

“Green entrepreneurship and performance of small and medium enterprises in North-Central Nigeria”

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GREEN ENTREPRENEURSHIP AND PERFORMANCE OF SMALL AND MEDIUM ENTERPRISES IN NORTH-CENTRAL NIGERIA

Abstract

Many countries worldwide make efforts to decrease environmental degradation and small and medium enterprises (SMEs) engage in such business operations. However, considering the Nigerian context, evidence on their impact is scarce. Therefore, this paper investigates the effect of green entrepreneurship on the performance of SMEs in North-Central Nigeria federal territory. A pre-test was conducted, and a descriptive cross-sectional questionnaire was used. The study examined 1,233 consenting randomly chosen respondents from six states and Abuja City in North-Central Nigeria. Simple linear regression was used to test the hypotheses. The findings demonstrated that green entrepreneurship can decrease the negative impacts of business activities on the environment and also ensure profitability. Moreover, green entrepreneurial innovative production and green entrepreneurial inclination significantly impact competitive edge ($\beta = 0.806$, t -value= 49.648, $P = 0.000 < 0.05$) and customer spending ($\beta = 0.976$, t -value= 51.315, $P = 0.000 < 0.05$), respectively. The study offers useful public information and experimental confirmation of environmental sustainability engaged in viable business activities.

Keywords

green entrepreneurship, business performance,
small and medium scale enterprises, environmental
sustainability

JEL Classification

F18, O44, Q56

INTRODUCTION

The interest of many concerned parties in green entrepreneurship has increased due to the trending issue of the need to preserve the earth's resources (Yin et al., 2022). It is strongly observed that green entrepreneurship practices bring better and more compelling competitive advantage for a firm through green entrepreneurial innovation (Soewarno et al., 2019). The idea of green entrepreneurship is based on business owners' ability to diversify ideas and implement new concepts where the environment and citizens are safe. Therefore, many firms intend to adopt green practices. However, a lack of readiness regarding competent workers, ideas, and creativity in production denies them from adopting green processes (Ebrahimi & Mirbargkar, 2017). Nevertheless, there are chances for firms with inquisitiveness and innovative capability to revert to green practices and surpass other competing products in the markets (Tola, 2019).

Meanwhile, firms that intend to go green need to understand that inability to sustain product quality and consumers' taste could affect the products negatively. Thus, the outcome of innovation matters most (Choongo, 2017). However, Zimon (2018) expressed that most firms could not sustain the quality of their products from production to consumers due to poor or unreliable supply chains. In most cases,

consumers are unaware of the distribution model of a product, which may affect their appreciation of the green supply chain (Anggadwita & Mustafid, 2014). It is evident that a green supply chain, such as package, store, warehouse, and distributor compliance, could not go unnoticed by consumers, particularly in this day and age when consumers are more informed than ever (Moorthy et al., 2012; Osakwe et al., 2015; Zygmunt, 2017).

According to Moorthy et al. (2012), corporations are now incorporating green business solutions that increase value to organizations and their stakeholders since natural environmental challenges have steadily become crucial to the business. Consumers now rate firms as green compliance based on the tendency to adopt green entrepreneurship since it has become essential to change individual lifestyles and collectively take responsibility to engage in deliberate actions to tackle environmental concerns as a topmost focus (Zubair & Khan, 2019). Therefore, firms' green entrepreneurial inclination could also account for some level of performance. The quality of the green approach in the economy is evaluated in relation to the level of engagement of the idea (Pangarso et al., 2022). Green management or green approach by entrepreneurs has an impact as an array of economic and strategic competitive benefits. The union has to balance its moral implication and not just a reactive mechanism (Molina-Azorin et al., 2009). In simple terms, green promotion is another approach a firm could use to convince its consumers about its intention of securing people's health. Aligning every promotion to green enterprise standards could earn recognition for a firm and bring a brand to the top of the list among consumers. This is based on the perception that activities aim to promote the well-being of humanity and society in general (Zoogah, 2011).

However, there is a need for equilibrium in the green entrepreneurship processes of production, promotion, orientation, inclination, and distribution. Adopting a green entrepreneurship process is expected to promote firms' overall performance. Meanwhile, various factors could affect the firm's financial or non-financial performance, such as the approach firms take to operate in society, the technology adopted, the resources available, competent hands, and other variables (Chukwuka, 2018). Moreover, consumers' perceptions of the firm could significantly impact the firm's performance because activities targeted at promoting the well-being of humanity and society in general (Zoogah, 2011) endear people of such firms. Organizations are now using various approaches and practices to shape the consumers' perception of their products and brands (Peng et al., 2018).

For the green approach to saturate the economy for a positive effect, the importance of SMEs and their essential role in national economic viability cannot be ignored. Therefore, managers must drive a sustainability strategy aligned with the trending green approach as a pivot to their economic activities (Pangarso et al., 2022). In Nigeria, SME activities are also observed, and the level of response to environmental degradation so far needs to be analyzed.

