British Journal of Multidisciplinary and Advanced Studies,7(2),1-25, 2026
Sustainability
Print ISSN: 2517-276X
Online ISSN: 2517-2778
https://bjmas.org/index.php/bjmas/index
Publication of the European Centre for Research Training and Development -UK

Environmental Sustainability Practices and Marketing Performance of Portable Water Producers in Abia State, Nigeria

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doi: https://doi.org/10.37745/bjmas.0515 Published March 02, 2026

Citation: Dike O.N., Nwodo S.I., and Ibeabuchi A.I. (2026) Environmental Sustainability Practices and Marketing Performance of Portable Water Producers in Abia State, Nigeria, *British Journal of Multidisciplinary and Advanced Studies*,7(2),1-25

Abstract: *The ability of the present generation of humans to conduct its activities without depleting the natural resources or undermining the efforts of future generations to meet up their own needs is the focus of environmental sustainability. The task of maintaining the balance of ecosystems and biodiversity ensures the protection and preservation of the natural resources needed for clean air, water, soil formation and climate regulation. The study focused on the environmental sustainability practices and marketing performance of portable water producers in Aba, Abia state, Nigeria. The objectives of the study were to ascertain the influence of eco-friendly packaging on the marketing performance of portable water producers; determine the influence of biodegradable packaging on the marketing performance of portable water producers; ;investigate the influence of recyclable packaging on the marketing performance of portable water producers; ascertain the influence of reusable packaging on the marketing performance of portable water producers and evaluate the influence of water sanitation on the marketing performance of portable water producers in Aba, Abia State. The study adopted survey research design. The population of the study consisted 1030 (water producers) and 1,275,000(water consumers) totaling1,276,030. A sample size of 685 (six hundred and eighty-five) was drawn from the population using Taro yamane statistical formula. Five hypotheses were formulated in the study, tested with simple regression analyses.. The major findings in the study showed that there is a significant and positive influence of reusable packaging and water sanitation on marketing performance of portable water*

producers in Aba, Abia State while eco-friendly packaging, biodegradable packaging and recyclable packaging showed insignificant influence on marketing performance of portable water producers in Aba. Hence, we concluded that without stronger policy support and industry collaboration, the sustainability gap could widen, disadvantaging some market players. We, therefore, recommended that portable water companies should form alliances to share sustainability technologies and training and firms should run educational campaigns on the environmental benefits of their products, among others

Keywords: Environmental sustainability, eco-friendly packaging, biodegradable packaging, recyclable packaging, reusable packaging, water sanitation and marketing performance.

INTRODUCTION

The external surroundings and conditions that affect the wellness of humans, animals and plants constitute an environment. Environment is essential for the growth, development and survival of the living organisms. The natural environment provides resources necessary for the existence of life on earth, such as land, water, food, and air. It helps to regulate the climatic conditions, and socio-cultural factors such as relationships, communal life and institutions. The ability of the present generation of humans to conduct its activities without depleting the natural resources or undermining the efforts of future generations to meet up their own needs is the focus of environmental sustainability. (UNEP Annual Report,2024). The summit sought to address environmental challenges and outlook, including climate change, biodiversity loss and water pollution. The 2024 report warns that Nations must commit to reducing greenhouse gas emissions by 42% by 2030 and 57% by 2035. The task of maintaining the balance of ecosystems and biodiversity ensures the protection and preservation of the natural resources needed for clean air, water, soil formation and climate regulation. Wackernagel, et al, (1996) cautioned that our short-comings will ultimately liquidate the planets ecological assets and the challenge of avoiding a ghastly future is more compelling now than ever.

Water is a naturally occurring transparent, odorless and tasteless liquid substance essential for the health of humans, animals and plants on the planet-earth. The human body is composed of about 60% to 75% of water for the maintenance of its physiological functions. Water is sourced from the environment for domestic, industrial, agricultural uses, etc. In the recent past, communities depended on streams, ponds, rainfalls, and holes on tree trunks as sources of water, and faced the challenges of water scarcity during the dry season. With rapid development of the rural areas and increasing urbanization, the reliance on these near primitive sources of water is whittling down.

In the cities, the Government's Water Board that ensured regular supplies of water to urban dwellers is now a thing of history. The sinking of boreholes to access the underground water seem to be public endeavors to guarantee sustainable water supply. Many firms are investing in the treatment and packaging of water from their boreholes (in sachets and plastic bottles) to meet the

rising demands for water. The natural environment is now faced with the challenges of pollution emanating from poor disposal of discarded plastic materials, labels, and burning of the used packages leading to greenhouse gas emissions, and global warming. The pollutant infiltration from the septic pits to the underground water due to its closeness to water borehole (septic pit-borehole distance) is contaminating the water source (Ugbebor, et al, (2022). Air/water pollution, and soil degradation have been linked to the visible littering of the discarded water sachets, and plastic bottles/ labels in the environment. In spite of the environmental pollution orchestrated by the activities of the portable water producers, the water business seems to be experiencing impressive marketing performance (Oxmaint, 2024). Marketing performance measures the effectiveness and efficiency of the marketing strategies, tactics and activities of the portable water producers. Sustainable practices should be the predictor of business outcomes (Njoku, et al, (2023). The key performance indicators range from sales growth, profitability, customer acquisition/retention, to brand health, comprising brand awareness, customer satisfaction and social media engagement. It is rather paradoxical that the water sourced from the environment to sustain lives on earth both physiologically and economically generates wastes that are becoming inimical to the environment due to unsustainable management practices. This study therefore sought to investigate the extent to which the environmentally sustainable practices (green marketing) adopted by portable water producers has influenced marketing performance, among others.

Statement of the research problem

Portable water products have environmental and health implications in relation to plastic pollution and potential contamination. According to recent reports, over 60 million sachet water bags are consumed daily in Nigeria and this results in a huge amount of plastic waste. It is further revealed that it takes thirty to forty years for plastic to decompose, causing landfills to fill up quickly and impeding water infiltration into the soil. Recent studies have revealed that only a fraction of the sachets bags and PET bottles is recycled and the rest persists in the environment for years. The discarded water sachets and plastic bottles block water ways, obstruct the drainage system and cause flooding in the communities. The debris deposited in the streams and rivers cause negative externalities in the environment. The accumulation of the plastic materials in the soil blocks water from penetrating into the soil, leading to ground water pollution. The health implications of water pollution are waterborne fever, dysentery, hepatitis, and diarrhea, etc. (Global Sanitation Summit, 2024). The incineration of the plastic packages releases greenhouse gas emissions in the air with the attendant health hazards. The increasing heaps of dirty dumps in the urban areas, including Aba and now extending to semi-urban, are composed of mainly discarded water sachets and plastic bottles, nurturing conducive habitats for both vertebrates and invertebrates to thrive. Most of the discarded plastic packages end up in the marine environment and the fragments are ingested by animals which may lead to fatal injuries or death, and the disruption of delicate aquatic ecosystem. Some portion of the used plastic packages are directed to landfills, including excavated red mud pits which condemns the natural environment. In line with the study report of Akindele, (2022), Nigeria's plastic pollution is harming the environment and the steps to combat it are overdue.

