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ABSTRACT

The study investigated ecopreneurship practices and their effect on innovative performances of selected agro-allied businesses in Nigeria. The study used primary and secondary data. The primary data consist of a structured questionnaire in a five-point Likert scale format administered to three hundred and forty (340) respondents, comprising of owners/managers of agro-allied businesses in North-central, Nigeria that were randomly selected representing the target population of the study. While the secondary data comprised of information sourced from records of institutions in the agriculture sector among the agro-allied owners and managers, as well as from published sources. The data was analyzed using Statistical Packages for Social Sciences as well as Z-test to test the formulated null hypothesis. The findings revealed that ecopreneurial practices have significant influences on the competitive advantage of agro-allied businesses in North Central Nigeria. The study recommends among other things; that the Nigeria government should strengthen its external relations towards establishing national standards for the quality of the environment and the implementation of the environmental regulations. They should take further proactive measures through state-level ministries of environment to encourage the ecopreneurs to develop more environmentally friendly products and as well as enhance their level of involvement in a green production practice.

1. INTRODUCTION

Eco-innovation is imminent to the competitive advantage of organisations and countries. For any organisation or countries that would painstakingly desire 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 sustainability of the economic system does not depend only on quantitative growth, but also on the ecological aspects of the growth and sustainable development. Also, some practical business reasons exist to justify the need for ecopreneurship in environmental problems-solving. The first is the finite resources like minerals or gas are limited in their supply. Once consumed, they cannot be recreated and will be left with diminishing or no natural resources, if they are not sustained. Also, due to economic activity and consumption, most of the resources become waste. The problem of pollution affects humans and the ecosystem, could lead to greenhouse gas accumulation and potential climate change (Figlisteraller, Pietner, Volery & Weber 2012). To sustain them, ecopreneurship remains relevant in the ecosystem mainstream that constantly seek adaptable alternatives, such as recycling, alternative energy source from natural resources of solar, wind, and water. Second, the global population growth is also influencing the environment through the way businesses are carried. The world population according to the World Business Council for Sustainable Development, (2002) is
projected to an upsurge of 50% by 2050 and it will come with a simultaneous increase in consumption. Howbeit, part of the consumption is relevant to many emerging countries to solving poverty but can as well hurt the ecosystems when to adequately managed. In this instance ecopreneurship remains significant to finding new technologies that can profitably protect the environment, ensuring adequate resources to meet the daring needs of both the present populations and the future generations (Filgisteraller, Pietner, Volery & Weber, 2012). Third, biodiversity loss also justifies entrepreneurial action to solve environmental problems. According to Figlisteraller, Pietner, Volery & Weber, the rates of a takeover of wildlife habitat and other species are increasingly extinguishing from their habitation due to the constant and ever-increasing activities of human in accelerating. Also, World Resources Institute, (2004) have drawn a remarkable attention over the destruction of an estimated 55% of the world richest habitat of species accounting the need for sustainability. Hence the need for new way of thinking and doing things can only be realized by a new kind of entrepreneurship incorporating as their bottom line the consideration of the environment arising the need for ecopreneurialism.

Environmental degradation is perhaps the most prominent global issue of the 21st century. Academics, policymakers, non-governmental agencies, and governments are concerned over the increasing levels of land degradation, soil erosion, deforestation, and industrial toxins (Figlisteraller, Pietner, Volery & Weber 2012). Besides, they have expressed more concerns about the negative consequences of ozone depletion, climate change, nuclear radiation, and the destruction of biodiversity (World Resources Institute, 2004). Consequently, the activities of agro-allied businesses in Nigeria are not without same 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; and Umana, 2019). In the present time, these problems are opposing challenges to the operational capabilities, survival, and performances of agro-allied businesses in Nigeria. The environmental factors in the agro-allied industry in Nigeria tend to be harsh on indigenous firms and their operational activities (Osalor, 2016). This has brought 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 failures with many other threats (Azih, 2008). Many indigenous small and medium enterprises of agricultural businesses have failed to fully imbibe the spirit of ecopreneurship to allow only products that will be environmentally friendly and socially responsible (Azih, 2008). Only multinational enterprises have put the practice issue into use in their desire for satisfying operations. Most agricultural-related organizations complained about the lack of realistic estimates on how to successfully implement eco-practices. (Babatunde & Qaim, 2010).