1. LITERATURE REVIEW

1.1. Green entrepreneurship

There are several definitions for green entrepreneurship, also known as ecopreneurship; for example, Farinelli et al. (2011) and Gibbs and O'Neill (2012) defined it as the adoption of innovations in sustainability and the promotion of a green economy. Entrepreneurship is an important concept applied to both individual and company levels. Therefore, adopting green enterpris-

es implies business activities that recognize the need for the safety of the environment and humanity, thereby better referred to as ecopreneurship. Entrepreneurship actively seeks new goods and business models within current businesses; it is not only about making new investments (Iyer, 2011). Huang and Li (2017) asserted that entrepreneurs consistently work to raise their financial situation, exhibit creative behavior, and provide customers with higher-quality services. This study favored Ebrahimi and Mirbargkar's (2017) definition of entrepreneurship, which is an inventive

process involving the diligent and persistent exploitation of chances as well as the taking of financial, mental, and social risks. The aim is to acquire financial advantage, success, personal fulfillment, and independence.

The propensity for entrepreneurship influences how a firm makes strategic decisions and how it is managed (Farinelli et al., 2011). It involves company performance, growth stimuli, and emotional competency (Iyer, 2011). In addition, it comprises three traits that are commonly used to gauge innovative behavior, including pro-activity, risk-taking, and inventiveness (Doern, 2009).

Pro-activeness refers to a company's capacity to seize chances. A business examines market alterations to improve its capacity to foresee future market trends (Gibbs & O'Neill, 2012). Companies that take the initiative stop using and producing things that are past their prime (Ebrahimi & Mirbargkar, 2017). Innovation is the next metric. According to the benefits of preserving fresh concepts, innovativeness and creativity are associated (Horvathova, 2012). Providing enduring value for the line's products, brand, and consumers entails avoiding tried-and-true ideas and techniques (Hong et al., 2013). Thus, one can argue about the continual seeking for sustenance level and the need to give back to nature where all resources (land, equipment, raw materials, plants, and man) are gotten lead to eco-friendly entrepreneurship. Last but not least, taking risks and trying new things have a natural failure probability that could harm society. However, it remains the nature of the business to take the possible risk to grow and develop modern products.

The fundamental idea of green entrepreneurship is enterprise practices that involve risk-taking that are harmless to the host community, environment, workers, and consumers. According to Huang and Li (2017), most entrepreneurs and business owners today attempt to go beyond sustainable development. The ecopreneur makes sure that today's actions have no adverse effects on the environment and, where feasible, returns to an earlier time when there was no risk. Green entrepreneurship involves intentionally addressing environmental and social demands and challenges and ensuring that the solutions have no negative financial impact on the organization.

1.2. Small and medium enterprise (SME) performance

It is vital to evaluate SME performance for various reasons. For starters, small and medium-sized firms greatly influence GDP and unemployment. SMEs contribute considerably to global GDP and the decrease of unemployment, apart from centralized economic systems, which are on the threshold of annihilation (Ayyagari et al., 2013). Secondly, the importance of small and medium-sized firms has grown dramatically due to the difficulties in recovering from the worldwide economic emergency and the interconnectedness of national economies brought about by globalization. This is because these firms are more suited and acclimatize to the requirements of an incessantly varying environment (The Economist Intelligence Unit, 2013). Thirdly, SMEs exemplify entrepreneurship and free enterprise, both of which are required for a competitive market (Misoska et al., 2016). Finally, albeit to varying degrees (depending on the economy, region, or entrepreneurial attitude), SMEs are essential in stimulating technological innovation in the economy and social activities (Ayyagari et al., 2013; Zygmunt, 2017).

Small and medium-sized businesses can be judged on their effectiveness, profitability, productivity, market share, revenue, cost, and liquidity dynamics, as well as their achievement of goals, leadership style, employee behavior, and customer happiness (Zimon, 2018). A set of 14 indicators is used to evaluate the performance of small and medium-sized businesses, including public image, productivity, staff morale, earnings, sales, on-time order delivery, appropriate work capital, effectiveness in production operations, quality of products, achievement of targets, clientele, ease of supervision, cost reduction, and product diversification (Alpkan et al., 2007; Gopang et al., 2017; Sheehan, 2014). In addition, macroeconomic factors and the internal environment (business characteristics and strategy) are significant drivers of small and medium-sized firm performance (Ipinaiye et al., 2017). Furthermore, Choongo (2017) and Rekik and Bergeron (2017) have shown how applying "green practices" to small and medium-sized businesses may enhance their performance in terms of social and environmental responsibility.

