



The Impact of Green Products on the Performance and Sustainability of Small and Medium Enterprises in Abuja, Nigeria

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Abstract: The objective of this study was to assess the impacts of Green Products on the performance and sustainability of Small and Medium Enterprise (SMEs) in Abuja, the study was survey research sampling the opinion of 322 respondents within Abuja Municipal Area Council. Their opinion was collected using a structured questionnaire. The data obtained was analysed using descriptive and inferential statistics, and the hypothesis was tested by means of correlation and regression analysis. The findings of the study reveals that the impact of green product on the performance and sustainability of Small and Medium Business Enterprises is strong with R-value of 0.684 and a p-value of 0.000 which is lesser than the cut off significant level of 5%, also the 48.1% explanatory power implies that any effort to enhance green product will likely lead to a notable increase on the performance and sustainability of Small and Medium Enterprises, The finding of this study leads to conclusion and lends further support to the assumptions that green product development and marketing practices has emerged as a powerful tool that transcends profit considerations. It is a strategic marketing imperative that aligns businesses with the principles of sustainable development in line with SDG 12 (Responsible consumption and production). Therefore, the study recommended among others, that there is the need for small and medium enterprises in Abuja to intensify the integration of eco-friendly technologies and practices in their production and products make ups such as recycling and reusing technologies to enhance their business performance. Equally, Small and medium enterprises owners or operators in Abuja should intensify efforts to promote environmentally responsible ways of operating a business by ensuring that their operations are respectful of the Planetary boundaries; and showcase the dedication to improve operations while meeting certain environmental, social, and governance requirements in line with sustainable development goals Agenda 2030 of United Nations.

Keywords: Green Products, Business Performance, Sustainability Business, SMEs

I. Introduction

Sustainability is everybody business, so small and Medium Business Enterprises (SMEs) must operate in a way that is safe and ethical both to humanity and the environment. Sustainability is the ability to provide for present needs without compromising future ability (Orji, 2024). On the other hand, Business performance is a measure of how a manager efficiently and effectively utilizes the resources of the firm to accomplish its goals as well as satisfying all the stakeholders.

The idea of business performance is hanged on the position or premise that it is a combination of productive assets made up of human, physical, and capital resources, for the major reason of fulfilling a dream, vision or accomplishing a shared purpose (Orji, 2023).

Over the years, Abuja the federal capital city of Nigeria has experienced rapid urbanization, population growth, and industrialization, leading to increased pressure on its natural resources

and environmental challenges. The city's booming economy and urban renewals, characterized by diverse small and medium businesses services, underscores the importance of sustainable business practices in ensuring long-term prosperity, ecological protections and well-being of the residents.

Green marketing practices such as green products developments and services represents a strategic approach for businesses in Abuja to align their operations with environmental sustainability goals while meeting consumer demands for eco-friendly products and services.

By integrating environmental considerations into their marketing strategies, businesses can differentiate themselves in the market, enhance brand reputation, and appeal to environmentally conscious consumers. Moreover, green marketing offers SMEs in Abuja a unique opportunity to navigate the competitive landscape, drive innovation, and contribute to the Nigeria's sustainable development (Orji,2025).

According to Lestari, Bakhtia & Suliantoro (2023) Environmental sustainability has been elevated to the top of the international political agenda and recognized as a key driver of innovation. As a result, the number of companies developing green products is growing rapidly, and consumer interest in these products is increasing. Therefore, understanding the main characteristics of green products, identifying factors that influence price and consumers' willingness to pay more for products, sales channels and promotional tools are essential for designing, developing and marketing green product.

Our world faces many risks, including climate change, biodiversity loss and economic loss. Small and Medium Businesses are critical actors in forging a more sustainable and inclusive World, because they are the first business contact with the people within any environment. The important question then is; how do we embed sustainability in the performance of SMEs in Abuja, Nigeria? The serious problem that owners of SMEs must contend with is to determine if green marketing practices in the form of developing green products is a crucial element in their performance and sustainability of their businesses. It is in the light of this that this study intends to assess the impact of green products on the performance and sustainability of small and medium enterprises in Abuja, Nigeria.

