulatory certification of environmental technology. This certification will reduce uncertainty around the new technologies and increase their acceptance, by offering third party information on technologies, which is critical to the EPA, other government agencies, and purchasers of innovative environmental technologies. Certifications and validations are other effective ways to foster diffusion and therefore speed up commercialization (Banks & Heaton, 1995: OECD, 2008).

v. Increase access to financing

Availability of funding and other incentives are critical for environmental innovation. Access to funding is necessary to help ecopreneurs meet the cost of technical development and to win recognition of new products and services (Schick, et al. 2002). Access to financing is extremely difficult for entrepreneurs in green innovation because of the immaturity of the market, the difficulty associated with accurately pricing the relative risk of the investment and the lack of history or track record of success. All of these make it more difficult for new entrants to innovation to obtain reasonable costs financing, than it is for established firms (OECD, 2009). To harness the innovative potential of entrepreneurs for environmental technologies, there is need to improve access to financing through strengthening financial support with loan guarantees, grants, revolving loan funds, tax credits, etc., developing relationships with the early-stage investment community, and provide information on the various financial incentives, subsidies, tax credits and grants available to encourage investments in environmental technologies (OECD, 2008; OECD, 2009).

vi. Improve access to markets

A strong demand for new products, processes and services is the most important driver of environmental innovation. Strengthening demand could be done through regulatory policies that reward new technologies and greater use of economic incentives (Banks & Heaton, 1995). Regulatory signals that are strong, predictable and clear will spur environmental innovation. It is essential that the regulations discriminate in favor of new technologies rather than prolong the status quo. For example, reducing the reliance on available technology as the measure by which pollution control standards are set and looking instead to improve future capabilities

2.2 THEORETICAL FRAMEWORK

i. Schumpeterian Theory provides the theoretical basis for environmental entrepreneurship. According to Schumpeter (1942), 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 argued that "environmental problems are inherently calls for innovation, as most of them are caused by the outdated applications of old, polluting and inefficient technology". Given 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/service distribution system, or even a new organizational form. (Lennox & York, 2011, Tillery & Young, 2009).

ii. Ecological Modernization Theory also provides the rationale for environmental entrepreneurship (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 & 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 & Guy, 2005). According to the Ecological modernization theorists, "the environmental problems facing the world today, act as a driving force for future industrial activity and economic development". The theory calls for the progressive modernization of the institutions of modern society. And as Joseph Huber (Mol, 1995) the father of Ecological Modernization Theory sees it, entrepreneurs are the central agents of change in that process of transformation to avoid an ecological crisis (Gibbs, 2009; Mol, 1995; Tillery & Young, 2009). Entrepreneurial action, therefore, is the best solution to our environmental problems because this new generation of ecopreneurs 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).

2.3 EMPIRICAL REVIEW

Cohen and Winn (2007), carried out a study on Ecopreneurship and Performance on Business in Holland. The objective of the study is to review the major environmental challenges facing the earth's ecosystems and the need for entrepreneurial action to deal with the challenges. the study which survey 332 sample of respondents in Holland through an administered questionnaire and interview schedules found out that ecopreneurs have the potential to resolve our environmental problems and to gradually improve the earth's ecosystem,. The paper began by reviewing the major environmental challenges facing the earth's ecosystems and the need for entrepreneurial action to deal with the challenges. It recommends that the only way out of poor business performance is by considering eco-innovation, eco-commitment.

Hamsa (2014) studied the Impact of Innovation and Managing Technology based business for Entrepreneurs and explained that both technological innovation and entrepreneurship embraces mainly two areas: the organization, development, and commercialization of technology-based innovation in existing firms; and the formation, development, and growth of technology-based new enterprises. Technology and innovation businesses also cover a wide range of industries. The paper is a qualitative paper and its study is based on the secondary data collected from different sources and it highlights problems faced by the entrepreneurs globally regarding businesses to stimulate technological innovation and strengthen the role of small business in

meeting research and development needs and increase business participation in this role. The study recommends that businesses may focus on activities such as researching and developing new products or providing innovative solutions to existing processes.