1.3. Green entrepreneurial innovative production and competitive advantage

Green innovation refers to all aspects of environmentally friendly items and procedures, such as minimizing energy usage, regulating pollution, recycling garbage, creating products, and managing the environment (Chan et al., 2012). Green business techniques are therefore anticipated to ensure pollution control and sustainable performance, which can increase customer choice (Mugo, 2015). According to Mugo (2015), businesses could use green strategies, which are dynamic entrepreneurial efforts on sustainable performance, to gain a competitive edge. GE innovation is, without a doubt, the synthesis of a few entrepreneurial qualities as a decision-making position towards the strategy-making process, which cannot intrinsically deliver firm success without its procedure uses (Hughes et al., 2018). According to Alegre and Chiva (2013), the link between performance and green entrepreneurial innovation is missing. Hughes et al. (2018) claimed that organizational capacity and resources frequently mediate entrepreneurial orientation and effectiveness (Maureen, 2020). For instance, Martin and Namusonge (2014) discovered that the association between entrepreneurial approach and performance is mediated by green entrepreneurship innovation.

Alegre and Chiva (2013) investigated how organizational learning capability positively influences entrepreneurial attitude and innovation performance. Wilburn-Green et al. (2015) discovered a beneficial mediation relationship between innovation and corporate success and green behavior. Green innovation includes green product and process innovation, including green administrative innovation (Chan et al., 2012). Additionally, it necessitates minimizing the environmental effects of the whole product life cycle, including manufacturing-related pollution, increasing energy efficiency, and adopting biodegradable packaging (Wilburn-Green et al., 2015). The usage and disposal stages of the manufacturing process are primarily responsible for the environmental effects. Briefly, “green product innovation” emphasizes minimizing the consequences of manufacturing, utilization, and dumping on the surroundings (Sarosa & Zowghi, 2013). Green entrepreneurship

and green company development may be aided by green innovation. Green innovation lessens harmful environmental consequences and has received much attention (Shafeek, 2006).

1.4. Green entrepreneurial inclination and customer patronage

Environmental challenges caused by nature are increasingly crucial to the business. Green business strategies that provide value for firms and their stakeholders should be a fundamental component of company operations (Nicolini, 2001). As a result, solving the issues with the natural environment that fall under the category of “green” is now crucial for the survival and development of any organization (Habib, 2020). According to Schaper (2002), the green business perspective establishes a solid foundation for starting and expanding a successful company that attracts more customers. Numerous studies have shown a significant connection between environmentally conscious company strategies (such as environmental marketing) and clientele support and satisfaction (Peng & Lin, 2008). According to De Guimarães et al. (2018), “green” actions are those in use to decrease environmental dilapidation and improve environmental sustainability.

Furthermore, it has been suggested that, rather than law, entrepreneurial spirit is more important for green economy development (Mitra & Datta, 2014). According to Peng and Lin (2008), Zsidisin and Siferd (2001), and Habib (2020), motivation is a critical aspect in stimulating sustainable efforts through green practices to achieve a balance between the demands of the environment, the economy, and the people. These motives may also help to develop green entrepreneurship companies that finally attract customers’ interest and support.

The firms’ inclination to green entrepreneurship can be defined by the tendency for the firm to adopt green practices. Mitra and Datta (2014) report that some individuals within an organization make the moves for firm practices and could influence the tendency to adopt or not adopt green entrepreneurship practices. Zsidisin and Siferd (2001) argued that some

management teams support entirely green practices, while some organizations' management members are skeptical of the need for green practices or the cost of attaining green practices. Similar circumstances were documented by De Guimarães et al. (2018), who demonstrated how a company's overall success in client patronage is influenced by its strong inclination to implement green practices, particularly among aware customers in developed economic countries. Thus, with the inter-boarder pattern of consumers, no today's firm assumes customers are unaware of green entrepreneurship. As declared by most organizations, cost-effective production through green entrepreneurship could convince others to adopt green practices. Mitra and Datta (2014) argued that firms with a strong appeal toward green practices are likely to attract more customers in terms of patronage.

Similar conclusion was reached by Zsidisin and Siferd (2001); they found that firms that are consistent in attracting customers have recorded patronage based on their direct involvement in green production practices. In addition, customers' patronage depended on the rate of organization adoption, inclination, and practices of green enterprises (De Guimarães et al., 2018). Thus, the more firms appeal to use green practices, the more their chances are to influence consumer patronage.

2. AIM AND HYPOTHESES

Successful green practices increase efficiency, develop core capabilities, and improve a company's green image; these factors may eventually increase a company's profitability (Rahman & Qi, 2016). Previous worldwide studies have found that companies with higher environmental ratings have more significant financial returns from the market as a whole. However, companies with poor evaluations produce lower earnings (Ngniatedema & Li, 2014).

Managers are becoming more aware of their environmental responsibilities, but so are customers and stakeholders impacted by unsustainable firms (Nunes & Bennett, 2010). Meanwhile, more convincing evidence needs to be seen about the impact

of green entrepreneurial adoption among SMEs in developing nations like Nigeria. Consumers may be less aware of green entrepreneurial adoption by SMEs, which makes their efforts go unnoticed. Moreover, the number of firms that adopted green entrepreneurial have not been reaping any reward in terms of higher performance to convince other firms to follow suit to save the environment as business activities increase.