On the whole, the study will provide solution to the pertinent question like: Does green product have any impact on the performance and sustainability of SMEs in Abuja? In addition, the following null hypothetical assumptions have been postulated for validations in order to help achieve the objectives of the study:

H01: There is no significant impacts of Green Products on the performance and sustainability of Small and Medium Enterprises (SMEs) in Abuja, Nigeria

II. Review of Literature

2.1 Green Product

The definition of Telework has been viewed differently by different academia and professions based on how they perceive their work. Some professionals view Telework as encompassing a variety of intra-organizational functions (e.g., telecommuting, mobile work, and virtual corporation) and inter-organizational relations (e.g., electronic data interchange [EDI] and inter-organizational team-based working) (Martino & Wirth, 1990). This definition includes any type of distributed work enabled by information technology (IT). Others view Teleworking as Telecommuting which is when employees work in some place other than their traditional workplace (Caltrans, 2009). They further stated that teleworking aid leadership effectiveness as employees (supervisors) and their subordinates can enjoy personal benefits of teleworking with more quiet time and fewer interruptions, it's easier to think, plan and be more creative on telework days. However, the term teleworking is often interchanged with telecommuting. The term telecommuting is a narrowed definition of teleworking. The narrow

definition of teleworking in “telecommuting” refers to a reduction of commuting distance by working at home, in non-conventional satellite offices, in telecottages, or in neighborhood offices. Self-employed persons who operate home businesses and employees who work extra hours at home to supplement office work are not considered teleworkers rather they are telecommuting. The selection of this narrowly focused definition of telework ignores the far reaching implications of other forms of distributive working.

However, the official definition of “telework” can be found in the U. S. Telework Enhancement Act of 2010 (the Act): "the term 'telework' or 'teleworking' refers to a work flexibility arrangement under which an employee performs the duties and responsibilities of such employee's position, and other authorized activities, from an approved worksite other than the location from which the employee would otherwise work" (USOPM, 2011). In practice, "telework" is a work arrangement that allows an employee to perform work, during any part of regular, paid hours, at an approved alternative worksite (e.g., home, telework center). This definition of telework includes what is generally referred to as remote work but does not include any part of work done while on official travel or mobile work.

In every organization, the organizational objectives are prioritized above individual interests, but there is usually plenty of room to accommodate the needs (interests) of the employees. Organizational interests are always at the heartbeat of Teleworking both at a developed economy and a developing one. Telework A Product according to Orji et al (2017) is anything that can be offered to a market to satisfy a want or need. It is also defined as a complex of tangible and intangible attributes, including packaging, price, manufacturing and retailer's services, which the buyer may accept as offering satisfaction of wants and needs. An organization's product policy is fundamental to the whole operation of the business. When an organization determines to produce a specific product or group of products, it is the decision which dictates the industry to which it will belong, the market it will serve and the nature and extent of the resources, methods, and techniques it will employ (Orji, 2025)

Pepple et al (2024) stated that green products are characterized by being produced from recycled materials, products which can be recycled or reused, organic products, products which meet environmental responsible packaging or other environmental criteria.

Chea (2024) indicated that green products are known as friendly and green for a reason. When consumers purchase a green household cleaner, they anticipate ingredients to be natural, safe, and genuine; the product to be gentle and harmless to children and the environment; and the manufacturing process to be responsible.

The Commission of the European Communities (2001) defines green products as products that “use fewer resources, have lower impacts and risks to the environment and prevent waste generation already at the conception stage.” In this sense, green products are initiated with the “green design,” where the environmental-friendly features are demonstrated through the whole life cycle of the product (Ala et al, 2023)

Ala et al (2023) maintained that the environmentalism 3 Rs: Reduce, Reuse, and Recycle are used as a guideline to conclude the production strategies for the green products. In other words,

a product can be considered "green" if it is both safe for the environment and has a minimal negative impact on the natural world. Decisions relating to green products needs to consider some number of issues, including recycling, lowering the amounts of materials used in packaging, reuse, increasing product longevity and repairability, taking into consideration how items will be disposed of, and designing safer products (Orji, 2025).

