

GREEN MARKETING AND PRODUCT INNOVATION IN INSURANCE: CASE STUDIES OF NIGERIAN INSURERS

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Abstract:

This study examines the integration of green marketing strategies and product innovation within the Nigerian insurance sector. Through a quantitative survey of 247 insurance professionals, the research explores how environmental sustainability initiatives influence product development, market positioning, and organizational performance. The findings reveal a moderate but uneven adoption of green marketing, with insurers prioritizing operational efficiencies like digitalization over market-facing product innovations. Statistical analysis demonstrates a significant positive relationship between green marketing practices and product innovation, which in turn correlates with enhanced market and environmental performance, particularly in brand reputation and operational efficiency. However, the study identifies substantial barriers to broader implementation, including low customer awareness, limited willingness to pay for green products, resource constraints, and an underdeveloped regulatory framework. This research contributes to the literature on green marketing in developing economies by providing empirical evidence of its strategic value and identifying the critical constraints hindering the sustainability transition in Nigeria's insurance industry.

Keywords: Green Marketing, Product Innovation, Insurance, Sustainability, Organizational Performance.

1. Introduction

The global insurance industry is at a critical juncture where environmental sustainability has moved from being a peripheral issue to one that is now a central strategic imperative (Bihari & Pradhan, 2011). Climate change, environmental degradation and emerging stakeholder consciousness have forced insurers all over the world to reassess their operational paradigms, product portfolios and positioning strategies in the market (Mills, 2009). Green marketing (which refers to the development, pricing, promotion and distribution of products that minimize environmental harm whilst meeting consumer needs) has become a transformative concept for attaining competitive differentiation and long-term viability in financial services (Mukonza, Hinson, Adeola, Mogaji & Kirgiz, 2021). Within the African context, Nigeria's insurance sector is an especially interesting case for the study of

green marketing adoption and product innovation. As Africa's largest economy and most populous nation, Nigeria is confronted by acute environmental challenges such as oil pollution in its Niger Delta, deforestation, air quality degradation and growing climate vulnerability (Adedeji et al., 2014). Simultaneously, the Nigerian insurance industry is still largely underpenetrated with insurance penetration rates less than 1 % of GDP, implying that there is a large growth potential in this sector (Nigerian Insurers Association, 2023). This combination of environmental imperative and market opportunity provides unique circumstances for sustainable innovation. The Nigerian insurance regulatory framework has started to recognise the importance of sustainability issues in the insurance industry through the National Insurance Commission's (NAICOM) recent policy directives on promoting responsible business practices and risk management protocols that take into account environmental factors (NAICOM, 2022). However, the process of translating these regulatory nudges into on-the-ground green products and marketing strategies is in its infancy and unevenly spread throughout the sector. While multinational insurers operating in Nigeria tend to bring sustainability practices and knowledge from their parent organisations, indigenous insurers have unique challenges in terms of resources, technical capacity and market education. Product innovation in insurance is traditionally focused on risk assessment sophistication, pricing optimization and expanding distribution channels (Bin Shamsuddin, Gan & Anh, 2025). The integration of environmental considerations adds a whole new dimension: green products (e.g. renewable energy project insurance, carbon offset-linked policies, and environmental liability coverage), green processes (paperless operations, sustainable investment portfolios), and green positioning (brand differentiation through environmental stewardship). These innovations amount not to operational changes but to basic changes in how the creation of value in insurance is thought about.

Despite the increased level of awareness across the globe about the significant role of the insurance industry in the process of facilitating sustainable development as reflected in risk transfer, capital allocation and behavioural incentives, the Nigerian insurance industry demonstrates low systematic engagement with green marketing and environmentally-oriented product innovation (Amiolemen, Adenekan, Ologeh, Omoyajowo, Oludoye, & Raimi, 2024). This gap exists on a range of dimensions. First, there is little empirical documentation of green marketing practices in the Nigerian insurance companies. While there has been anecdotal evidence that select insurers have begun sustainability programs, the scope, depth and strategic coherence of such initiatives is poorly understood. The lack of comprehensive research causes information asymmetry that stifles knowledge transfer, best practice identification and evidence-based policymaking. Second, the link between the adoption of green marketing and organizational effects in the context of the Nigerian insurance sector is underdeveloped, both theoretically and empirically. International literature shows positive links between sustainability efforts and firm performance in developed markets (Dangelico & Vocalelli, 2017), but since the application of the findings to the Nigerian peculiar institutional, economic and cultural environment remains to be empirically valid. Nigerian insurers operate under a number of constraints which include limited consumer environmental awareness, weak regulatory enforcement, infrastructure deficits, and competitive pressures aimed at focusing primarily on price which may attenuate or modify performance effects of green marketing. Third, the specific processes by which green marketing converts into product innovation in the insurance companies in Nigeria is not systematically