Thus, it is vital to conduct a study like this to look at how worthy it is to adopt a green entrepreneurial approach regarding its impact on the performance of those SMEs, especially in North-Central Nigeria. Moreover, this will illustrate the practicability of green processes or otherwise.

The fundamental objective of this study is to investigate how green entrepreneurship influences the performance of small and medium-sized firms in North-Central Nigeria. Among the specific objectives are the following:

- 1) determine whether green entrepreneurial innovative production influences competitive advantage; and
- 2) ascertain the influence of green entrepreneurial inclination on customer patronage.

The central pillars of this study are Penrose's Resource-Based View (RBV) and Ajzen's Theory of Planned Behavior (TPB). These theories complementarily explain the relationship between environmental sensitivity business practices (green entrepreneurial) and SMEs' performance. According to the notion known as the resource-based view (RBV), each organization has a certain amount of resources. According to RBV theory, intangible assets are essential for a company's success (Amit & Schoemaker, 1993). This theory notes that entrepreneurs must interact with their resources over time to discover their productive services and judge how best to allocate, deploy, and maintain those resources (Penrose, 1959). Technological advancements, production/process, expertise, customer loyalty, and machine capacity are all among the company's resources (Wernerfelt, 1984).

According to Ajzen's Theory of Planned Behavior, a person's behavioral intentions and overall be-

Source: Maureen (2020).

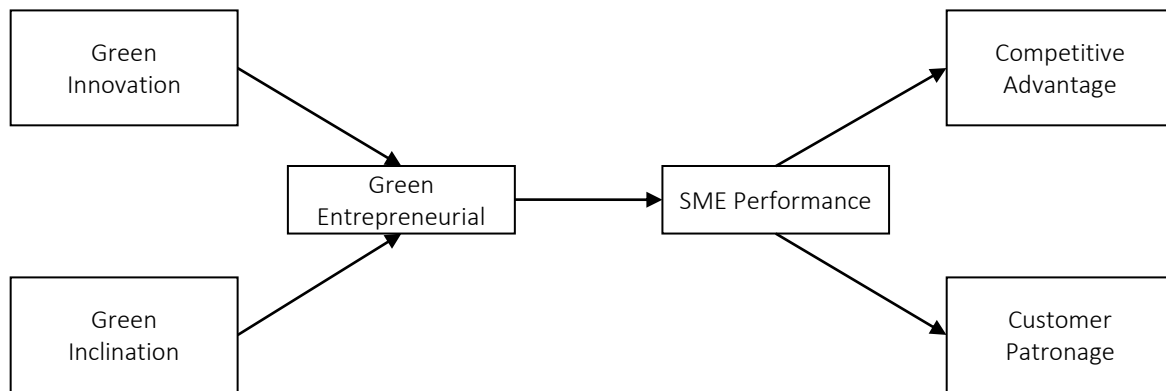


Figure 1. Conceptual framework

haviors are governed by their attitude toward behavior, subjective standards, and perceived behavioral control (TPB). The theory may be used to increase the predictive ability of the theory of reasoned action by including perceived behavioral control. This has resulted in a large body of research on the concept of planned behavior and its application to the relationships between beliefs, attitudes, behavioral intentions, and behaviors in various industries, including sustainability, public relations, advertising campaigns, healthcare, and sports management. The theory of planned behavior (TPB), according to Ajzen (1991) and Crook et al. (2011), may be used to discover and investigate the link between the benchmarking competency of developers as well as that of managers in any organization. Benchmarking is done within a dynamic organizational environment with multiple stakeholders. Thus, small and medium enterprises that intend to make its product acceptable and sustain higher patronage need to have a strategic green process in their plan that communicates the organizational consideration of the environment. The alignment of the Resource-Based View (RBV) and the theory of Planned Behavior gives bases for the formulation of these two hypotheses (Figure 1):

H_1 : *Green entrepreneurial innovative production significantly affects competitive advantage.*

H_2 : *The propensity to become green in business significantly impacts customer patronage.*

3. METHODOLOGY

This study was carried out in North-Central States in Nigeria. Based on the Bureau of Statistics’ 2017 Demographic Statistics Bulletin, the North-Central States, one of Nigeria’s six major geopolitical zones, is made up of the following: Abuja, Benue, Kogi, Kwara, Nassarawa Niger, and Plateau (Table 1), with a combined population of roughly 10 million. This study examines SMEs in Nigeria’s North-Central States using data from 2017 from the National Bureau of Statistics (NBS) and the Small and Medium Scale Enterprises Development Agency of Nigeria (SMEDAN) websites.

Table 1. Population of the study

S/n	State	Number of SMEs
1	Benue	1811
2	Fct Abuja	2825
3	Kogi	1027
4	Kwara	1416
5	Plateau	1574
6	Nassarawa	2604
7	Niger	2121
Total		13378

The Cochran (1963) formula was used for large and finite populations. The sample for proportions is $n = 1,233^1$ proportional stratified sample approach was used for firms in each North-Central Nigeria state (Table 2).