Also, market systems particularly in the area of agricultural-related 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 eco-friendlier) products and process into the market place (Tambo & Abdoulaye, 2013). In light of problems, this study aims to examine ecopreneurship practices as a determinant of the innovative performance of agric-allied businesses in Nigeria. The study shall further evaluate the effect of ecopreneurship practices on the competitive advantage of selected agro-allied businesses in Nigeria. In an effort to advance this study further, a research question provided a guide to the study as thus: How will ecopreneural practices influence the competitive advantage of agro-allied businesses in Nigeria? Further to the research question, a null hypothesis was formulated to test the veracity of the relationship of the variables for the study, as thus: Ecopreneurial practices would have a negative influence on the competitive advantage of agro-allied businesses in Nigeria. The remaining of the study was structured in the ensuing order with the protocols.

2. REVIEW OF RELATED LITERATURE

2.1 Conceptual Framework

Contrary to other areas in business research, the field of ecopreneurship research is relatively new (Schaper, 2002). It began to develop as a field in the early 1990ies when some authors began to examine the green entrepreneur, the environmental entrepreneur, and the eco-entrepreneur which subsequently merged into ecopreneur (Schaper, 2002). Despite a small but growing body of literature on the subject, the field of ecopreneurship, because of its relative novelty, remains somewhat fragmented, and some of its concepts remain unclear and with fuzzy definitions. Ecopreneurship remains under-researched, especially lacking empirical studies of ecopreneurial companies. Attempts to profile green or environmentally responsible entrepreneurs is a
relatively under-researched field. Because of the above-mentioned fragmentation, it will therefore be helpful to frame the concept of ecopreneurship for this study before proceeding to attempt a closer look at its content.

The term ecopreneurship sometimes referred to as green entrepreneurship (Schaper, 2002; ethical entrepreneurship (Taylor & Walley, 2003); enviropreneurship (Keogh & Polonsky, 2008). It 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 an 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 a combination of strong environmental and social values with an energetic entrepreneurial attitude (Anderson, 1998; Gibbs, 2009). Figlisteraller, Pietner, Volery &. Weber (2012) defined ecopreneurship as an environmental responsibility in entrepreneurship, while Isaak (2002), posit it as an existential form of business behavior committed to sustainability. However, according to Pastakia, (2008); and Schaper, (2002) ecopreneurship means entrepreneurial action that contributes to preserving the natural environment. Ecopreneurs are entrepreneurs who found their businesses based on the principle of sustainability. They are a new breed of eco-conscious change agents redefining the way business is conducted, introducing eco-friendly ideas and innovations in the marketplace (Pastakia, 2008; and Kirkwood & Walton, 2010).

Most researchers agreed 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). The categories are referred to 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, 2009). One criticism of the ecopreneurship typologies is that they do not account for the changes that might occur among entrepreneurs, examples include; could ecopreneurs move between different typologies, and which drivers mainly guide their behavior (DeBruin & Lewis, 2005 in Gibbs, 2009). In response, Isaak (2008) 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 cannot pin people down to one type of activity, because entrepreneurs are always in the process of becoming.

The relationship between business and the environment is not new. An example, there was an upsurge of interest 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 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 might organisations harness the innovative potential of ecopreneurs to exploit the opportunities within environmental degradation? In other words, how can they 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 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 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 take place depends on the resources the entrepreneur has at disposal and the resources available in the environment. Given that the entrepreneurs' environment interaction is so critical to creating entrepreneurial action necessary for developing environmental innovations, what should be done to stimulate ecopreneurship includes:

- Provide high quality and reliable information to ecopreneurs,
Facilitate collaboration and networking among ecopreneurs and innovation intermediaries,
Focus on publicly funded environmental technologies (Research & Development) Increase the speed of commercialization of environmental technologies
Increase access to financing,
Improve access to markets,
Establish a clear policy on government procurement of green products,
Provide incentives for customers,
Promote flexible labor market policies and support worker skills training programs.

With growing awareness about the causes of environmental externalities, business corporations in the late 20th century were placed in the unenviable position of having to face pressures from local communities, consumers, shareholders, and employees as a result of international protocols, bans on hazardous products, and services, and stricter governmental regulations against polluting processes and products. The responses to these mounting pressures have been varied. While some relied on good public relations and lobbying techniques, which would grant them a new lease of life to carry on business as usual, a small minority chose to innovate to internalize their environmental externalities. Through their pioneering efforts, this latter group of firms showed that the problem of environmental externalities was not insurmountable. Apart from the ongoing enterprises that attempted to reorient themselves, some new entrants sought to popularize or scale-up eco-friendly ideas, innovations, products, and processes (Mamman, Aminu & Adah, 2013). This study has been broadened to include the definition of ongoing ecopreneurs that have succeeded in bringing about change. Although the study primarily focused on the emergence of growing awareness among consumers which has resulted in a movement for safe and environmentally friendly products. Increasing pressures both from consumers and from regulatory agencies have also led to enlightened policies on the part of ecologically conscious producers. The consumer movement for green products and processes, as well as the green producer movement, seek to redefine the way business is conducted. These movements represent various initiatives of eco-conscious producers, consumers, or concerned citizens to internalize, minimize, neutralize, or pre-empt environmental externalities. The result has been the introduction into the marketplace of a new genre of goods and services that are eco-friendly (Pastakia, 2008).