The role of the small and medium enterprises or manufacturing organisations in product management includes the production of product designs geared toward market and customer requirements for green marketing products, such as the provision of energy, green organic and chemical materials, local resources, and so forth. Nike, for instance, is the first shoe business

to portray itself as an environmentally responsible corporation. It drastically minimizes the use of toxic adhesives (Ahungwa 2022). Increasing food insecurity, according to Mien (2019), has increased customer interest in and preference for safe items for the wellbeing of their family and loved ones. Businesses began applying the green product strategy to attract consumers after identifying and addressing the needs of such customers (Orji, 2025).

In the context of this study a green product is a product that consumers will prefer because it is organic, environmentally friendly, and recyclable, for instance, organic foods, creams and soap that many people are going after now in Abuja.

2.2 Overview of small and medium enterprises (SMEs)

Small and Medium enterprises can simply be defined as enterprises that have less than a specific level of investment and turnover in a given place and time. There is no specific definition of small and medium enterprises, but it depends on country and organisational view. According to International finance corporation of the World Bank group, an enterprise qualifies as a micro, small or medium enterprise if it meets two out of three criteria of the IFC

MSME definition (employees, assets and sales), or if the loan to it falls within the relevant MSME loan size proxy. Saying that small and medium enterprises should have between 10-300 employees, total assets of between 100,000 dollars to 15million US Dollars, annual sales volume of between 100,000 dollars to 15million Dollars (IFC, 2024)

Businesses in Nigeria have been classified as micro, small, medium and large. However, an MSME can be explained by the criteria of project costs, capital, numbers of employees, sales volume, annual business turnover and the financial strength (Orji & Yabilsu, 2018; Orji, Olaniyi & Adeyemo, 2022). Different authors, scholars, and schools of thought have different ideas as to the differences in capital outlay, number of employees, sales turnover, fixed capital investment, available plant and machinery, market share and the level of development and these features equally vary from one country to the other (Orji, et al, 2022a).

The National Association of Small and Medium Scale Enterprises defines SMEs as businesses employing less than fifty (50) people and with an annual turnover of one hundred million naira. The association further defines a medium scale enterprise as a business with less than 100 employees and with an annual turnover of five hundred million. There are many definitions of SMEs and there is no uniformity among them. However, in Nigeria, it is based mainly on capital which should be revised from time to time due to the devaluation of the Naira and the high inflationary trend in the economy (Orji, 2025).

The study also aligned with the definition of the National Association of Small and Medium Scale Enterprises (SMEs) of Nigeria as businesses employing less than fifty (50) people and with an annual turnover of up to one hundred million naira.

2.3 Business Sustainability

The United Nations Brundtland Commission defined sustainability as “meeting the needs of the present without compromising the ability of future”. It is the balance between the environment, equity, and economy. According to Orji (2024), and Orji, Ahmad and Nduji (2024) Sustainable development is maintaining a delicate balance between the human need to improve the way of life, maintain and guarantee the continuity of a business and feeling of well-being on one hand, and preserving natural resources and ecosystems, on which we and future generations depend. The United Nations Agenda 2030 is a plan of action for people, the planet, and prosperity. It also seeks to strengthen universal peace in greater freedom. The United Nations recognizes that eradicating poverty in all its forms and dimensions, including extreme poverty, is the greatest global challenge and an indispensable requirement for sustainable development. The 17 Sustainable Development Goals and 169 targets demonstrate the scale and ambition of this new universal Agenda. They seek to build on the Millennium