1 Cochran formula is expressed as $n = \frac{z^2 P q}{e^2}$ where n = the sample size, $z = 1.96$, P = success, q = failure, e = error 0.05 n as used in the study = $n_1 + n_1 + n_2 + n_3 + n_4 + n_5 + n_6 + n_7$; Each n_i at various degree of failure and success in each state which is not uniform. Added each sample which gives a total of $n = 1,233$ (Note P various values and likewise q as applicable in each state. This was necessary given the heterogeneous of the various locations.

Table 2. Sample size distribution of SMEs in North-Central, Nigeria

Source: Authors' elaboration.

S/n	State	SMEs	Sample SMES in North-Central
1	Benue	1,811	1,811/13,378 · 1,233 = 167
2	FCT Abuja	2,825	2,825/13,378 · 1,233 = 260
3	Kogi	1,027	1,027/13,378 · 1,233 = 95
4	Kwara	1,416	1,416/13,378 · 1,233 = 131
5	Plateau	1,574	1,574/13,378 · 1,233 = 145
6	Nassarawa	2,604	2,604/13,378 · 1,233 = 240
7	Niger	2,121	2,121/13,378 · 1,233 = 195
Total			1,233

Three scholars, as well as two industry experts, carefully examined the instrument to ensure objectivity before determining the content validity of the instrument. Due to the consistent scale utilized for the questionnaire item, the reliability test results from the pre-study research were conducted to use as internal consistency usually entails Cronbach's Alpha, utilizing SPSS (statistical software for social sciences) version 20.0. As a result, the presented reliability test results were judged reliable since Cronbach's Alpha value for each variable was more than 0.70 (Table 3).

The data analysis procedure included statistical techniques such as descriptive tools, frequency tables, simple percentages, and averages. In contrast, hypotheses 1 and 2 were tested at a 0.05 significant level using inferential statistics such as simple linear regression analysis. Statistical Package for Science was used for all analyses (SPSS 25.0

windows). The decision rule is: Reject the null hypotheses (H_0) if the p-value < 0.05. If not, accept.

4. RESULTS

The survey (field) data were compiled, summarized, and displayed as frequency tables and percentages. One thousand two hundred and thirty-three (1233) questionnaires –representing 98.6 percent – were recovered from the one thousand two hundred and fifty (1,250) surveys sent. The instruments were deemed appropriate for further examination since preliminary tests revealed they were suitable (Table 4). Further analysis was conducted based on this filled-out and returned instrument because of the high response rates.

4.1. Analyses of responses

Table 5 revealed that 550 (44.6 percent) agreed, 195 (15.8%) disagreed, and 65 (5.3%) strongly disagreed that their firm's material confirms to GE. In comparison, 423 (34.3%) strongly agreed that their firms use only materials that conform to green entrepreneurial, 56 (4.5%) strongly disagreed, 260 (21.1%) disagreed, 65 (5.3%) could not decide, 558 (45.3%) agreed. In comparison, 294 (23.8%) strongly agreed that pieces of machinery and equipment in their firms were compliant with green entrepreneurial, 113 (10.8%) strongly disagreed, 184 (14.9%) disagreed, and 64 (5.2%) could not decide, and 607 (45.3%) agreed. In comparison, 245 (19.9%) strongly agreed that their

Table 3. Reliability values

Source: SPSS Version 25.0.

Variables	The number of survey items	Cronbach's Alpha	Decision
Green Entrepreneurial Innovation Production	4	0.909	Reliable
Green Entrepreneurial Inclination	4	0.823	Reliable
Competitive Advantage	4	0.853	Reliable
Customers' patronage	4	0.951	Reliable

Table 4. Administration of instrument

Source: Authors' elaboration.

Description	Abuja	Benue	Kogi	Kwara	Nassarawa	Niger	Plateau
Filled and returned	260 (99.2%)	167 (98.2%)	95 (100.0%)	131 (97.0%)	240 (98.0%)	195 (99.5%)	145 (98.6%)
Not correctly filled but returned	2 (0.8%)	2 (1.2%)	0 (0.0)	3 (2.3%)	4 (1.6%)	1 (0.5%)	0 (0.0)
Not returned	0 (0.0)	1 (0.6%)	0 (0.0)	1 (0.7%)	1 (0.4%)	0 (0.0%)	2 (1.4%)
Total	262	170	95	135	245	196	147

Table 5. Opinions on green entrepreneurial innovation production

Source: Authors' elaboration.