The health implications of plastic water sachets and bottles littered in the environment include chemical leaching and microplastics. Chemical leaching involves the dissolution of substances into the soil and groundwater, causing harm to the environmental health and ecosystem balance. Microplastics are tiny plastic particles, less than five millimeters in size that can be ingested by humans and animals through contaminated food chain. Plastic pollution affects the ecosystem, animals and humans causing health problems and even death. Chemicals from plastic like bispherol- A (BPA) are released into water bodies posing health risk to aquatic organisms.In his report, Allen-Taylor, K, (2023) expressed worry that waste disposal in Nigeria is a mess and emphasized the need for waste recycling to be taken seriously. To address the challenges of environmental sustainability arising from the operations of portable water producers, conformity with sustainable management practices is imperative. According to Mande,et al, (2022),significant relationship exists between green marketing and consumer buying behavior. This study therefore aims at evaluating the extent to which compliance to environmentally sustainable practices by portable water producers could influence customer buying behavior visa-vis marketing performance.

Objectives of the study

The broad objective of the study was to investigate the extent to which the environmentally sustainable practices adopted by portable water producers had influenced their marketing performance. The specific objectives were to determine:

1).the influence of eco-friendly packaging on the marketing performance of portable water producers.
2). the influence of biodegradable packaging on the marketing performance of portable water producers.
3). the influence of recyclable packaging on the marketing performance of portable water producers.
4).the influence of reusable packaging on the marketing performance of portable water producers.
5).the influence of water sanitation on the marketing performance of portable water producers.

Research Questions

The following research questions were raised to guide the conduct of the study

1. To what extent has eco-friendly packaging exerted influence on the marketing performance of portable water producers?
2. To what extent has biodegradable packaging influenced the marketing performance of portable water producers?
3.To what extent has recyclable packaging exerted influence on the marketing performance of portable water producers?
4.To what extent has reusable packaging influenced the marketing performance of portable water producers?
5. Does water sanitation influence the marketing performance of portable water producers

Hypothesis Formulation.
The hypotheses of the study were formulated in the null form.

1. Eco-friendly packaging has no significant influence on the marketing performance of portable water producers.
2. Biodegradable packaging has no significant influence on the marketing performance of portable water producers.
3. Recyclable packaging has no significant influence on the marketing performance of portable water producers?
4. Reusable packaging has no significant influence on the marketing performance of portable water producers.
5. Water sanitation has no significant influence on the marketing performance of portable water producers.

Significance of the Study
The significance of any study lies in the application of its findings for operational purposes.
This study has both practical and theoretical significances for the portable water producers, stakeholders, and industry.
The study will enable the water firms to adopt environmentally sustainable practices in order to establish strong market position, enhance brand reputation, and nurture customer loyalty. The findings of the study will promote the adoption of environmental sustainability practices in the industry. It will guide portable water producers in making informed decisions on environmentally sustainable practices.

The theoretical significance will provide insights into consumer behavior in relation to eco-friendly water products. **T**he study will provoke informed policy decisions in relation to business practices and environmental sustainability. It will contribute to the body of research on environmental sustainability and the activities of the industrial sector of the economy.

Operational Definition of Terms
The under-listed terms are explained to facilitate comprehension within the context of this study.
Environment: The external surroundings and conditions that affect the growth, development and survival of the living organisms on earth.

Sustainable practices; These are the activities that support the existence of the present generation without compromising the ability of future generations in meeting their own needs.

Environmental sustainability; This refers to the concert efforts of humans to protect and preserve the environment for the sustenance of life on earth**.**

Marketing performance; This is a measure of the effectiveness and efficiency of marketing strategies and tactics in achieving corporate objectives.

Portable water producers; They are the firms engaged in the treatment and packaging of portable water for commercial utility**.**

LITERATURE REVIEW

Conceptual Framework

Environment

The environment is the natural world encompassing the surroundings, and conditions that influence the life of humans, animals and plants. The natural world comprises the soil, air, sunlight, animals, plants and microorganisms including the abiotic components such as climate, temperature and other physical factors(www.merriam-webstar.com). The inability of the present generation of humans to protect this environment will make it unsustainable for the future generation. The ultimate goal of sustainable practices is to conserve today's environment for the future generation. The Broadland Commission, (1987) defined sustainability in its development report as "our common future". The global environment is facing challenges that adversely affect the ecosystems, human health and economy such as climate change, biodiversity loss, plastic pollution and resource depletion. Sustainable development aims at balancing economic growth with environmental protection and social equity (Aginah, et al. 2024). The sustainable management practices of portable water producers which conserve the natural resources, such as water, air, minerals, and preserve life on earth are the gaps this study sought to address, among others. The theme of the World Environment Day 2025 is "Beat Plastic Pollution" In Abia State, the operations of the industrial sector, especially portable water producers, generated plastic pollution which invaded the landscapes, waterways and even the food chain. The streets of Aba were overrun with heaps of refuse dumps containing mainly plastic waste of sachets, PET bottles and discarded bags. The drainage channels were clogged, with the airspace filled with stench of decay while the occupants of the city were subjected to slow suffocation under the heavy weight of waste materials. The Abia State Environmental Protection Agency(ASEPA) has been grappling with how to reverse the ugly trend orchestrated by years of environmental abuse and neglect. Suffice to mention the remarkable progress recorded by ASEPA in Aba, among other cities in the past two years.

Activities of Portable Water Producers.

The activities of portable water producers have undoubtedly contributed to plastic pollution and greenhouse gas emissions. The arbitrary management of used and non-biodegradable plastic water packages such as sachets, bottles, and labels over the years is rather worrisome. Previous studies have revealed that it takes about forty years for the plastic materials to decompose in the soil. The continuous use of the environmentally unsustainable practices by portable water producers extends beyond plastic wastes disposal to water sanitation. Water products packaged for human consumption are often contaminated due to the pollution of the underground water. According to World Health Organization(WHO), the distance between the water boreholes(sources of portable water) and the septic-pit should not be less than fifty meters. The septic pit- borehole distance is rarely maintained, resulting in the contamination of the underground water source, with its health

implications such as typhoid fever, cholera dysentery, hepatitis A, etc. In addition, it is imperative to evaluate the environmental consciousness of water consumers in line with their purchase decisions. Consumer patronage of portable water products ought to be influenced by the commitment of the portable water producers to the environmentally sustainable practices. Mande, et al, (2022) posited that environmentally sustainable practices (green marketing) influence the consumer buying behavior and decision. Impressive marketing performance should be the positive outcome of the conformity of the portable water producers with sustainable (green) practices, if consumers are properly oriented toward environmental consciousness. Marketing performance measures the effectiveness and efficiency of marketing strategies and tactics in achieving business objectives. The business objectives of the portable water producers ought to include environmental sustainability, among others. Sustainability performance is a key marketing tool for consumer brands in strategic marketing issues in emerging markets (Sidhu. J.(2018).