Development Goals and complete what they did not achieve. They seek to realize the human rights of all and to achieve gender equality and the empowerment of all women and girls. They are integrated and indivisible and balance the three dimensions of sustainable development: the economic, social, and environmental. The main reason for sustainable development is to have a stable relationship between human activities and the natural world (Orji, 2024), According to Orji & Nduji (2020), Business sustainability is often defined as managing the triple bottom line – a process by which companies manage their financial, social and environmental risks, obligation and opportunities. Those three impacts are sometimes referred to as profit, people and planet. However, this approach relies on an accounting-based perspective and does not fully capture the time element that is inherent within business sustainability. A more robust definition is that business sustainability represents resiliency over time – businesses that can survive because they are intimately connected to healthy economic, social and environmental systems. These businesses create economic value and contribute to healthy ecosystems and strong communities. Business sustainability requires firms to adhere to the principle of sustainable development and environmental accountability (Orji, et al 2024)). Also, Elkington (1997) stated earlier that Business sustainability refers to the ability of a company to manage its operations in a manner that ensures long-term economic success while minimizing negative impacts on the environment and society. This concept has gained significant importance as businesses face increasing pressures from stakeholders, including consumers, investors, and regulatory bodies, to operate responsibly and sustainably. Unlike traditional business models that focus primarily on profit maximization, sustainable businesses aim to create value not just for shareholders but for all stakeholders, including employees, customers, communities, and the planet (Orji, 2025).

2.4 Business Performance

Performance can be simply seen as achieving set objective. It is the extent to which an organization, as a social system, could consider both its means and ends. Pepple et al (2024) stated that Business performance refers to the level at which a business is carrying out its activities and also, competing. It can also be used interchangeably with firm performance or just performance.

According to Orji (2025) Organisational or business Performance is the extent to which firm realize their stated objectives, and Performance is a measure firm's attractiveness. Business performance can be financial and non-financial. The proponents of each financial and non-financial performance measures tried to support their point of view (Orji et al, 2022b). Although the majority of the studies measuring organizational performance used the account-based measure, this study chooses the non-financial measures as opined by Orji et al (2022b) due to the following reasoning. Firstly, financial metrics of business performance are not quite stable hence making them sensitive to industry related change factors. Secondly, financial metrics can be easily manoeuvred preventing it from reflecting actual performance. Finally, the financial metrics lacks the long-term or sustainable focus since they mainly focus on past performance which in many cases can be misleading especially when used to predict the future performance. To attract satisfactory business performance is the basis for the enterprise 's survival and the principal reason for the existence of the business enterprises (Yaseen, Kasim, & Falih, 2022)

2.5 Theoretical Review

The study is anchored on the Triple Bottom Line (TBL) Theory, also known as the "3Ps" (People, Planet, Profit) and Consumption value theory.

a. Triple Bottom Line (TBL) Theory:

The Triple Bottom Line (TBL) Theory, also known as the "3Ps" (People, Planet, Profit) framework, is a sustainability concept that suggests businesses should consider not only their economic bottom line (profit) but also their social and environmental impacts (Elkington, 1997). The TBL theory expands the traditional notion of business success beyond financial metrics to encompass broader societal and environmental dimensions. Here's an overview of the TBL theory and how it relates to the study:

1. **Economic Dimension (Profit):** The economic dimension of the TBL theory aligns with the traditional business focus on generating profits and financial growth (Kehide and Onuoha, 2023). However, the TBL theory acknowledges that financial success should be pursued in a way that doesn't compromise social and environmental well-being. In the context of this research, the economic dimension could relate to SMEs' financial performance, profitability, and growth. It can explore how adopting green product development and marketing practices might impact SMEs' economic outcomes and whether there's a balance between economic success and sustainable practices.
2. **Environmental Dimension (Planet):** The environmental dimension of the TBL theory emphasizes the importance of minimizing negative environmental impacts and promoting resource conservation (Elkington, 1997). This dimension closely aligns with study. The study can investigate how SMEs' adoption of energy-efficient technologies and waste reduction practices contributes to their environmental performance. Additionally, it can explore whether these practices are aligned with sustainable resource use and contribute to reducing the ecological footprint of SMEs in Abuja, Nigeria.
3. **Social Dimension (People):** The social dimension of the TBL theory focuses on the well-being of people within and affected by the business operations (Adams & Frost, 2008, Orji, 2025). This includes employees, customers, communities, and other stakeholders. The study will examine how green product development and marketing practices impact the well-being of employees and communities associated with SMEs in Abuja, Nigeria. For example, it explores whether these practices lead to improved employee satisfaction, community engagement, and positive social outcomes.