McEwen (2013) conducted a study on “Ecopreneurship as a solution to environmental problems: Implications for college level entrepreneurship education. The paper which uses exploratory design focuses on how to harness the innovative potential of environmentally conscious entrepreneurs, called ecopreneurs, to encourage more startups that would create the environmental technologies needed to address our environmental problems. Given the present environmental problems facing the world, it is clear that past strategies used to address these challenges have failed to prevent environmental degradation. He further explained that it is time to pay attention to the role that entrepreneurs can play in solving our environmental problems. The study recommends that the role of entrepreneurship education in promoting ecopreneurial behavior and presented an outline for a possible ecopreneurship course that could be integrated into college-level entrepreneurship education.

Based on our review of the work done by Oskamp (2000), he agreed that environmental problems do represent entrepreneurial opportunities. Despite the changes in legislation and regulations to protect the environment, the United States and various other countries are still facing many environmental problems, e.g., climate change, population growth, overflowing landfills, water scarcity, fuel shortages, and water and air pollution. The study found out that if we are to solve these problems, entrepreneurship is a major part of the answer.

3. METHODOLOGY

This research adopted survey design. It was conducted in some purposively selected small and medium scale enterprises (SMEs) in Enugu Urban of Enugu state, registered with Manufacturing Association of Nigeria. The population of the study was eight hundred and twenty five (825) and the sample size of 263 was obtained using Stat Trek’s Sample Planning Wizard tool. The non-probability *convenience* sampling technique was used for this study. The questionnaire was the primary source of data collection. It was structured in four point likert scale and validated with face-to-face approach. The reliability was done using test split-half method. The result gave a reliability coefficient of 0.96 indicating a high degree of item consistency. Two hundred and sixty-three (263) copies of questionnaire was administered and only one hundred and ninety eight (198) copies representing 75.2% were returned and found good for the data analysis. Three hypotheses were formulated for this study. Hypothesis one and three were tested using z-test while hypothesis two was tested with regression analysis test. Analysis was done at five (5) percent level of significance.

4. DATA ANALYSIS

With respect to objective one of the study, table 4.1 is quite informative.

Table 4.1: Response to the impact of green products on the continued survival of SMEs business

S/N	Questions	SA No. (%)	A No. (%)	U No. (%)	D No. (%)	SD No. (%)	Total
1.	The utilization of green product will have a positive impact socially and environmentally on the successful operations of your firm?	76(38.4%)	43(21.7%)	16(8.1%)	29(14.6%)	34(17.2%)	198
2.	Adopting sustainable packaging by SMEs will be environmentally preferable to other products?	84(42.4%)	56(28.3%)	7(3.5%)	34(17.2%)	17(8.6%)	198
3.	Automatic discard packaging and recycle goods which are the aftermath of green product will build more profits and stimulate growth for SMEs?	74(37.3%)	62(31.3%)	2(1.1%)	33(16.7%)	27(13.6%)	198
4.	Business practices such as eliminating production waste, pollution control and energy costs will be good for the environmental and business profitability of SMEs?	34(17.7%)	34(17.7%)	23(11.6%)	65(32.8%)	42(21.2%)	198

Source: Researchers Field Survey, 2017

Table 4.1 reveals that 58.46% of the respondents are in the agreement category, 6.06% were undecided while 35.48% of the respondents are in the disagreement category. This shows that green product has a positive impact on the continued survival of SMEs businesses.