One of the areas where the convergence of these two movements seems imminent is in the field of agribusiness. The demand for safe and wholesome food in the West gave birth to the concept of health food stores. Such stores began to stock food that was with increasing awareness of environmental problems, such as global warming, ozone layer depletion, loss of biodiversity, and desertification. Also, the endorsement of ranges of a range of international agreements by the international community such as the Montreal Protocol, the Basel Convention, and the Kyoto Protocol have played significant roles in pressurizing industrialists worldwide to phase out harmful substances from their production processes (Keogh & Polonsky, 2008). These trends have not been without their impact on developing economies such as India. For instance, almost two decades after the Bhopal gas tragedy, the victims continued suffering and reminded their nation of the hazardous path to development that it has adopted. Victims of other less dramatic, though no less dangerous, environmental externalities, also, protested through various means, leading to a much higher degree of general awareness. India has also ratified several international protocols and conventions, thereby creating greater international scrutiny of its policies and programmes. From the trends discussed above, it may be surmised that non-sustainable industrial activity (among other anthropocentric engagements) has had a cumulative impact on developing economies such as India.

From the trends discussed above, it becomes clear that change is induced both by external forces and internal forces. External forces can be traced to the socioeconomic-legal environment in which the business is embedded. It may include pull factors (the power of the discerning investor and consumer and the power of enabling policies) or push factors (the power of regulatory agencies, judicial activism, and civil society) that bring pressure to bear on the organization. While internal forces deal mainly with ideological and strategic concerns, it can be viewed as bringing change from within, guided by the vision of the organization’s leadership for a business that contributes to the sustainable development of society. Although external and internal forces can lead to change, the external forces may also bring about change in the vision of the leadership over time and therefore be translated into an internal force, whereas, the internal forces may be considered superior and more liable to lead to ecopreneurship of the highest order. The framework can be applied at various levels, ranging from entire economies to specific industries. In the case of specific industries, there may be a few industry-specific characteristics that affect the behaviour of various stakeholders differently. For instance, industries that have been declared as most polluting would be under a stricter regulatory regime and such industrialists may
feel more vulnerable in the face of growing public awareness and criticism about the social and environmental costs that are being externalized by the industry. However, this in itself may not be a sufficient condition for innovating and coming up with more socially acceptable ways of conducting business. The other forces may play an equally important role. Since the social fabric and legal infrastructure of a given country remains the same, the framework has greater potential for bringing out inter-country differences rather than intra-country differences.

This dynamic establishes a new model for firms constantly seeking to report and follow the surging of innovations in the processes of organizational production and ways of commercialization. The pace of responses, in which the firm will report to, depends on the internal capacities, organisational competence, and the productive qualification. In this way, the competitive advantage is accomplished when a firm can create value in a product or in a process that goes beyond its production cost and that cannot be concomitantly implemented by the current or potential competitors (Forster, 2006; and Fowler, King, Marsh & Victor, 2000). Besides, it is a competitive measure because it indicates the position of a firm over its competitors or the industry. Besides, it is possible for a firm to produce and offer a high technology product which does not have a competitive advantage and other companies commercialize a low-quality product, but for being the only one in the market, it enjoys the competitive advantages (Montes, Moreno, & Fernandez, 2004). In another work, Porter (1985) questioned the reason why some nations develop more than others. Delimiting the discussion to aid the answer, when analyzing an industry, it is noticed that some firms have more market power while others are followers of the first ones and they constantly have difficulties in following the sector’s move. In other words, the firms can take advantage of their capacities and competencies having the goal of promoting activity growth and achieving competitive advantage. This way, some countries are more developed and, consequently, more competitive than others, because they use the capacities and internal productive capacities that can be transformed into competitive advantages, something which firms, from other countries, are not able to. Besides such competitive advantages, firms can enjoy the comparative advantages that Forster (2006) referred to as the natural conditions of a place. For instance, the climate and the soil from a specific region can be more propitious for grape production over another region. Also, competitive advantages can be added to the comparative advantages, turning a region or a firm highly competitive.