Environmental Sustainability.

The compliance of the portable water producers to environmental policies would entail making eco-friendly choices of packaging, biodegradable, recyclable ,and reusable materials, paying attention to water sanitation, treatment procedures and maintaining safe distance between septic pit and water borehole locations.

a). Eco-friendly materials: Eco-friendly materials are sustainable, renewable and with reduced environmental impact compared to traditional materials. Bioplastic materials made from renewable biomasses such as cotton, starch or sugarcane could be used in packaging of portable water products. Using eco-friendly materials can help reduce environmental impact and conserve natural resources to promote sustainability.

b). Biodegradable materials: These are materials or substances that can be broken down naturally by microorganisms such as bacteria and fungi into simpler non-toxic compounds. They are in various forms including bio plastic, natural fibres, paper products and compostable materials. The biodegradable materials reduce wastes sent to landfills and curb clogging of drainages, flooding and infiltration of water into the soil. The materials prevent groundwater contamination and reduce health risk.

c). Recyclable materials: These substances are collected, processed and transformed into new products to minimize wastes and reduce the need for raw materials. Some plastic materials such as PET (Polyethylene Terephthalate) and HDPE (High-Density Polyethylene) can be recycled into new products. Recycling conserves natural resources, preserves energy, reduces waste, and creates economic benefits. By recycling, portable water producers reduce environmental footprints and contribute to sustainable future.

d).Reusable materials: These are substances made to be used several times to reduce waste and promote sustainability. They minimize wastes sent to landfills, conserve natural resources, and reduce carbon footprints. Reusable plastic containers are cost-saving, lightweight and suitable for several applications including food and non-foods.

e) Water sanitation: Water sanitation refers to the process of removing contaminants and pollutants from water to make it safe for human consumption and other uses. It involves the removal of bacteria, viruses, and other health microorganisms pose health risks. Water sanitation

requires reducing chemical contaminants such as heavy metal, pesticides and other pollutants. It improves water quality, protects ecosystems and wildlife from pollution. An urgent call by (WHO and UNICEF, 2024) to transform sanitation for better health, environment, economies and societies underscores the importance of water sanitation to the present and future generations of human beings on earth.

f). Septic pit- borehole distance

The water borehole is the major source of portable water products. In the process of drilling the borehole, its distance from the septic pit should not be less than fifty meters in line with World Health Organization (WHO) standard. The distance however varies according to local regulation and soil conditions. It is instructive to maintain the environment of the borehole by constructing a drainage system that will not empty the flooding around the borehole location. The distance between a septic tank and the borehole is crucial to prevent the contamination of the water supply. The National Foods and Drugs Administration and Control (NAFDAC) should insist on this requirement during inspections of premises to promote water safety.

Marketing Performance

The drinking water comes in various forms for commercial utility. Bottled water **is** packaged in plastic or glass bottles for individual consumption. Sachet water **is** water packaged in a small field plastic bag or sachet for single use/ consumption. Water pouch is water packaged in flexible pouch like containers for convenience in consumption. The indicators of marketing performance of the portable water producers which revenue growth, profitability, return on investment, brand awareness, customer satisfaction and social media engagement should correlate with sustainable practices for a healthy living.

a). Revenue**:** The total income of business organizations derived from core operations constitutes revenue. Revenue growth measured in percentages is predictable through the analysis of historical data, market trends and other factors. It indicates a company's success in meeting customer needs and competing in the market. By entrenching the culture of environmentally sustainable practices, portable water product producers can drive revenue growth, improve profitability and achieve financial goals.

b) Profitability**:** This refers to a company's ability to generate earnings or profits from its operations. Profitability is achieved when revenue exceeds expenses. Profitability is crucial for portable water products producers because it ensures their corporate survival. It is a key factor in investment decisions, and indicates efficient operations and effective management of resources if environmental sustainability concept is not relegated to the background.

c). Return on investment (ROI**):** It is a performance metric that evaluates the efficiency of an investment by comparing returns with costs. It accesses investments to determine the return rates and guides future investment choices based on past performance. ROI must factor the application of environmentally sustainable practices of portable water producers for wholesomeness.

d). Brand awareness: This refers to the extent to which a target audience is familiar with and recognizes a brand, its products, and services. A key aspect is brand recognition which is the ability of customers to identify a brand and its service. It includes the ability of customers to remember a

brand when promoted with a specific product. Brand image helps to build trust, drive customer loyalty and causes products to stand out in a crowded market. The portable water products producers should cultivate the attitude of sustaining safe environment in their activities to build brand awareness and foster customer loyalty.

e). Customer satisfaction: This is the degree to which a product, service or experience meets customer expectations. The prompt delivery of products and services to match customer needs and expectation creates customer satisfaction. Other factors that enrich customer experience include listening to customer complaints, gathering and implementing feedback responses, improving product quality backed by excellent customer services. For the environmentally conscious customers, satisfaction can also be derived from sustainable environmental practices of the industrial sector, especially for edibles like portable water. The commitment to environmental sustainability by both the portable water products producers and consumers is sure to provide the yardstick for assessing customer satisfaction in near future.

Theoretical Framework

Theory of Planned Behavior.

The study is anchored on the Theory of Planned Behavior (TPB). The theory focuses on how attitude, subjective norms, and perceived behavioral control influence individual actions. According to Ajzen, (1991) an individual plan or decision to perform specific behavior is called behavioral intention. Behavioral intention is a crucial determinant of actual behavior, capturing the motivational factors that influence individual's actions. The attitude of Aba residents in dumping refuge containing the plastic wastes into the drainage systems, leads to flooding of the streets and filthy environment. A change in behavior is imperative. This theory is also applied to environmental behavior, exploring factors that influence environmental friendly behavior, such as recycling or conservation. It is important that Water firms integrate the culture of recycling of the sachet bags, PET bottles and discarded pre-form materials into their operations. The theory of planned behavior provides framework for understanding the cognitive processes that determine human behavior and can be used to develop interventions aimed at changing behavior. According to Conca, (2006) in his study on governing water contention transition politics and global institution building, he explored the role of water cooperation in promoting stable environmental peace building. The environmental sustainability governance studies on collaborative management or natural resources explored the relationship between environmental cooperation and peace building and opined that collaborative efforts to manage and protect natural resources can foster cooperation, build trust and promote peace.