Table 4.2: The effect of environmental sustainability on indigenous SMEs business growth

S/N	Questions	SA No. (%)	A No. (%)	U No. (%)	D No. (%)	SD No. (%)	Total
1.	Clean/habitable environment would improve the overall well-being of Nigeria indigenous SMEs?	43(21.7%)	47(23.7%)	23(11.6%)	56(28.3%)	29(14.7%)	198
2.	Being environmentally friendly involves serious revolution such as proper packaged goods and social marketing support?	66(33.3%)	69(34.8%)	4(2.1%)	34(17.2%)	25(12.6%)	198
3.	Using eco-initiative operations process rather than the general enterprise approaches will affect on the growth of indigenous SMEs?	53(23.6%)	43(21.7%)	33(16.7%)	39(19.7%)	30(15.2%)	198

Source: Researchers Field Survey, 2017

Table 4.2 reveals that 40.53% of the respondents are in the agreement category, 7.58% were undecided while 26.89% of the respondents are in the disagreement category. This shows that environmental sustainability has a positive effect on the indigenous SMEs growth.

Table 4.3: The impact of eco-creativity/innovation on the competitive edge of SMEs over rival firms.

S/N	Questions	SA No. (%)	A No. (%)	U No. (%)	D No. (%)	SD No. (%)	Total
1.	The success of your firm in the Nigeria environment will depends on the adaptability of its program (products, operations and service) to the new inventions in the market place	48(24.2%)	40(20.2%)	16(8.1%)	53(26.8%)	41(20.7%)	198
2.	Nigeria’s SME’s can stimulate customer loyalty and patronage over rival firms by introducing new products that are environmentally safe?	89(44.9%)	54(27.3%)	4(2.0%)	32(16.2%)	19(9.6%)	198
3.	Innovative offers would lead to the mitigation or resolution of an environmental problem in the Nigeria competitive markets?	21(10.6%)	76(38.4%)	9(4.5%)	21(10.6%)	71(35.9%)	198
4.	Ecopreneur with knowledge about ecological creativity conditions would gain considerable competitive advantage by employing environmentally superior, more efficient, technology in production?	33(16.7%)	41(20.7%)	17(8.6%)	44(22.2%)	63(31.8%)	198

Source: Researchers Field Survey, 2017

Table 4.3 reveals that 50.76 % of the respondents are in the agreement category, 5.81% are undecided while 43.43% of the respondents are in the disagreement category. This shows that eco-creativity and innovation have a positive impact on the competitive edge of SMEs over rival firms

Test of Hypothesis

Three hypotheses formulated were tested using Z-test and Regression. Hypothesis one and three were tested using z-test while hypothesis two was tested with regression analysis test aided by computer through the application of Statistical Package for Social Science (SPSS). Analyses were done at five (5) percent level of significance.

H₀₁: Green products would have no impact on the continued survival of SMEs business in Nigeria

H₁: Green products would have an impact on the continued survival of SMEs business in Nigeria

Table 4.4a: One-Sample Statistics

	N	Mean	Std. Deviation	Std. Error Mean
Decisions on employees & Productivity	198	24.200	16.11101	3.71811

Table 4.4b: One-Sample Z-Test

	Test Value = 0					
	Z	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
Decisions on employees & Productivity	6.119	197	.002	24.2000	29.3300	44.1600

Source: SPSS analysis of field data 2017

The tables 4.4a & b above reveals that z-test result shows the existence of significant result on the variables ($z = 6.119 > \text{at } p < 0.05$). The significant level was found to be 0.02, and due to this we reject the null hypothesis and accept the alternate one which states that *green products have a positive impact on the continued survival of SMEs business in Nigeria*. The result of the findings synchronize with the work done by Clarke and Roome, (1999) who stated that green products in green marketing enables firm to enjoy favourable market opportunities. Rather, our finding contradicts the result of Arber & Speich (1992) which explained that green product did not often promote excellency in ecopreneur abilities.