Lower production cost and differentiation of products and services are two important sources of competitive advantages (Porter, 1998). The lowest production cost is reached when the firm produces a product, offers it, and commercializes it comparatively more effectively than its competitors, adopting similar or lower prices. The differentiation of products refers to the capacity of offering buyers an exceptional and superior value as far as product quality, special features, or assistance services. Both are eagerly inserted into the competitive process and are directly involved in the creation of competitive advantages and their support. Competitive advantage is an organizational capability to perform in one or many ways that competitors find difficult to imitate now or in the future (Kotler, 2000). Competitive advantage can be described as a management concept that has been so popular in the contemporary literature of management. The reasons behind such popularity include the rapid change that firms face, the complexity of the business environment, the impacts of globalization and unstructured markets, the ever-changing consumer needs, competition, the revolution of information technology and communications, and the liberation of global trade (Al-Rousan & Qawasmeh, 2009). Porter, (1985) and Pfeffer, (1994) considered that competitive advantage grows out of value a firm can create for its buyers that exceeds the firm’s cost of creating it. Value is what buyers are willing to pay (Fowler, King, Marsh, & Victor, 2000), and superior value stems from offering lower prices than competitors for equivalent benefits or providing unique benefits that more than offset a higher price. Porter and Pfeffer recognized competitive advantage as a strategic goal; that is a dependent variable and the reason behind this is that good performance is related to achieving a competitive advantage.

Barney, (1991) suggested that firms compete in the marketplace under one or more of the following competitive priorities. Time, quality, and cost are, along with flexibility. Several academics and practitioners have taken these four indicators, modified or not, over the past years. Many authors and practitioners have added to and adapted this list over the years (Boxall, 1996). For an example, Foo & Friedman, (1992) proposed a set of six competitive priorities, adding service and manufacturing technology to the above while expanding time into a time to market and lead times. Others have added innovation and dependability (Daniels, & Radebaugh, 1994). The researchers found that the original concept of competitive priorities suggested by Clark, Hayes, and Wheelwright (1984) fits to analyze the impact of innovation on competitive advantage, whether innovation was a part of the competitive advantage dimensions or not, but numerous studies, different business and marketing schools agreed on the importance of innovation to the competitive advantage of the firms, (Hayes and Wheelwright, 1984).
2.2 Brief Description of Competitive Advantage Dimensions

The original term, lead-time used by Hayes and Wheelwright (1984) is rephrased as time in this study. It is seen as the total time an activity requires to be executed, from the very beginning to the very end. Firms can consider the time factor to compete with each other. Delivery time can be a source of competitive advantage when firms try to reduce the period between receiving and accepting customer orders and provisions of products or services to customers (Stonebrake, Peter & Leong, 1994). It is also a measure of the firms' adherence to delivery schedules agreed upon with customers. The speed of product development also refers to the time factor; that is the period between product idea generation till achieving the final design or production (Evans, 1993). Crosby, (1995) defined quality as an absolute conformity to certain specifications. Juran (2004) described quality as fitness for use, while Barney, (1991) defined fitness as value to some person. Quality can be achieved by adding unique attributes to products to enhance their competitive attractiveness to benefit customers in the final stage (Best, 1997; in Al-Rousan & Qawasmeh, 2009). Also, quality can be achieved through a couple of dimensions such as the quality of design, which means to adapt product design to its function, and the quality of conformity which stands for the organizational capability to transform inputs to conformable outputs or outputs in accordance to the specific design characteristics, and the focus on quality will be reflected in competitive advantage and profitability of the organization. (Adam & Ebert, 1996). According to Abou-Moghli, Al Abdallah, & Muala, (2012) costs can be direct or indirect, fixed or variable, and short or long-term. Additionally, the cost can also be expressed according to its intention. Consequently, the cost of quality can be subdivided into failure, appraisal, and prevention costs. Firms must make some kind of compromise between the cost and the characteristics of their products and services. In general, most organizations choose to cut total cost by stripping fixed costs and applying continuous control on raw materials in case of production organisations, reducing employee compensation rates, and by achieving higher levels of productivity (Dilworth, 1992).