The essence of the TBL theory lies in finding a balance among the three dimensions. While pursuing economic success, SMEs are encouraged to consider the potential positive and negative consequences of their actions on the environment and society. The study investigated whether the adoption of green product development and marketing practices in Abuja's SMEs leads to a more balanced approach that simultaneously enhances economic, environmental, and social performance. The theory's framework help captures the multifaceted nature of sustainable development and offers valuable insights for both academic understanding and practical decision-making in line with SDG 9 and 12 (Orji, 2025).

b. Consumption value theory

The consumption value theory was developed by Sheth et al (1991). It identifies five consumption values that influence the decision-making behaviour of consumers and provides a framework for understanding how these values work. They are valuable in terms of function, social contact, feeling, knowledge, and condition. They are also valuable in terms of condition.

According to Mason et al (2023) the Theory of Consumption Value (TVC) provides an understanding of the fundamental drivers behind an individual's choices via the lens of consumption values. These values are consumers' perceived utility of a product or service in terms of its performance, association with a social group, capacity to arouse emotions or curiosity, novelty and compatibility in different circumstances. Sheth et al. (1991) noted that the unidimensional conceptualization of value rarely explains the multidimensional nature of consumer behavior: consumers' judgments depend on numerous functional and non-functional components. Hence, Sheth and colleagues proposed the TCV by including five

core values: functional, emotional, social, epistemic and conditional. Accordingly, TCV is well-recognized for explaining consumers' inherent reasons for buying (vs. not buying) a product or service.

The TCV has three fundamental propositions: (1) consumer behavior is a function of five consumption values, (2) all five consumption values are independent of each other and perceived at an individual level and (3) they have different contributions in different purchase situations. This implies that one individual may purchase a specific electronic television to conform with other individuals within its reference group (i.e. social value), while another may buy it for its long battery time (i.e. functional value), as explained further by Mason et al (2023).

Ahungwa (2022) stated that a product's actual performance or how useful consumers believe it to be are two examples of its functional value. The term "social value" refers to the perceived benefit that a product is supposed to bring by being associated to one or more distinct social groupings. The perceived benefit gained by a different propensity to elicit affective states or feelings is referred to as the "emotional value." An alternative's epistemic value is the perceived benefit that results from its capacity to generate interest, give novelty, and/or satisfy a demand for knowledge. This value can also be referred to as an informational value. The decision-maker is presented with a particular scenario or set of circumstances, and the conditional value is the perceived benefit that is acquired as a result of that specific situation or combination of circumstances. One, several, or perhaps all five of the levels of consumption could have a role in determining the outcome of a decision (Ahungwa, 2022).

This theory is pertinent to this study since green product development and marketing practices makes use of consumption values such as functional, social, emotional, epistemic, and conditional values in order to influence the decision-making of customers who desire environmentally friendly products in Abuja.

III. Research Methods

This study is survey research, and the population consist of all the SMEs within Abuja Municipal Area Council, Abuja. There is no definite population of the study due to the open nature of SMEs owners and their customers. Giving the situation of an infinite population or a very large population, the sample size was computed using the formula suggested by Cochran (1963) and Orji (2023) as below:

$$S = Z^2 (p) (1-p) / m^2$$

Where:

S= sample size for infinite population

Z= z-score

P= population proportion (assumed to be 50% = 0.5)