Hypothesis Two:

H₀₂: Environmental sustainability can not affect the indigenous SMEs growth in Nigeria

H₂: Environmental sustainability will positively affect the indigenous SMEs growth in Nigeria

Regression model: $Y = \alpha + \beta X + \mu \dots$ (For all observations $i, = 1, 2 \dots n$)

Where Y = SMEs growth

X = Environmental sustainability

μ = error term of random variable

α = a constant amount

β = effect of X hypothesized to be positive

Hence, the regression (predict) equation will be $Y = 108.011 + 1.212X$

Table 4.5a: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.711 ^a	.711	.963	29.15133

a. Predictors: (Constant), Environmental sustainability

Table 4.5b: ANOVA^b

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	20171.151	1	20171.151	17.211	.003 ^a
	Residual	2712.049	197	928.350		
	Total	22883.200	198			

a. Predictors: (Constant), Environmental sustainability

b. Dependent Variable: SMEs growth

Table 4.5c: Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
1 (Constant)	108.011	47.849		3.113	.001
EI	1.212	.416	.939	3.118	.005

a. Dependent Variable: SMEs growth

The Tables 4.5a, b & c above revealed that the regression result shows the existence of significant result on the variables ($R^{**} \text{ calc} = 0.711 > \text{at } p < 0.05$). The significant level was found to be 0.03, and due to this we reject the null hypothesis and accept the alternate one which states that *environmental sustainability positively affects the indigenous SMEs growth in Nigeria*. This result was against the work done by Larson, (2000) who found out that the success of SMEs growth cannot be effectuated through environmental sustainability. The finding was similar with the work of Isaak (2002) which revealed that the tactical ways to expand business horizons is through environmental sustainability measures.

Hypothesis Three:

H₀₃: Eco-creativity and innovation cannot have any impact on the competitive edge of SMEs over rival firms.

H₃: Eco-creativity and innovation will have positive impact on the competitive edge of SMEs over rival firms.

Table 4.6a: One-Sample Statistics

	N	Mean	Std. Deviation	Std. Error Mean
Decisions on employees & Productivity	198	24.6000	19.84103	3.96821

Table 4.6b: One-Sample Z-Test

	Test Value = 0					
	Z	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
Decisions on employees & Productivity	9.181	197	.001	24.60000	22.3100	37.3400

Source: SPSS analysis of field data 2017

The tables 4.6a & b above reveals that z-test result shows the existence of significant result on the variables ($z = 9.181 > \text{at } p < 0.05$). The significant level was found to be 0.01, and due to this we reject the null hypothesis and accept the alternate one which states that *eco-creativity and innovation have positive impact on the competitive edge of SMEs over rival firms*. The work of Kirzner, (1973) tally with our submission which revealed that eco-creativity and innovation go a long way in expanding SMEs business concerns. Similarly, our finding is in same direction with the research outcomes of Klimova and Zltek (2011).

5.0. CONCLUSIONS / RECOMMENDATIONS

5.1. Conclusions

Ecopreneurs are not all the same. Some are environmentally oriented and start green businesses while some are partially environmentally oriented. Green products, environmental sustainability, eco-creativity and innovation as ecopreneurial actions, showed a better influence on the continued survival, growth, and competitive edge of indigenous SMEs during the period studied. Company’s see ecopreneurial strategy as a way of supporting the development of both network and technological competencies. Ecopreneurial action can preserve the ecosystem, counteract climate change, reduce environmental degradation and deforestation, improve agricultural practices and freshwater supply, and maintain biodiversity. The ultimate goal of ecopreneurship is the need for technological competence in order to add value to products and processes and to develop network competence in order to link their organization to other players in the market to allow interactions beyond organizational boundaries.

5.2. Recommendations

From the findings, it is recommended especially for developing countries like Nigeria, that

(a) The field of ecopreneurship is still in its infancy, but having a solid theoretical rationale, both the Schumpeterian and the ecological modernization theories clearly explain that ecopreneurship is one of the best solutions for environmental problems. The implication is that academics, entrepreneurs, and government entities should work together to expand research, publications, ecopreneurship education and other initiatives to promote ecopreneurship.

(b) There is need to abandon the old human exceptional paradigm of being master of the environment and embracing the new paradigm of creative destruction. Environmental entrepreneurs must destroy the old practices and create new products, technologies, etc., to solve our environmental problems.

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