Knoll & Jarvenpaa, (1994) described flexibility as an essential property for the maintenance of fit between business processes and their supporting systems in changing environments. Flexibility is the ability to react to changes. (Forster, 2006). Flexibility can be viewed as the ability switch from one product to another or from one customer to another at the least cost or impact (Crosby, 1995). Flexibility also can be defined as the ability to adapt the production capacity to changes in the environment or market demands (Evans, 1993). Flexibility also encompasses product flexibility in the first place which is defined as the ability of the organization to trace changes in consumers’ needs, tastes, and expectations to carry out changes in product designs. The second flexibility has to do with volume which stands for the organization's capability to respond to changes in consumer demand. It is believed that such flexibility can yield benefits such as introducing new products along with product variety and controlling volume and delivery time (Stake, 1998). It is necessary to emphasize the causal link of innovation, making the competitive advantages generation possible for the firm. It is common that managers seek the survival of the organization in the initial moments and, later, the expansion of their activities through strategies that unfold in differentiation or competition for costs, either having a broad or specific focus. In this process, it is also natural to imagine that the challenges appear and that firms seek adaptation to the context, preferably in a unique way over their competitors. Giving these assurances, to achieve sustainable competitive advantages, there is the need of implementing new procedures and attributes, internal or external, which so far has not been used by the market or by the organization. It is in this context that the function of innovation is inserted as a competitive advantage generation factor (Porter, 1998).

Firms operate in a competitive environment, and one of the adopted ways to face the competition is the adoption of strategies that aim at strengthening the organization in the market. The way that the company will model its strategies to face the challenges and the way that will take advantage of the opportunities will result in or not in the achievement of competitive advantages (Rivkin, Mills, Porter, Norton, Weiss, 2015). However, Daniels, & Radebaugh, (1994) mentioned that the company must take into consideration the available sources, which can be the difference in the construction and consolidation of the advantages. In this way, the competitive advantage is achieved when the organization effectively implements a strategy or an innovation capable of creating value for the market, thereby the innovation can be the main mechanism for a company to achieve sustainable competitive advantage facing the other competitors (Hayes & Wheelwright, 1984). According to Rugman & Hodgetts, (1995) the source of differentiated competitive advantages is achieved by the reduction of prices, the use of advertising means, and the innovation of products. Under this purpose, Crosby, (1995), argued that the existing difference between the firm’s product or service and its competitors must be a long-lasting difference under the market’s supervision. Hence, the competitive advantage becomes sustainable when none of the other rival firms can replicate the benefits of the adopted strategy. Thus, the existing relation between innovation and competitive advantage is in the organization's fact to use more efficient its sources, in a way to
manage them to generate innovations and those to be subjected to achieve competitive advantage. In this way, it may be considered an innovation if there is a viable economic result and (quantitative) financial result and this innovation will be able to determine if the firm will obtain a competitive advantage facing its competitors. This advantage is characterized by the market perception of the differentiation and the value creation of products and services, which so far were not available to consumers. It is reinforced in this assurance the ex post facto character of innovation (Galende & Fuente, 2003).

According to Al-Rousan, and Qawasmeh, (2009) innovation process is key to the company's business; it is associated with the renewal and evolution of the business, renewing what the company has to offer and how it is created. To do so, each firm may adapt the innovation process to its specificities, to integrate the process into the firm's way of building knowledge. Large companies, for instance, may have their Research and Development laboratory or may outsource research; small businesses, on the other hand, prioritize speedy, empirical development of solutions, based on practical problem-solving experience (Adam & Ebert, 1996). Also, Abou-Moghli, Al Abdallah, & Al Muala, (2012) states that innovation contributes to achieving a competitive advantage in several aspects. The most important characteristics of innovations include a strong relationship between market performance and new products. New products help maintain market shares and improve profitability. Growth also employing non-price factors (design, quality, individualization, etc.). Ability to substitute outdated products (shortening product lifecycles). The innovation of processes that lead to production time shortening and speed up new product development in comparison to competitors. Noruzy, Dalfard, Azhdari, Nazari-Shirkouhi, & Rezazadeh (2013) posit that developing successful technological innovations is essential for creating and sustaining an organization's competitive advantage. According to Romero & Martine-Roman, (2012), the expenditures on research, development, and introduction of innovations are the determining characteristics for gaining a dominant part of the market. Autant-Bernard, Fadairo & Massard, (2013) in their survey also discussed the importance of the role of regional innovation. They argued that organization must have original strategies and support knowledge flows from and to the organizations. The view of Autant-Bernard, et al is supported by the results of Noruzy et al. (2013) and aligned with the previous study by Romero & Martine-Roman, (2012). The foregoing shows that the innovative activity of organizations significantly influences competitiveness which is based on inimitable skills and abilities. Achieving higher competitiveness and employing innovations means producing less costly products of better quality compared to those manufactured by competitors. If an organization is not capable of introducing innovations on an ongoing basis, it risks that it will lag and the initiative will be taken over by other entities. Schumpeter asserted that entrepreneurs attempt to use technological innovation—a new product or service or perhaps a new process in the course of their production—provided they thus gain a strategic competitive advantage. This creates competition that does not attack profit margins or the outputs of existing organizations, but their essence and their existence (Koellinger, 2008).