Stakeholder Theory;

This study is grounded in the Stakeholder Theory (Mande, et al, (2022) which posits that organizations must create value not only for shareholders but also for stakeholders — including communities and the environment — to achieve sustainable success.

Gap in Literature

The present study focused on the influence of environmental sustainability practices on marketing of portable water producers in Aba, unlike the study that centered on beverages firms in Aba,

which linked green marketing with business performance. The assertion seems to create a gap in consumer behavioral pattern which the current study sought to fill.

Empirical Review

Aginah, et al, (2024**)** investigated green management and effectiveness of beverage firms in Aba. The study evaluated the level of correlation between pollution control and customer satisfaction; pollution control and employee retention. It also examined the level of correlation between waste management and backward integration in beverage firms. A significant level of correlation between pollution control and employee retention was revealed and also between work management and backward integration in the beverage firms in Aba. It was upheld that green management improved the effectiveness of beverage firms in Aba. The study therefore linked green marketing with business performance. This assertion seem to create a gap in consumer behavioral pattern which the current study seeks to fill. If the aforementioned finding is to be universally accepted, this study on the influence of environmentally sustainable practices (green marketing)on marketing performance of water packaging firms in Aba would corroborate it.

Ekanem, et al, (2023) investigated the effect of green operation on organizational performance in selected manufacturing firms in Akwa Ibom State of Nigeria,The findings showed that green manufacturing and design had significant impact on organizational performance of manufacturing enterprises in Akwa Ibom State. It was upheld that green manufacturing and design are relational variables that affect organizational performance of Nigerian manufacturing companies. The current study seeks to replicate the report on the influence of green practices on marketing performance of portable water producers to check any disparity in observation.

The study of Elshaer,et al, (2023) on green management and sustainable performance of small and medium-sized hospitality businesses: moderating the role of an employee's pro-environmental behavior provided insights into the forces of environmentally sustainable practices. The study on the influence of green marketing on business performance of portable water firms seeks to contrast or confirm the universal application of the Elshaer's findings.

Mande, et al, (2022**)** investigated the effect of green marketing strategy on consumer buying behavior and decision making of Nigerian Bottling Company. A significant relationship between green marketing and consumer buying behavior and decision making of Nigerian Bottling Company was revealed. It was concluded that adoption of green marketing by the Nigerian Bottling Company increased its sales performance. In the context of Nigerian business environment and with the low level of environmental consciousness of consumers, the findings of this study seem unrealistic as consumer purchase behavior is influenced solely by product prices. Chaudhary et al,(2018) investigated the consumer attitudes, specifically towards green brands and ecological products and established significant relationship between attitudes towards green brands and the intention to purchase eco-friendly products. The study further opined that green practices should exert strong influence on consumer buying behavior. The extent this report could be extended to the portable water producers is the core of the investigation of this study.

In a nutshell, the studies established significant relationships between green marketing practices and business performance including their effects on sales growth and profitability. The extent to which the reports find application in the case of portable water firms is what the current study seeks to address, among others.

RESEARCH METHODOLOGY

The study adopted survey method in data gathering, followed focus group discussions and face to-face interviews. The area of study is Aba in Abia state, Nigeria. Aba is the commercial and industrial hub of the State, with the inflow of residents and traders from other States of Nigeria and neighboring countries. Aba metropolis has two local government areas namely Aba North and Aba South. The city of Aba has many firms engaged in water treatment, packaging and marketing of portable water products in one-liter plastic sachets, 750ml /1.5-liter PET bottles in addition to ice-blocks (solid water). The ice-block is used in chilling beverage drinks and water, especially during social /burial ceremonies. Aba is inundated with the challenges of plastic waste management as a result of the activities of the portable water producers. The population of the study includes the portable water producers registered with Aba Chamber of Commerce, Industry, Mines &Agriculture (ACCIMA), consumers, staff of Abia State Environmental Protection Agency(ASEPA) and National Agency for Foods, Drugs Administration and Control (NAFDAC). The number of registered portable water producers in Aba metropolis is about 1,030 with the average staff strength of six. Since the interactions was limited to the managers for purposes of gathering enlightened responses, the study population of the portable water producers remains 1030. In reality every human being consumes water. The population of water consumers in Aba was based on the 2025 metro area population estimate of Aba residents which is 1,275,000 (Aba, Nigeria Metro Area Population 1950-2025…www.macrotrends.net.).
To determine the sample size, the study adopted the Taro Yamane (1967) formula, expressed as

$$n = \frac{N}{1 + N(e)^2}$$

Where n= sample size, N=population of study, 1=constant & e =level of significance Substituting the figures in the formula to obtain the sample sizes:

- Population of portable water producers, N = 1030

Sample size, $n = \frac{1030}{1+ 1030(0.05)^2}$

$= 288$

- Population of water consumers, N = 1,275,000

$$\text{Sample size, } n = \frac{1{,}275{,}000}{1 + 1{,}275{,}000(0.05)^2}$$

$$= 400$$

Total Sample size = 288 + 400 = 688

The sources of data for the study were primary and secondary. The primary sources were the questionnaires administered to collect data from the portable water producers, and consumers in Aba metropolis. The face-to-face interviews were held with senior officers of ASEPA and NAFDAC including structured questions to solicit their responses on the subject under investigation. Arrangement was made to assemble experienced people with different backgrounds for focused group discussions. The secondary data were collected from the records of National Agency for Food and Drug Administration and Control (NAFDAC), Abia State Environmental Protection Agency (ASEPA), professional journals, magazines and bulletins.

The study deployed survey method in gathering data. The primary and secondary sources of data were accessed. The methods of data collection involved face-to-face interviews and focuse group discussions that engaged people with different backgrounds and varying experiences in waste mansgement and plastic pollution The research instrument was the questionnaire, validated by marketing professionals and its reliability was tested. Other methods of data collection involved face-to-face interviews and focused group discussions that engage people with different backgrounds and varying experiences in waste management and plastic pollution.

The questionnaire was prepared in simple, clear and concise language for easy communication. A five-point likert scale format was adopted viz, Strongly Agree (5), Agree (4), Undecided (3), Disagree (2), and Strongly Disagree (1). Unstructured questions were also crafted in the questionnaire. Five questions were asked to test each hypotheses of the study. Questions were intentionally repeated to check consistency of the responses and eliminate biases. The five point likert scale in the study was rated as under listed (Ali, 2006).