Statement	Responses	Frequency	Percentage	Mean \pm SD
My firm uses only materials that conform to green entrepreneurial	Strongly disagree	65	5.3	3.87 \pm 1.198
	Disagree	195	15.8	
	Agree	550	44.6	
	Strongly agree	423	34.3	
Machinery and equipment in my firm compliant with green entrepreneurial	Strongly object	56	4.5	3.63 \pm 1.186
	Disagree	260	21.1	
	Undecided	65	5.3	
	Agree	558	45.3	
My firm usually ensures standard product testing that conforms with green entrepreneurial	Strongly concur	294	23.8	3.52 \pm 1.262
	Strongly object	133	10.8	
	Disagree	184	14.9	
	Undecided	64	5.2	
My firm engaged a technical team that can work with green entrepreneurial in mind	Agree	607	49.2	3.58 \pm 1.415
	Strongly concur	245	19.9	
	Strongly object	195	15.8	
	Disagree	69	5.6	
Grand Mean \pm SD	Undecided	230	18.7	3.65 \pm 1.124
	Agree	310	25.1	
	Strongly concur	429	34.8	

firms usually ensure standard product testing that conforms to green entrepreneurial and 195 (15.8%) strongly disagreed, 69 (5.6%) disagreed, 230 (18.7%) could not decide, 310 (25.1%) agreed. In comparison, 429 (23.8%) strongly agreed that their firms engaged a technical team that can work with green entrepreneurial in mind.

The frameworks of green entrepreneurial innovation development obtained high grades from re-

spondents, with a grand mean value of 3.65 > 2.50 Likert benchmark and a standard deviation of 1.124 1.291 Likert benchmark.

Table 6 showed that 250 (20.3%) strongly disagreed, 125 (10.1%) disagreed, 176 (14.3%) could not decide, and 255 (20.7%) agreed that their firm differs from others due to green compliance. In comparison, 427 (34.6%) strongly agreed that products from their firm usually differ from others due to green com-

Table 6. Opinions on competitive advantage

Source: Authors' elaboration.

Statement	Responses	Frequency	Percentage	Mean \pm SD
Products from my firm usually differ from others due to green compliant	Strongly disagree	250	20.3	3.39 \pm 1.534
	Disagree	125	10.1	
	Undecided	176	14.3	
	Agree	255	20.7	
Using environment-friendly resources allows my firm to offer the product at a low cost to others	Strongly agree	427	34.6	2.84 \pm 1.269
	Strongly object	117	9.5	
	Disagree	567	46.0	
	Undecided	125	10.1	
Products in my firm are always adaptable to any market because of their environmentally compliant	Agree	239	19.4	4.03 \pm 1.084
	Strongly concur	185	15.0	
	Disagree	192	15.6	
	Undecided	132	10.7	
The selling rate of product from my firms are prompt due to their alignment with environmentally friendly standard	Agree	361	29.3	3.63 \pm 1.400
	Strongly agree	548	44.4	
	Strongly object	192	15.6	
	Disagree	57	4.6	
Grand Mean \pm SD	Undecided	196	15.9	3.74 \pm 1.110
	Agree	358	29.0	
	Strongly concur	430	34.9	

pliance, 117 (9.5%) strongly disagreed, 567 (46.0%) disagreed, and 125 (10.1%) could not decide, 239 (19.4%) agreed. In comparison, 185 (15.0%) strongly agreed that using environment-friendly resources allows their firms to offer products at low cost to others, 192 (15.6%) disagreed, 132 (10.7%) could not decide, and 361 (29.3%) agreed. In comparison, 548 (44.4%) strongly agreed that products in their firms are always adaptable to any market because of their environmental compliance. In comparison, 192 (15.6%) strongly disagreed, 57 (4.6%) disagreed, 196 (15.9%) could not decide, 358 (29.0%) agreed, while 430 (34.9%) strongly agreed that the selling rate of products from their firms are prompt due to their alignment with environmentally friendly standard.

The grand mean value of $3.72 > 2.50$ Likert benchmark and the standard deviation of 1.110 1.291 Likert benchmarks reflect respondents' perceptions of competitive advantage.

Table 7 showed that 132 (10.7%) strongly disagreed, 192 (15.6%) disagreed, 61 (4.9%) could not decide, and 486 (39.4%) agreed that employees of their firm tend to adopt green entrepreneurial. In comparison, 362 (29.4%) strongly agreed that it is always known to employees that their firms tended to adopt green entrepreneurial, 197 (16.0%) strongly disagreed, 192 (15.6%) disagreed, 114 (9.2%) could not decide, 604 (49.0%) agreed. In comparison, 126 (10.2%) strongly agreed that their organ-

izations usually make it appealing for workers to use a green entrepreneurial approach, 71 (5.8%) strongly disagreed, 247 (20.0%) disagreed, and 671 (54.4%) agreed. 244 (19.8%) strongly agreed that the top management staff in their firms do show readiness to apply green entrepreneurial practices. In comparison, 252 (20.4%) strongly disagreed, 180 (14.6%) disagreed, 129 (10.5%) could not decide, 361 (29.3%) agreed, while 311 (25.2%) strongly agreed that there is always an encouragement for employees to adopt green entrepreneurial practices.