Within the frame of innovations - that is a necessity in the present era knowledge, information, and innovative society - to follow large organizations that engage in innovation and set the direction for others. The present concept of innovations represents an open approach that reaches beyond the threshold of an organization that exploits not only inspections and changes in the internal environment but also changes in the external environment. The internal environment of an organization needs to have a suitably preset innovative culture since this type of culture is characterized by the transience of organizational structures, utilization of specialists and temporary teams, mobile offices, the necessity of speedy and flexible changes responding to new opportunities, which increases the innovative potential of such organizations (Forster, 2006). Autant-Bernard, Fadairo & Massard, (2013) posits that there is no place for standardization; each project is unique. Its characteristic features include flexibility, openness to changes, searching for information and resources in the external environment, anticipation, creativity, experimenting, and informal communication. Checks in organizations with this type of culture are not necessary and to maintain consistency between managerial practices and the content of such culture it is impossible - good work is associated with loyalty arising from the engagement of employees in the fulfillment of the organization's goals and performance of their tasks. Montes, Moreno, Fernandez, (2004) argued that innovation is a complex technological, sociological, and economic process that involves a highly intricate set of interactions, both within the firm and between it and its economic, technical, social, and competitive surroundings. Success is therefore not expected to be satisfactorily justified by one or two factors alone. According to Montes, Moreno, Fernandez, not an element can be effective by itself; thus, no single management tool or technique will be able to create an environment that is conducive to innovation. What is found is a set of different techniques though strictly inter-related factors that must work in an integrated manner to create and reinforce an environment that fosters the success of technological innovation in an organization. According to Tellis, Prabhu, & Chandy, (2009), a company's innovative potential is not derived from a single specific skill, but rather from a set of skills termed innovative capacity, which is defined as the
internal potential to generate new ideas, identify new market opportunities and implement marketable innovations through the exploration of the company’s existing resources and capacities.

2.3 Theoretical Framework

Ecological Modernization Theory guided the basis for this study, it also provided the rationale for environmental entrepreneurship (Hajer, 2005; and Mol, 1995). Ecological modernization theory is asserted to have originated through after a thoughtful opinion by group of renowned scholars during the early 1980s among them were J. Huber, A. H. Rosenfeld, A. Lovins, E. U. VonWeizsäcker, G. Spaargaren, and D. A. Sonnenfeld (Mol, 2001; and Mol, Sonnenfeld & Spaargaren, 2009). They equally held the view and pursued that modernizing ecologically, could provide industrial development that could trigger economic growth. (Smith & Garza-Rubalcava, 2019). The theory states that an economy benefits, when there is a move toward environmentalism (Ileal, Azul, Brandli, Özuyar, & Wall, 2019). The theory elaborated on the productive use of natural resources such as environmental media and ecosystems as means for future growth and development to gain labour and capital productivities. (Ileal, Azul, Brandli, Özuyar, & Wall, 2019). Also, the theory established that it is possible to promote economic growth by giving higher priority to the environment. While, it is no longer necessary to trade off economic growth for environmental quality (Tillery & Young, 2009).

The entrepreneurialism has elaborately been asserted as having the capacity to hone out sustainable solutions to environmental problems; they are equally the engine drivers for innovation that can be harnessed to produce environmental improvements (Beveridge & Guy, 2005). According to the Ecological modernization theorists, the persistent world environmental problems act as a driving force for future industrial activity and economic development. Thus, the theory calls for the progressive modern institutions and the society. For instance, Joseph Huber the father of Ecological Modernization Theory (Mol, 1995) asserts that entrepreneurs are the central agents of change in that process of transformation to avoid an ecological crisis (Gibbs, 2009; Mol, 1995; and Tillery & Young, 2009). Entrepreneurial action, therefore, is the best solution to environmental problems because of their ability to combine new thinking, approach and its relative to environmental awareness to conventional entrepreneurial activity to achieve entrepreneurial success. (Anderson, 2008). Ecopreneurs are reckoned as a force in transitional drive for a more sustainable business model (Schaper, 2002). On the basis of this theory of the ecological modernization, economic growth and competitive advantage among agro-allied businesses can be achieved through ecopreneurship practices.