M= margin of error

Z score is determined based on confidence level. Confidence level is defined as the probability that the value of a parameter falls within a specified range of values. Considering a 95% confidence level then z-score is 1.96. Margin of error is a small amount that is allowed for in case of miscalculation or change in circumstances. Generally, the margin of error is considered as 5% (0.05) (Cochran, 1963)

$$Z \text{ score} = 1.96$$

$$P = 0.5$$

$$M = 0.05$$

$$S = (1.96)^2 (0.5) (1-0.5) / (0.05)^2$$

$$S = 3.8416 \cdot 0.25 / 0.0025$$

$$S = 384.16$$

$$= 385 \text{ respondents are needed}$$

The required sample size is 385. However, this was increased to 501 by adding 30%. According to Isreal (1992,) Orji (2017) and Oyenuga et al (2023), 10% to 30% could be added as addition sample to make up for some that may not be returned valid. Thus, 30% of 385 = 115.5 + 385 = 500.5=501.

3.1 Methods of Data Analysis

The data were analyzed using both the inferential and descriptive statistics. Descriptive statistics was used to summarize the basic characteristics of the data. The statistics included mean, median, minimum and maximum. Also, the linear regression analysis was used in testing the hypothesis, to determine holistic effect of the independent variables on the dependent variable with the aid of SPSS 26 version

Variable/Model Specification

The following regression models was used:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + e$$

Where;

Y = SMEs Performance and sustainability

X1 = Green Product

β_0 = Constant ((Value of Y when all s is zero)

β_1 — β_4 = Intercepts of Independent Variables

ϵ = Standard Error term

IV. Result and Discussion

4.1 Analysis and Findings

Out of 501 questionnaires administered and 412 responses collected, 322 questionnaires were useable for further analysis, making a valid response rate of 64.27% (percent). A response rate of 30 percent is acceptable for surveys according to Hair, Black, Babin & Anderson (2010) and Orji (2017).

Table 1. Perception of respondents on Green Product and SMEs Performance & Sustainability in Abuja.

S/NO	ITEMS	Response categories				MEAN	STD DEV
		SA	A	D	SD		
1	We consider environmental aspects in the selection/ manufacture of our products	246	66	6	4	3.72	.560
2	We prefer products free of strong toxicity materials	253	61	4	4	3.75	.537
3	We use recycled or recyclable materials in our products	243	62	15	2	3.70	.586
4	We use eco-friendly components for our product packaging	240	77	15	0	3.79	.478
5	Using natural materials and conserving energy influences business performance	247	62	13	0	3.73	.529

Source: Field survey 2025

The item mean was obtained from the additions of the frequencies of the likert scale options and divided by the total number N (322). For instance, the mean for item 1 in table 1 was obtained thus: $246 \times 4 + 66 \times 3 + 6 \times 2 + 4 \times 1 / 322 = 3.72$

Table 1. shows the responses indicating the Perception of respondents on Green Product and SMEs Performance & Sustainability in Abuja. For, item 1 which states “We consider environmental aspects in the selection/ manufacture of our products’ 246 respondents strongly agreed to this assertion, 66 respondents agreed, 6 respondents disagreed and 4 respondents strongly disagreed. This implied that most respondents accepted that they consider environmental aspects in the selection/ manufacture of products.

For item 2 which states “We prefer products free of strong toxicity materials’, out of 322 respondents, 253 respondents strongly agreed to the assertion, 61 respondents agreed, 4 respondents disagreed also 4 strongly disagreed. This indicates that majority of the respondents prefer products free of strong toxicity materials.

For item 3 “We use recycled or recyclable materials in our products’, 243 respondents strongly agreed to the assertion, 62 agreed, 15 disagreed and only 2 respondents strongly disagreed to this assertion. This implied that most of the respondents prefer recycled or recyclable materials products.

For item 4 “We use eco-friendly components for our product packaging’ 240 respondents strongly agreed to this assertion, 77 agreed, and 15 disagreed, while none strongly disagreed. This indicates that most respondents prefer the use of eco-friendly components for product packaging.