Strongly Agree (SA) = 5
Agree (A) =4
Undecided (U) =3
Disagree (D) =2
Strongly Disagree (SD) =1
Total points =15
Number of responses =5
Mean cut-off point 15/5 =3.0
Mean (x) =3.0

The mean, 3.0 was used as a criterion for accepting or not accepting the item statements of the questionnaire in other to answer the research question (Nwankwo, 2011). The rule is that any item

statement with mean score of 3.0 and above is accepted as a true statement and any statement with mean score less than 3.0 is unaccepted

The questionnaire measured what was intended and the extent of measurement predicted or correlated with a specific outcome. The instrument was subjected to content and construct validity test by marketing professionals to ensure the desired variables of the study were measured accurately. The study pre-test was carried out with a few respondents before full administration of the questionnaire in the field. Using Cronbach Alpha Statistic, the reliability ratio of the research instrument was determined with a reliability value of 0.85, The study data were presented in tables and analyzed appropriately using various statistical techniques. The stated hypotheses were tested with the use of Simple Regression Analysis (Version 25 of SPSS Computation). The findings of the study were presented in after the field survey, A total of six hundred and eighty five (685) questionnaires were returned out of six hundred and eighty eight (688) administered, amounting to about 99 percent response rate.

Data Analysis

Use of criterion mean in answering research questions.
The five point Likert Scale in the study was rated as under-listed;

Strongly Agree(SA)		=5 points
Agree (A)		=4 points
Undecided (U)		= 3 points
Disagree (D)		=2 points
Strongly disagree (SD)		=1 point
Total	=	15 points
Number of responses		= 5
Mean cut-off point		= 15 / 5
		= 3.0

The mean, 3.0, was used as a criterion for accepting or not accepting the item statements of the questionnaire in order to answer the research question(Nwankwo,2011). The rule is that any item statement with mean score of 3.0 and above is accepted as a true statement and any statement with mean score less than 3.0 is unaccepted

Research question 1: To what extent has eco-friendly packaging exerted influence on the marketing performance of portable water producers?

Table 1: Mean score(x) of respondents on the influence of eco-friendly packaging on marketing performance of portable water producers

S/N	Item statement	Agree SA+A scores	Disagree U+D+SD scores	Total scores	Total no.of respondents	Mean score	Result
1	You prefer portable water brand packaged in eco-friendly materials.	1850	233	2083	685	3.04	Accepted
2	Your choice of portable water brand is influenced by eco-friendly packaging.	317	1666	1983	685	2.89	Not accepted
3	Eco-friendly packaging facilitates your loyalty to a portable water brand.	1469	414	1883	685	2.75	Not accepted
4	Eco-friendly packaging improves the image of portable water brand.	432	1117	1549	685	2.26	Not accepted

Source: Field Survey, 2025

Items 2,3, and 4 had mean scores less than 3.0, indicating non-significant influence of eco-friendly packaging on the marketing performance of portable water producers. However, few respondents indicated their preference for portable water brands packaged in eco-friendly materials.

Research question 2: To what extent has biodegradable packaging influenced the marketing performance of portable water producers?

Table 2. Mean scores(x) of respondents on the influence of biodegradable packaging on marketing performance of portable water producers

S/N	Item statement	Agree SA+A scores	Disagree U+D+SD scores	Total scores	Total no.of respondents	Mean score	Result
1	Portable water brand packaged in biodegradable materials attracts positive image	1635	311	1946	685	2.84	Not accepted
2	Packaging portable water in biodegradable materials contributes to sustainable environment.	470	1443	1913	685	2.79	Not accepted
3	You are sure to recommend portable water brand packaged in biodegradable materials to your social contacts	781	796	1577	685	2.30	Not accepted
4	You are willing to pay higher price to buy portable water brand packaged in biodegradable materials.	731	941	1672	685	2.44	Not accepted

Source; Field Survey,2025

Item statements 1, 2, 3, and 4 recorded mean scores less than 3.0, showing non-significant influence of biodegradable packaging on the marketing performance of portable water producers.

Research question 3: To what extent has recyclable packaging exerted influence on the marketing performance of portable water producers?

Table 3: Mean score(x) of respondents on the influence of recyclable packaging on marketing performance of portable water producers

S/N	Item statement	Agree SA+A scores	Disagree U+D+SD scores	Total scores	Total no.of respondents	Mean score	Result
1	You are always sure to buy portable water brand packaged in recyclable materials	1054	502	1556	685	2.27	Not accepted
2	Your perception of portable water brand that uses recyclable packaging is high.	178	1017	1195	685	1.744	Not accepted
3	You are willing to pay premium for portable water brand packaged in recyclable materials.	1700	287	1,987	685	2.90	Not accepted
4	Your decision to buy portable water brand is influenced by its recyclable packaging.	185	1368	1553	685	2.27	Not accepted

Source; Field Survey, 2025

The item statements 1,2, 3, and 4 had mean scores less than 3.0, implying that recyclable packaging exert insignificant influence on the marketing performance of portable water producers...

Research question 4: To what extent has reusable packaging influenced the marketing performance of portable water producers?

Table 4. Mean score (x) of respondents on the influence of reusable packaging on marketing performance of portable water producers

S/N	Item statement	Agree SA+A scores	Disagree U+D+SD scores	Total scores	Total no.of respondents	Mean score	Result
1	The need for reusable container influenced your buying decision for portable water brand.	1325	902	2227	685	3.25	Accepted
2	The design of the portable water container drew your attention to the brand.	1373	784	2157	685	3.15	Accepted
3	You will switch brand if your choice water product is packaged in poor quality container.	1262	812	2074	685	3.03	Accepted
4	You are willing to deposit money just to pay for a portable water brand packaged in reusable container.	1194	827	2021	685	2.95	Not accepted

Source; Field Survey,2025

The item statements 1,2 and 3 had mean scores greater than 3.0, indicating that reusable packaging exert significant influence on the marketing performance of portable water producers. Item 4 recorded mean score less than 3.0, expressing the unwillingness of respondents to make advance payment for portable water brand packaged in reusable containers

Research question 5: Does water sanitation influence the marketing performance of portable water producers?

Table 5: Mean score(x) of respondents on the influence of water sanitation on marketing performance of portable water producers

S/N	Item statement	Agree SA+A scores	Disagree U+D+SD scores	Total scores	Total no.of respondents	Mean score	Result
1	You are concerned about the dangers of consuming poorly sanitized portable water.	1415	760	2175	685	3.17	Accepted
2	You are prepared to pay high price for portable water brand certified to meet high sanitation standard.	1377	718	2095	685	3.06	Accepted
3	Your purchase decision for portable water brand is influenced by water purity	1373	791	2164	685	3.16	Accepted
4	You are willing to recommend portable water brand that prioritizes quality and human safety to people..	1171	954	2125	685	3.10	Accepted

Source; Field Survey,2025

The item statements.1,2,3 and 4 had mean scores greater than 3.0 ,indicating that water sanitation exert significant influence on the marketing performance of portable water producers .