The aspects of a green entrepreneurial propensity were seen favorably by respondents on the Likert scale, with a grand mean of $3.42 > 2.50$ and a standard deviation of 1.07 1.291.

According to Table 8, 71 (5.8%) respondents strongly disagreed, 132 (10.7%) disagreed, 121 (9.8%) could not make up their minds, and 606 (49.1%) agreed that products from their firm influence prompt purchase decision. In comparison, 303 (24.6%) strongly agreed that the products from their firms do influence prompt purchase decisions, 135 (10.9%) strongly disagreed, 239 (19.4%) disagreed, and 488 (39.6%) agreed. 371 (30.1%) strongly agreed that there were usual repeat purchases by consumers for their products, 195 (15.8%) strongly disagreed, 122 (9.9%) disagreed, 114 (9.2%) could not decide, and 252 (20.4%)

Table 7. Opinions on green entrepreneurial inclination

Source: Authors' elaboration.

Statement	Responses	Frequency	Percentage	Mean ± SD
It is always known to employees that my firm tends to adopt green entrepreneurial	Strongly object	132	10.7	3.61 ± 1.334
	Disagree	192	15.6	
	Undecided	61	4.9	
	Agree	486	39.4	
My organization usually makes it appealing for workers to use a green entrepreneurial approach	Strongly concur	362	29.4	3.22 ± 1.283
	Disagree vehemently	197	16.0	
	Disagree	192	15.6	
	Undecided	114	9.2	
	Agree	604	49.0	
The top management staff in my firm do show readiness to apply green entrepreneurial practices	Completely agree	126	10.2	3.62 ± 1.174
	Strongly disagree	71	5.8	
	Disagree	247	20.0	
	Agree	671	54.4	
	Strongly agree	244	19.8	
There is always an encouragement for employees to adopt green entrepreneurial practices	Strongly object	252	20.4	3.24 ± 1.486
	Disagree	180	14.6	
	Undecided	129	10.5	
	Agree	361	29.3	
	Strongly concur	311	25.2	
Grand Mean ± SD		3.42 ± 1.07		

Table 8. Opinions on customers’ patronage

Source: Authors’ elaboration.

Statement	Responses	Frequency	Percentage	Mean ± SD
The products from my firm do influence the prompt purchase decision	Strongly object	71	5.8	3.76 ± 1.111
	Disagree	132	10.7	
	Undecided	121	9.8	
	Agree	606	49.1	
	Strongly concur	303	24.6	
There are usually repeat purchases by consumers for our products	Strongly disagree	135	10.9	3.58 ± 1.375
	Disagree	239	19.4	
	Agree	488	39.6	
	Strongly agree	371	30.1	
Products from my firm are usually attracting more sales	Disagree vehemently	195	15.8	3.68 ± 1.503
	Disagree	122	9.9	
	Undecided	114	9.2	
	Agree	252	20.4	
	Completely agree	550	44.6	
The selling volume for our products is high	Strongly object	139	11.3	3.73 ± 1.402
	Disagree	178	14.4	
	Undecided	50	4.1	
	Agree	371	30.1	
	Strongly concur	495	40.1	
Grand Mean ± SD		3.69 ± 1.266		

agreed. In comparison, 550 (44.6%) strongly agreed that products from their firms were usually attracting more sales, while 139 (11.3%) strongly disagreed, 178 (10.7%) disagreed, and 50 (4.1%) could not decide, 371 (30.1%) agreed. In comparison, 495 (40.1%) strongly agreed that the selling volume for their products is high.

The grand mean of 3.69 > 2.50 on the Likert scale and the standard deviation of 1.266 1.291 on the same scale show that respondents appreciated the idea of client patronage.

4.2. Hypotheses testing

Table 10 presents a simple regression analysis of green entrepreneurial innovative products that significantly affect competitive advantage. The outcome was 0.806 for the standardized coefficient (Beta), 49.648 for the t-value, and 0.001 for the P-value. The result indicates that a unit raise in green entrepreneurial innovative production would result in 0.806 increases in competitive advantage. A high positive association between green entrepreneurial creative production and

Table 9. Consolidated responses to questions related to the first hypothesis

Source: Authors’ elaboration.

Responses	Green Entrepreneurial Innovation Production	Competitive Advantage
Strongly disagree	–	56 (4.5)
Disagree	260 (21.1)	204 (16.5)
Undecided	–	57 (4.6)
Agree	251 (20.4)	367 (29.8)
Strongly agree	722 (58.6)	549 (44.5)

Table 10. Effect of green entrepreneurial innovation production on competitive advantage

Source: Authors’ elaboration.

Model	Unstandardized coefficients		Standardized coefficients	T	p-value
	B	Std. error	Beta		
1 (Constant)	2.123	.248		8.559	.000
Green Entrepreneurial Innovation Production	.806	.016	.817	49.648	.000

Note: a. dependent variable: competitive advantage; r = 0.817; R² = 0.667.

competitive advantage was demonstrated by the correlation coefficient ($r = 0.817$). R-square 0.667 indicates that 66.7% of changes in competitive advantage were determined by green entrepreneurial innovative production.