3. METHODOLOGY

This study employed a survey method to evaluate the effect of ecopreneurship on innovative performances of selected agro-allied businesses in North Central Nigeria. The survey focused on the people, the vital facts of people and their beliefs, opinion, attitudes, motivation, and behaviour. The North-central region of Nigeria comprises six states: Kwara, Niger, Kogi, Plateau, Nasarawa, Benue states, and the Federal Capital Territory (Abuja). It is mainly the home of the different tribes in Nigeria, speaking different dialects of language even within the same state. There is a high degree of socio-cultural heterogeneity in the study area. The inhabitants of this area which are a mix of Hausa, Fulani, Idoma, Nupe, Tiv, Tapa, Yoruba, Igala among others, are known for their hard work and economic prowess, among other qualities. The people engage in different forms of economic activities including agro-allied enterprises. The population for the study constitutes of three hundred and forty (340) randomly selected agro-allied businesses in the study area. For this study, the owners or managers of the selected agro-allied companies were limited to capital cities of the north-central states, because where the owners of such businesses may not have enough technical knowledge to answer the questions, the managers who are technocrats can appropriately answer the questionnaire. The study implored a well-structured questionnaire for the collection of the primary data which was personally administered to the respondents. The wording of the questionnaire was made simple enough to aid easy understanding to the respondents with a 5-point Likert scale, used for rating their opinions toward the study objectives. Also, the secondary information was gathered from journals, magazines, newspapers, textbooks, and other records that are relevant to the study which was sourced from records of institutions in the agriculture sector as well as from published sources. The secondary sources were extensively utilized in the analysis and literature review. The Statistical Packages for Social Sciences (SPSS) was used to aid the data analysis as well as the Z-test to test the hypotheses.

Model Specification

The model specification, the general formula for the Regression Analysis is:

\[ Y = a + \beta X + e \]  

(1)

Where; \( Y \) = Dependent Variable; \( X \) = Independent Variable, \( a \) = constant.  
\( \beta \) = coefficient of \( X \), \( e \) = error margin
The model to be estimated is functionally stated as

\[ ESC = f (GAP, AAB, EST, EPR) \] ..................................................2

\[ ESC = f (GAP*COS, ESC*ABG, CRE& INN*PRO, ESC*CAU, EPR*CMA) \] …………..3

This can be stated in econometric form as

\[ CAU = \alpha_4 + \beta ESC + e_4 \] ..............................................................................4

\[ CMA = \alpha_5 + \beta EPR + e_5 \] ..............................................................................5

\[ ESC*CAU = \text{Interaction effect of ecosystem and capacity utilization} \]
\[ EPR*CMA = \text{Interaction effect of ecopreneurial practice and competitive advantage} \]

Where: GAP = Green Agricultural products,
COS = Continuous Survival,
AAB = Agro-Allied Business,
EST = Environmental Sustainability,
ABG = Agricultural Business Growth
CRE& INN = Creativity and Innovation,
PRO = Productivity,
ESC = Ecosystem Control,
CAU = Capacity utilization,
EPR = Ecopreneurial practices,
CMA = Competitive advantage

Reject H0 where \(|p < 0.05| \) given the computed value of the coefficient \(\beta\) for each of the independent variables in the model. The formula for Z-test is;

\[ Z = \frac{x - \mu}{\sigma/\sqrt{n}} \] ........................................................................................................ 6

where; \(x\) = population mean, \(\mu\) = sample mean, \(\sigma\) = standard deviation, \(n\) = sample size

Reject H0 if \(|p < 0.05| \) given the computed value of Z. Otherwise, accept it.

4. RESULTS AND DISCUSSIONS

Table 1: Model Summary

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. An error of the Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.918(^a)</td>
<td>.891</td>
<td>.842</td>
<td>30.4683</td>
</tr>
</tbody>
</table>

\(^a\). Predictors: (Constant), Ecopreneurial practices

Table 2: ANOVA

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>Df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Regression</td>
<td>20670.151</td>
<td>1</td>
<td>20670.151</td>
<td>21.265</td>
<td>.002(^a)</td>
</tr>
<tr>
<td>Residual</td>
<td>2785.049</td>
<td>339</td>
<td>928.350</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>23455.200</td>
<td>340</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

\(^a\). Predictors: (Constant), Ecopreneurial practices

b. Dependent Variable: Competitive advantage

Table 3: Coefficients

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
</tr>
<tr>
<td>1</td>
<td>(Constant)</td>
<td>116.031</td>
</tr>
<tr>
<td></td>
<td>EI</td>
<td>1.964</td>
</tr>
</tbody>
</table>