For item 5 “Using natural materials and conserving energy influences business performance’ 247 respondents strongly agreed to the assertion, 62 agreed, 13 respondents disagreed, while none strongly disagreed. This implies that most respondents are of the opinion that Using natural materials and conserving energy influences business Performance, indicating the positive and significant influence of green products.

Table 2. Perception of respondents on Business Performance & Sustainability in Abuja.

S/NO	ITEMS	Response categories				MEAN	STD DEV
		SA	A	D	SD		
1	Green People and price enhance sustainability of products and business performance	221	94	3	4	3.65	.567
2	We have better profitability compared to competitors because of green products	253	61	4	4	3.75	.537
3	Greening processes can result in efficiency gains by improving operational efficiency and performance	243	62	15	2	3.70	.586
4	Including safety precautions in product production, such as sanitizing goods after picking them up from the supplier enhances business performance	240	77	5	0	3.73	.478
5	Green innovation directly affects a business performance	247	62	13	0	3.78	.529

Source: Field survey 2025

Table 2 above shows the responses indicating the Perception of respondents on Business Performance & Sustainability in Abuja. Item 1 states that “Green People and price enhance sustainability of products and business performance”. Out of 322 respondents 221 strongly agreed, 94 agreed, while 3 respondents disagreed and 4strongly disagreed. This means majority of the respondents agreed that Green People and price enhance sustainability of products and business performance.

For item 2 which states that “We have better profitability compared to competitors because of green products”, 253 strongly agreed, 61 agreed, 4 respondents disagreed and 4 also strongly disagreed. This implied that majority of the respondents agreed that they have better profitability compared to competitors because of green products.

Item 3 states that “Greening processes can result in efficiency gains by improving operational efficiency and performance”. Out of 322 respondents, 243 strongly agreed to the assertion, 62 agreed, while 15disagreed. Only 2 respondents strongly disagreed. This means majority of the respondents agreed that Greening processes can result in efficiency gains by improving operational efficiency and performance.

According to item 4, Including safety precautions in product production, such as sanitizing goods after picking them up from the supplier enhances business performance. 240 respondents strongly agreed to this assertion, 77 agreed and only 5 disagreed. This confirmed that Including safety precautions in product production, such as sanitizing goods after picking them up from the supplier will actually enhance business performance in Abuja.

Item 5 states that “Green innovation directly affects a business performance”. 247 respondents strongly agreed to the assertion, 62 agreed, while only 13 respondents disagreed. This means majority of the respondents agreed that green innovation will directly affect SMEs performance in Abuja, indicating that innovation is key in green marketing and business sustainability.

4.2 Test of hypothesis

Hypothesis: There is no significant impacts of Green Products on the performance and sustainability of Small and Medium Enterprises (SMEs) in Abuja, Nigeria

Table 3. Summary of the Regression statistics on the impacts of Green Products on the performance and sustainability of Small and Medium Enterprises (SMEs) in Abuja, Nigeria

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.684 ^a	.481	.481	.13665
a. Predictors: (Constant), GProduct				

The results of regression statistics analysis in table 3 presents a positive correlation (R) value of 0.684 which suggest the impact of green product on the performance and sustainability of Small and Medium Enterprises is strong. The table equally present the R2 value of 0.481 which suggest that green product accounted for 48.1% contribution in the performance and sustainability of Small and Medium Enterprises, the remaining 51.9% is accounted for by other variables not considered in the model.

Table 4.

ANOVA ^a					
Model		Df	Mean Square	F	Sig.
1	Regression	1	21.368	1144.301	.000 ^b
	Residual	320	.019		

	Total	321			
a. Dependent Variable: BPerformance					
b. Predictors: (Constant), GProduct					

The ANOVA, which evaluates how the regression model explains the variance in the performance and sustainability of Small and Medium Enterprises, indicates that the overall regression model is statistically significant with a p-value of 0.000, which is below the standard threshold of 0.05 level of significant, which suggests that green product contribute in explaining the variation in the performance and sustainability of Small and Medium Enterprises.