Table 6. Marketing performance of portable water producers in Aba, Abia State, **Nigeria between 2022 and 2024.**

ITEMS	0-20%	21-40%	41-60%	61-80%	81-100%	
	1	**2**		**3**	**4**	**5**
1. Revenue Growth	-	100		150	250	185
		15%		22%	36%	27%
2. Profitability	-	90		160	230	205
		13%		23%	34%	30%
3. Return on Investment	-	120		170	200	195
		18%		25%	29%	28%
4 Customer Satisfaction	-	110		180	220	175
		16%		26%	32%	26%
5. Brand Awareness	-	130		160	240	155
		19%		23%	35%	23%

Source: Field Survey, 2025

Table 6 above contains responses on marketing performance of portable water producers in Aba, Nigeria. It was revealed that 15% of the respondents said that their firm's revenue growth between 2022 and 2024 was within 21% - 40%, 22% of the respondents said that their firm's revenue growth between 2022 and 2024 was within 41% - 60%, 36% of the respondents said that their firm's revenue growth between 2022 and 2024 was within 61% - 80%, while 27% of the

respondents said that their firm's revenue growth between 2022 and 2024 was within 81% - 100%. This shows that the portable water producers in Aba had high revenue growth between 2022 and 2024. It was also revealed that 13% of the respondents said that their firm's profitability over competing firms between 2022 and 2024 was within 21% - 40%, 23% of the respondents said that their firm's profitability over competing firms between 2022 and 2024 was within 41% - 60%, 34% of the respondents said that their firm's profitability over competing firms between 2022 and 2024 was within 61% - 80%, while 30% of the respondents said that their firm's profitability over competing firms between 2022 and 2024 was within 81% - 100%. This shows that the portable water producers in Aba, Abia State had improved profitability level over competing firms between the years of 2022 to 20224. Furthermore, table 6 revealed that 18% of the respondents said that their firm's return on investment (ROI) between 2022 and 2024 was within 21% - 40%, 25% of the respondents said that their firm's ROI between 2022 and 2024 was within 41% - 60%, 29% of the respondents said that their firm's ROI between 2022 and 2024 was within 61% - 80%, while 28% of the respondents said that their firm's ROI between 2022 and 2024 was within 81% - 100%. This shows that the portable water producers in Aba, Abia State had increased ROI between the years of 2022 to 20224.

Table 6 also showed that 16% of the respondents said that their firm's customer satisfaction between 2022 and 2024 was within 21% - 40%, 26% of the respondents said that their firm's customer satisfaction between 2022 and 2024 was within 41% - 60%, 32% of the respondents said that their firm's customer satisfaction between 2022 and 2024 was within 61% - 80%, while 26% of the respondents said that their firm's customer satisfaction between 2022 and 2024 was within 81% - 100%. This shows that the portable water producers in Aba, Abia State had increased customer satisfaction between the years of 2022 to 2024 In addition, table 6 showed that 19% of the respondents said that their firm's brand awareness between 2022 and 2024 was within 21% - 40%, 23% of the respondents said that their firm's brand awareness between 2022 and 2024 was within 41% - 60%, 35% of the respondents said that their firm's brand awareness between 2022 and 2024 was within 61% - 80%, while 23% of the respondents said that their firm's brand awareness between 2022 and 2024 was within 81% - 100%. This shows that the portable water producers in Aba, Abia State had increased brand awareness between the years of 2022 to 2024

Test of Hypotheses

The hypotheses of the study were stated in the null form:

H0 1: Eco-friendly packaging has no significant influence on the marketing performance of portable water producers.

Table 7: Influence of Eco-friendly packaging on the marketing performance of portable water producers

Coefficients						
		Unstandardized Coefficients		Standardized Coefficients		
Model		B	Std.Error	Beta	t- value	Sig.
1	(Constant)	1.001	0.136		- 12.000	.000
	Eco-friendly Pack.	0.120	0.031	0.263	- 9.000	.000
	R	0.235				
	R^2	0.055				
	Adjusted R^2	0.021				
	F – Statistics	-3.016				

Dependent Variable: Marketing Performance
Source: Field Survey, 2025 (Version 25 of SPSS Computation)

Table 7 shows the effect of eco-friendly packaging on marketing performance of portable water producers in Aba, Abia State. Nigeria. From the simple regression analysis table, eco-friendly packaging was found to be statistically insignificant. The R^2 value of 0.055 shows that 5% of variations in marketing performance of portable water producers in Aba, Abia State was accounted for by eco-friendly packaging. The remaining 95% was due to some other extraneous factors that were not included in the model. Similarly, the f-statistics value was negative indicating insignificant influence on marketing performance of portable water producers in Aba. Therefore, the null hypothesis that eco-friendly packaging does not have significant effect on marketing performance of portable water producers in Aba, Abia State is accepted. This result means that eco-friendly packaging has no significant influence on marketing performance.

HO 2: Biodegradable packaging has no significant influence on the marketing performance of portable water producers.

Table 8: Influence of Biodegradable packaging on the marketing performance of portable water producers

Coefficients						
		Unstandardized Coefficients		Standardized Coefficients		
Model		B	Std.Error	Beta	t- value	Sig.
1	(Constant)	1.201	0.114		-10.106	.000
	Biodegradable Pack.	0.111	0.029	0.169	-8.440	.000
	R	0.210				
	R^2	0.044				
	Adjusted R^2	0.019				
	F – Statistics	-3.014				

Dependent Variable: Marketing Performance
Source: Field Survey, 2025 (Version 25 of SPSS Computation)

Table 8 shows the effect of biodegradable packaging on marketing performance of portable water producers in Aba, Abia State. Nigeria. From the simple regression analysis table, biodegradable packaging was found to be statistically insignificant. The R^2 value of 0.044 shows that 4% of variations in marketing performance of portable water producers in Aba, Abia State was accounted for by biodegradable packaging. The remaining 96% was due to some other extraneous factors that were not included in the model. Similarly, the f-statistics value was negative indicating insignificant influence on marketing performance of portable water producers in Aba. Therefore, the null hypothesis that biodegradable packaging does not have significant effect on marketing performance of portable water producers in Aba, Abia State is correct. This result means that biodegradable packaging has no significant influence on marketing performance.

HO 3: Recyclable packaging has no significant influence on the marketing performance of portable water producers?