If the P-value is less than 0.05, the null hypothesis (H_0) would not be considered for this study's evaluation criteria. However, it is not rejected if otherwise. Given that there is a significant influence, the null hypothesis was rejected. It has been discovered that the production of green, creative, entrepreneurial products significantly influences competitive advantage.

The findings of a straightforward regression analysis on the green entrepreneurial propensity, which significantly affects consumers' spending, are shown in Table 12. The outcome was 0.976 for the standardized coefficient (Beta), 51.315 for the t-value, and 0.001 for the P-value. The findings indicated that an increase of one unit in green entrepreneurial propensity would translate into a rise of 0.976 in consumer spending. The correlation value ($r = 0.825$) revealed a significant positive association between consumers' support and an entrepreneurial bent toward going green. R-square 0.681 indicates that 68.1% of customer patronage changes were determined by green entrepreneurial inclination.

The null hypothesis (H_0) will not be considered for this study's assessment criteria if the P-value is

less than 0.05; not rejected if otherwise. Given that there is a significant influence, the null hypothesis was rejected. Thus, green entrepreneurial propensity significantly influences customers' spending.

5. DISCUSSION

This survey included 1,233 employees/employers from medium and small businesses in North-Central Nigeria. The selection included business owners, managers, and supervisors from small and medium-scale enterprises.

Hypothesis one, which states that green entrepreneurial innovative production significantly affects competitive advantage, was tested using simple regression. The result indicates that green entrepreneurial innovative production has a significant effect on competitive advantage (Standardized coefficient of regressions (Beta) of 0.806, t-value: 49.648, P-value: $0.000 < 0.05$). Therefore, a unit increase in green entrepreneurial innovative products will result in 0.806 increases in competitive advantage. An R-square of 0.667 indicates that 66.7% of changes in competitive advantage were determined by green entrepreneurial innovative production. These were in line with Huang and Li (2017), Ebrahimi and Mirbargkar (2017), Soewarno et al. (2019), and Tola (2019). Thus, green entrepreneurship innovative production has a significant effect on company performance and precisely on competitive advantage.

Table 11. Consolidated responses to questions related to the second hypothesis

Source: Authors' elaboration.

Responses	Green Entrepreneurial Inclination	Customer Patronage
Strongly disagree	71 (5.8)	71 (5.8)
Disagree	189 (15.3)	189 (15.3)
Undecided	57 (4.6)	64 (5.2)
Agree	305 (24.7)	107 (8.7)
Strongly agree	611 (49.6)	802 (65.0)

Table 12. Effect of green entrepreneurial inclination on customers' patronage

Source: Authors' elaboration.

Model	Unstandardized coefficients		Standardized coefficients	T	p-value
	B	Std. error	Beta		
1 (Constant)	1.389	0.273		5.089	.000
Green Entrepreneurial Inclination	.976	0.019	0.825	51.315	.000

Note: a. dependent variable: customer patronage; $r = 0.825$; $R^2 = 0.681$.

Using simple regression, hypothesis two was tested, which claims that being green entrepreneurial inclined significantly impacts customer spending expressed by their loyalty and patronage. The outcome shows that being green entrepreneurial inclined significantly impacts customer loyalty (Standardized coefficient of regressions (Beta) of 0.976, t-value: 51.315, P-value: $0.000 < 0.05$). A unit increase in green entrepreneurial inclination results in customer loyalty through their spending by 0.681, indicating 68.1% changes in pattern. A similar outcome was also reported by Alegre and Chiva (2013) and Nyoike (2017). Therefore, firms are benefiting in terms of performance from green inclination.

The study offers several implications. First, green entrepreneurial innovative production has a significant effect on competitive advantage. In practical terms, it inspires those yet to adopt green entrepreneurship in their business to do so because benefits abound.

Second, green entrepreneurial inclination has a significant effect on customers' patronage. It means that small and medium-sized businesses in North-Central Nigeria benefit from a green entrepreneurial propensity that affirms customers' loyalty expressed by patronage and spending. This provides critical information for further aligning activities with a green mindset in Nigeria, specifically referring to benefits derived in North-Central Nigeria.

CONCLUSION

The study's primary goal is to investigate how SME entrepreneurs in North-Central Nigeria, were using a green approach to deploy in their businesses to reduce carbon emissions, preserve the environment, and ensure business sustainability. The findings show that green entrepreneurship has a positive impact on the performance of SMEs. Therefore, the study concludes that green entrepreneurship illustrates the capacity to ensure optimal resource utilization, decreased environmental degradation, and increased competitive advantage and customers' patronage.

This paper thus suggests using green entrepreneurial creative production and green entrepreneurial inclination to ensure good performance of SMEs since it guarantees the sustainability of humanity, the economy, and the environment. This is empirical evidence for Nigeria and other developing countries.

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