Table 5.

Coefficients ^a						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.318	.101		0.162	.002
	GProduct	.211	.027	.584	13.828	.000
a. Dependent Variable: BPerformance						

The coefficient statistics of the regression analysis show that green product has an impact on the performance and sustainability of Small and Medium Enterprises. In the table 5 the constant value indicate that there can always be a baseline of 0.318 in the performance and sustainability of Small and Medium Enterprises regardless of the change in green product. However, green product will generate 0.211unit in the performance and sustainability of Small and Medium Enterprises, provided other variables remain constant, this is significant at p-value of 0.000 which is lower than 0.05 level of significant. Implying that the relationship between green product and the performance and sustainability of Small and Medium Enterprises is positive. Consequently, the null hypothesis which state that there is no significant impacts of Green Products on the performance and sustainability of Small and Medium Enterprises (SMEs) in Abuja, Nigeria, is hereby rejected.

4.3 Discussion of Findings

The purpose of this study was to assess the impacts of Green Products on the performance and sustainability of Small and Medium Enterprise in Abuja. The results of the findings in line with the objective, and in line with the Triple Bottom Line (TBL) Theory, also known as the "3Ps" (People, Planet, Profit) framework, and consumption value theory.

Evidence from the study revealed that:

There is a significant impact of green product on the performance and sustainability of Small and Medium Enterprises in Abuja. The findings of the study reveals that the impact of green product on the performance and sustainability of Small and Medium Business Enterprises is strong with R-value of 0.684, the result also show that green product explain the variation on performance and sustainability of Small and Medium Enterprises with a p-value of 0.000. The 48.1% explanatory power indicate that other external factors such as pricing strategies, competitors' action and green promotion or advertisement may likely play a more significant role in determining the performance and sustainability of Small and Medium Enterprises. This implies that any effort to enhance green product may likely lead to a notable increase on the performance and sustainability of Small and Medium Enterprises, making green product a key driver of the performance and sustainability of Small and Medium Enterprises as well as effective strategy for improving performance.

This study is consistent with the work of Pepple et al (2024) which established a relationship between green product and business performance, with a Pearson correlation coefficient of 0.333 which connotes positive but below moderate relationship and a P-value of 0.018 which is lesser than the cut off significant level of 5%. Also, the work of Bruno et al (2023) which indicated that the most used green marketing practices of MSEs in selected areas of Cavite in terms of production were providing safe products and services made from clean resources and having high productivity. It is also in conformity with empirical evidence from Yunusa et al (2024) which established that in particular north central state in Nigeria, the performance of SMEs is significantly and favorably impacted by high-quality goods and services, and that SMEs which actively pursued green marketing strategies outperformed their competitors in terms of profitability, sales growth, and market share. This result may have been as a consequence of the consumers growing awareness of the environmentally friendly nature of green products, which have very few adverse consequences on the natural ecosystem of Abuja.

V. Conclusion

The study has established that green products directly affect the SMEs performance and sustainability in Abuja. Hence the study concludes, that green marketing activities on the basis of green products has emerged as a powerful tool that transcends profit considerations. It is a strategic marketing imperative that aligns businesses with the principles of sustainable development in line with SDG 12 (Responsible consumption and production).

Based on the findings of the study, it is thus recommended that there is the need for small and medium enterprises in Abuja to intensify the integration of eco-friendly technologies and practices in their production and products make ups such as recycling and reusing technologies to enhance their business performance by using natural materials and conserving energy; Creating products by hand to serve the needs of customers without the use of a machine, and Providing safe products and services that are manufactured from clean resources and have high productivity. Equally, Small and medium enterprises owners or operators in Abuja should intensify efforts to promote environmentally responsible ways of operating a business by ensuring that their operations are respectful of the Planetary boundaries; and showcase the dedication to improve operations while meeting certain environmental, social, and governance requirements in line with sustainable development goals Agenda 2030 of United Nations.

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