Table 9. Influence of Recyclable packaging on the marketing performance of portable water producers

Coefficients						
		Unstandardized Coefficients		Standardized Coefficients		
Model		B	Std.Error	Beta	t- value	Sig.
1	(Constant)	2.143	0.037		-9.329	.000
	Recyclable Pack.	0.513	0.030	0.149	-8.218	.000
	R	0.208				
	R^2	0.043				
	Adjusted R^2	0.018				
	F – Statistics	-3.012				

Dependent Variable: Marketing Performance
Source: Field Survey, 2025 (Version 25 of SPSS Computation

Table 9 shows the effect of recyclable packaging on marketing performance of portable water producers in Aba, Abia State. Nigeria. From the simple regression analysis table, recyclable packaging was found to be statistically insignificant.. The R^2 value of 0.043 shows that 4% of variations in marketing performance of portable water producers in Aba, Abia State was accounted for by recyclable packaging. The remaining 96% was due to some other extraneous factors that were not included in the model. Similarly, the f-statistics value was negative indicating insignificant influence on marketing performance of portable water producers in Aba. Therefore, the null hypothesis that recyclable packaging does not have significant effect on marketing performance of portable water producers in Aba, Abia State is accepted. This result means that recyclable packaging has no significant influence on marketing performance.

HO 4: Reusable packaging has no significant influence on the marketing performance of portable water producers.

Table 10 Influence of reusable packaging on the marketing performance of portable water producers.

Coefficients						
		Unstandardized Coefficients		Standardized Coefficients		
Model		B	Std.Error	Beta	t- value	Sig.
1	Constant)	2.143	0.185		15.648	.000
	Reusable Pack.	0.609	0.033	0.588	17.311	.000
	R	0.798				
	R^2	0.636				
	Adjusted R^2	0.527				
	F – Statistics	16.285				

Dependent Variable: Marketing Performance

Source: Field Survey, 2025 (Version 25 of SPSS Computation)

Table 10 shows the influence of reusable packaging on marketing performance of portable water producers in Aba, Abia State. Nigeria. From the simple regression analysis table, reusable packaging was found to be statistically significant at 1% and positively related to marketing performance of portable water producers in Aba. This implies that an increase in reusable packaging in the studied portable water producers will translate to a corresponding increase in marketing performance. This assertion is at the 99% confidence level. The R^2 value of 0.636 shows that 64% of variations in marketing performance of portable water producers in Aba, Abia State was accounted for by reusable packaging. The remaining 36% was due to some other extraneous factors that were not included in the model. Similarly, the f-statistics value of 16.285 indicates that the model specification was correct while significant at 1%. Therefore, the null hypothesis that reusable packaging do not have significant effect on marketing performance of portable water producers in Aba, Abia State is rejected. This result means that reusable packaging has significant influence on marketing performance

HO 5: Water sanitation has no significant influence on the marketing performance of portable water producers.

Table 11: Influence of water sanitation on the marketing performance of portable water producers.

Coefficients						
		Unstandardized Coefficients		Standardized Coefficients		
Model		B	Std.Error	Beta	t- value	Sig.
1	(Constant)	2.343	0.167		15.409	.000
	Water Sanitation.	0.613	0.175	0.645	16.678	.000
	R	0.798				
	R^2	0.636				
	Adjusted R^2	0.524				
	F – Statistics	16.441				

Dependent Variable: Marketing Performance

Source: Field Survey, 2025 (Version 25 of SPSS Computation)

Table 11 shows the influence of water sanitation on marketing performance of portable water producers in Aba, Abia State. Nigeria. From the simple regression analysis table, water sanitation was found to be statistically significant at 1% and positively related to marketing performance of portable water producers in Aba. This implies that an increase in water sanitation in the studied portable water producers will translate to a corresponding increase in marketing performance. This assertion is at the 99% confidence level. The R^2 value of 0.636 shows that 64% of variations in marketing performance of portable water producers in Aba, Abia State was accounted for by water sanitation. The remaining 36% was due to some other extraneous factors that were not included in the model. Similarly, the f-statistics value of 16.441 indicates that the model specification was correct while significant at 1%. Therefore, the null hypothesis that water sanitation does not have significant effect on marketing performance of portable water producers in Aba, Abia State is rejected. This result means that water sanitation has significant influence on marketing performance

DISCUSSION OF FINDINGS

The essence of the study was to evaluate the influence of environmental sustainability practices on the marketing performance of portable water producers in Aba, Abia State, Nigeria. The study indicated that environmental sustainability practices (eco-friendly packaging, biodegradable packaging, and recyclable packaging) do not have significant influence on marketing performance of portable water producers in Aba while reusable packaging and water sanitation) were positive and significant factors influencing marketing performances in terms of revenue, profitability, return on investment, brand awareness and customer satisfaction of portable water producers in

Aba, Nigeria. A study by Ekanem et al (2023) investigated the effect of green operation on organizational performance in selected manufacturing firms in Akwa Ibom State of Nigeria and found that green manufacturing and design (eco-friendly packaging, biodegradable packaging and recyclable packaging) has significant impact on organizational performance of manufacturing enterprises in AkwaIbom State. However, this result is not in tandem with the finding of the study on eco-friendly, biodegradable and recyclable packaging. The strong link between sustainable practices and improved marketing performance aligns with theories of green marketing **and** brand positioning**.** Companies that integrated sustainability into their branding enjoyed higher trust levels and customer retention rates**.** This is consistent with studies showing that environmentally conscious consumers have need for reusable container which influenced their buying decision for portable water brand However, the gap between large and small firms in sustainability adoption highlights a structural challenge. Smaller companies struggle to afford advanced technologies, which may limit their competitiveness if sustainability becomes a regulatory or consumer expectation standard. The finding that consumers' purchasing decisions are not influenced by eco-friendly packaging suggests that marketing campaigns should emphasize sustainability to yield measurable performance gains**.**

SUMMARY OF FINDINGS

The study revealed the following key results:
i). Environmental sustainability practices such as eco-friendly packaging, biodegradable packaging, and recyclable packaging have no significant influences on marketing performance of portable water producers in Aba, Abia State, Nigeria
ii). Reusable packaging has significant influence on marketing performance of portable water producers in Aba, Abia State, Nigeria
iii). Water sanitation has significant influence on marketing performance of portable water producers in Aba, Abia State, Nigeria.
iv).Majority of portable water companies in Aba have begun implementing proper waste water management. However, the extent of adoption varies significantly, with smaller firms lagging behind larger, more established companies.
v).Firms with higher environmental sustainability scores reported improved customer satisfaction, brand image, and revenue growth.
vi).Sustainable practices were linked to increased customer satisfaction and return on investment, especially among urban, educated consumers who are more environmentally conscious.
viii).Over 65% of surveyed customers indicated a preference for brands that demonstrate visible commitment to environmental sustainability

CONCLUSION

The study concludes that environmental sustainability has a positive and significant effect **on** the marketing performance of portable water companies in Aba. Sustainable practices enhance brand image, customer loyalty, and sales growth. However, financial and technical constraints hinder

full adoption, especially among smaller firms. Without stronger policy support and industry collaboration, the sustainability gap could widen, disadvantaging some market players

Recommendations

Based on the findings of the study and its conclusion, the following recommendations were made:

i). Policy Incentives – Government should provide tax breaks or subsidies for companies adopting eco-friendly technologies.

ii**).**Industry Collaboration – Portable water companies should form alliances to share sustainability technologies and training.

iii).Customer Awareness Campaigns – Firms should run educational campaigns on the environmental benefits of their products.

iv).Gradual Implementation – Small companies should adopt sustainability measures in phases to reduce financial strain.

v**).**Regulatory Enforcement – Agencies should enforce existing environmental laws to ensure uniform compliance.