\(^a\). Dependent Variable: Competitive advantage
Table 1 shows the results of the hypothesis. The test shows the influence of ecopreneurial practices on the competitive advantage of agro-allied businesses in Nigeria. The F-value is calculated as the Mean Square Regression (20670.151) divided by the Mean Square Residual (928.350), yielding F=21.265. The results in the table are statistically significant (Sig = 0.002). The analysis revealed that entrepreneurial practices accounted for 93.9% increase in the competitive advantage (R = .918, F (1, 964) = 21.265, p < .05). Since the result of the ANOVA in Table 2 show a significant level of 0.002, and an F-value of 21.265 being high, the alternate hypothesis states that ‘Ecopreneurial practices would have a positive influence on the competitive advantage of agro-allied businesses in Nigeria’ is therefore accepted. Findings revealed that ecopreneurial practices have a significant influence on the competitive advantage of agro-allied businesses in Nigeria. The implication is that ecopreneurial activities and practices have a positive influence on the competitive advantage of agro-allied business in Nigeria. This is in line with the earlier study carried by Oskamp, (2000) supported by Hamza, (2010) that established that if a firm partakes in ecopractices has full control over its costs, handling and sales revenue which is all competitive edge in a keen environment. The findings also gave a nod to the work of Taylor & Walley, (2003; Isaak, (2002; and Koester, (2011) that explained the long-run business effectiveness of ecopreneurial activities. However, the result negates the outcome of the finding of McEwen, (2013) that elucidated on the pitfalls of eco practices on business arguing that many people do not attached relevance to ecopreneurship.

5. CONCLUSION

The ecopreneurship practices intervention is particularly important to the long-term sustainable development of Agro Allied firms that promotes the overall growth of the agricultural sector and businesses. The key factor is that value sustainability is the usefulness and attainment that enhances sustainability and competitiveness in every business. The achievement of enhanced productivity and income by agro-allied businesses through ecopreneurialism, market access opportunities (input and output) will of necessity foster them to the innovation or process in the overall industry. Despite the changes in legislation and regulations to protect the environment, Nigeria and other various countries continue to face unprecedented environmental problems such as climate change, population growth, overflowing landfills, water scarcity, fuel shortages, water, and air pollution. A buy-in and acceptance is important, given that agro-business firms are generally unable to maintain competitiveness and growth path, governments fiscal incentives at that level is required to maintain their capacity. The existence of any one or more of the activities described in this study can trigger change and promote ecopreneurship. However, whether such change can be sustained over longer periods will depend on the support gained from key forces most especially the government and society at large. In the case of Nigeria, this study identified five key activities that are strong enough to bring about change, namely: green production practices, creativity and environmental innovation, ecopreneurs practices, the ecosystem control, and environmental sustainability. It is therefore evident in Nigeria, that the competitive and economic advantages of going green are not very strong, hence it may require more time for ecological values to express itself in the agricultural business area. Noting that at the grass-roots level, where economic stakes are not very high, expression of such values seems to be less inhibited; a situation that also applies to the upper end of the agro-allied business in their eventual lag to continual invention, innovation, and creativity being the most viable method to get instant access to industry- or operations-specific knowledge and keep abreast of the pace of technological change. Ecopractices must not just be a back-runner in agro-allied organizations rather it should be incorporated as the critical aspect of organizational turn-around to be prioritized during policy-making and strategic decisions. The education of producers, consumers, and regulators that will pave the way for a major transformation of the agricultural industry. This will stimulate the ecopreneurs to develop more ecopreneurial practices that would not only give them a competitive advantage but will also go a long way in developing the sector.

6. RECOMMENDATIONS

Consequently, foregoing from the findings and discussions that emanated from this study, the following recommendations suffice. That the Nigeria government should strengthen its external relations towards establishing national standards for the quality of the environment and the implementation of the environmental regulations. They should take further proactive measures through state-level ministries of environment to encourage the ecopreneurs to develop more environmentally friendly products and as well as enhance their level of involvement in a green production practice. That the government and society at large should tap into international standards to support the phasing-out of products and processes that are known to contribute to global warming and ozone depletion. They could also strengthen the consumer movement in the country. Since
environmental sustainability promotes business growth, agro-allied business needs to build more on their sustainability concerns as it affects agricultural products. Agro-allied business must consider continued invention, innovation, and creativity as the most viable method to get instant access to industry- or operations-specific knowledge and keep abreast of the pace of technological change. Agro firms must engage their managerial team, through training and development to know, understand, and apply, the principles of ecopreneurship practices and ecological management in their daily decision making, especially as it concerns agro-allied operations.

REFERENCES
Beveridge, R., & Guy, S., (2005). The rise of the ecopreneur and the messy world of environmental innovation. Local Environment, 10(6), 665-676.