Contributions to Knowledge

The study contributes to knowledge in the following ways;

i).Empirical Link – The study empirically establishes a positive relationship between environmental sustainability and marketing performance in the Nigerian portable water sector.

ii).Consumer Insight – It provides data showing that customer preference in Aba is increasingly shaped by sustainability awareness.

iii).Implementation Barriers – It identifies the main challenges preventing uniform adoption of sustainable practices among small and large firms.

iv). Contextual Relevance – Adds to African-based literature on green marketing and sustainability in emerging economies.

Areas for Further Studies

The following areas for further studies could be researched:

i). Comparative study of sustainability practices between portable water companies in Aba and other Nigerian cities.

ii).Longitudinal study on how sustained green marketing affects customer loyalty over time.

iii).Examination of the cost-benefit ratio of environmental sustainability investments for small and medium water firms.

iv).Study on consumer willingness to pay more for environmentally sustainable water products in rural vs. urban markets.

v).Investigation into the role of digital marketing in promoting eco-friendly portable water brands.

Acknowledgements

The successful completion of this study would not have been possible without the invaluable support, encouragement, and cooperation of numerous individuals and institutions. First and foremost, the author expresses profound gratitude to God Almighty for the wisdom, strength, and perseverance granted throughout the course of this research. Sincere appreciation is extended to the management and staff of the portable water producing firms in Aba, Abia State, Nigeria, who willingly participated in this study. Their openness, time commitment, and provision of relevant information greatly enhanced the quality and credibility of the research findings. The authors are deeply indebted to academic mentors and colleagues in the field of Marketing and Business Administration whose constructive criticisms, intellectual guidance, and scholarly insights shaped the conceptual and methodological foundations of this work. Their expertise in sustainability and marketing performance measurement provided significant direction in refining the research model and analysis. Special acknowledgement is given to industry stakeholders, regulatory agencies, and environmental officers within Abia State who offered contextual insights into environmental compliance and sustainability practices in the portable water sector. The authors also appreciate the support of family members and friends for their encouragement, patience, and understanding during the period of data collection, analysis, and manuscript preparation. Finally, gratitude is extended to all researchers and scholars whose prior works on environmental sustainability, stakeholder theory, and marketing performance provided the theoretical and empirical foundation upon which this study was built. Any errors or omissions remain the sole responsibility of the authors.

REFERENCES

Aginah, C., Chikwe, G.C, Njoku, Kenneth C. Anyanwu, P.C., and Emeka, N,E.(2024).Greenmanagement and effectiveness of beverage firms in Aba, Abia State. *Journal of Management and Science*, 14(2), pp.7-15.

Ajzen, I., (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes*,Vol. 50, Issue 2, pp.179-211

Chaudhary, R.,Bisais, S.(2018). Factors influencing green purchase behavior of millennials in India. *Management of Environmental Quality*,29,798-812.

Conca, K. (2006).Governing Water:Contentious Transnatioal Politics and Global Institution Building. MIT Press,ISBN 0-262-03339-9.

Ekanem,U,A.,Akpan ,B.B., Ekanem,G.U.,and Edem,E.A.,(2022). Organizational performance in selected manufacturing firms in AkwaIbom State Nigeria. *European Journal of Business and Innovation Research*, vol.11, No. 4. Pp.59-73.

Elshaer,I A.,Azazz, A.M.S., and Fayyad,S.,(2023). Green management and sustainable performance of small and medium-sized hospitality businesses:moderating the role of an employee/s pro-environmental behavior. Journal of Environmental Research and Public Health.20(2).22-44.DOI:10,3390/ijerph20032244.13.

Mande, S.,Taofeek, O. K., (2022).Effect of green marketing strategy on consumer buying behavior and decision making of Nigeria Bottling Comapany. NDA *Journal of Management Sciences Research* .vol.2.no.2.pp.111-116.

Sidhu.J. (2018).Sustainability performance of a key marketing tool for consumer brands in strategic marketing issues in emerging markets. Sustainability, MDPI, *Springer, Singapore*, PN363-372

WHO and UNICEF, (2024).Global Sanitation Summit Organized by UNICEF, WHO AND Water Aid. Kathmandu, Nepal. June,2024. who.int.

Allen-Taylor, K, O.,(2023). Assessing the environmental problems f plastic waste in Lagos State Nigera.*Open Journals of Environmental Research*(OJER) ,ISSN..2734-2085, Vol.3,Issue1., pp.11-22

Akindele,E.O., (2022).Nigeria's plastic pollution is harming the environment:steps to combat it are overdue.https://the conservation.com

Global Sanitation Summit, (2024). Accelerating progress towards universal access to safely managed sanitation,. Kathmandu, Nepal, June 25-27,202

Mande, S.,Taofeek, O. K., (2022).Effect of green marketing strategy on consumer buying behavior and decision making of Nigeria Bottling Comapany. NDA *Journal of Management Sciences Research* .vol.2.no.2.pp.111-1

Njoku,,K.C., Udo-Orji, C.,and Anyanwu, R.C., (2023).Green management as apredictor of organizationl outcomes in hospitality enterprise in Mbaise. UAES *Journal of Social and Management Sciences.13[6]*

Oxmaint, (2024). Operational performance: A deep dive into operational KPIs. https://oxmaint.com

Ugbebor, J.N.,and Ntesat, UB.,(2022). Effects of septic tank proximity to borehole on ground water contamination at Igwuruta, Rivers State,Nigeria.The *International Journal of Engineering and Science(IJES).* Vol.11,Issue 4, Series 1, pp,10;17.

UNEP Annual Report, (2024).Environmental Multilateralism. United Nations Programme .Organized by Inger Andersen, UNEP Executive Director..

Wackernagel, M., and Rees ,W. E., (1996).Our ecological footprint: Reducing human impact on the earth.New Society Publishers. USA.