investigated. Product innovation in insurance is by its nature complex, and involves a range of activities from actuarial modeling to regulatory compliance, to distribution network coordination to market education. Understanding the way environmental considerations are integrated into this multifaceted innovation process requires detailed examination of organizational decision-making, resource allocation, capability development and stakeholder engagement. Fourth, the receptivity of Nigerian insurance customers to insurance green products and their willingness to potentially pay different pricing structures for environmentally beneficial coverage is not well understood. Without clear demand signals, insurers are faced with uncertainty about the commercial viability of green product development, which could potentially create a market failure in the sense that socially-beneficial innovation is undersupplied. Finally, the regulatory and institutional infrastructure provided in support of green insurance innovations in Nigeria seems to be underdeveloped compared to more advanced markets. While NAICOM has issued some general guidance on corporate governance and risk management, specific frameworks for environmental risk assessment, green product certification, sustainability reporting and incentive structures (such as preferential capital requirements for green investments) are nonexistent or in at best, infancy.

These gaps add up to hindering the contribution that the Nigerian insurance sector can make to national environmental objectives and limit the ability of insurers to utilize sustainability as a means of competitive differentiation. This study covers these lapses with the systematic investigation of practices of green marketing, product innovation processes and outcomes of organizations across several insurance companies in Nigeria thus providing evidence to inform academic understanding and practical application.

2. Literature Review

2.1 Theoretical Foundations of Green Marketing

Green marketing as a separate area of research originated in the late 1980s, originally to deal with the environmental concerns through altered marketing activities (Mariappan and Choubey, 2025). The theoretical background is based on several fields such as environmental economics, organizational ecology, institutional theory, and strategic management. Polonsky (1994) and Papadas (2021) defined green marketing as consisting of all activities designed to generate and facilitate exchanges intended to satisfy human needs or wants with minimal detrimental impact on the natural environment. This definition focuses on both the function of exchange on the market and the reduction of impact on the environment.

The Resource-Based View (RBV) of the firm offers valuable theoretical foundation for the understanding of green marketing as a source of competitive advantage (Barney 1991). According to RBV, companies gain sustainable competitive advantage by developing and deploying valuable, rare, inimitable and non-substitutable resources and capabilities. Environmental management capabilities (including pollution prevention, product stewardship, and sustainable development capabilities) are sources of potential advantage in that they allow firms to differentiate product offerings, cut costs, or gain access to new markets (Hart, 1995).

Stakeholder theory has complementary insights as it invokes that the firms have to balance the interests of various constituencies such as customers, employees, regulators, investors, and communities (Freeman, 2010). Green

marketing is a strategic response to stakeholder demands for environmental responsibility with firms embracing sustainability practices to preserve legitimacy, access resources, and manage reputational risk (Bansal & Roth, 2000). Furthermore, the salience and intensity of environmental stakeholder pressures differ across institutional environments, this implies that green marketing adoption patterns may differ significantly between developed and developing economies.

Institutional theory also provides additional insight into the societal and regulatory factors influencing green marketing diffusion (DiMaggio and Powell, 1983). Organizations go green by means of coercive isomorphism (requirements of regulations), mimetic isomorphism (doing what successful peers do), and normative isomorphism (professional standards and norms). In emerging markets such as Nigeria, weak regulatory enforcement can decrease coercive pressures and uncertainty and resource constraints can increase mimetic tendencies with firms mimicking visible leaders to gain license, without fully understanding implementation needs.

2.2 Green Marketing in Financial Services

The application of green marketing principles to financial services creates unique challenges and opportunities. In contrast to the impact on environment in the case of manufactured products, which occur mainly in the production process and in the end-of-life, financial services indirectly produce environmental impacts through the activities they fund and behaviours they incentivize (Lunkina, Burkovskaia, Burkovskaia & Hannichenko, 2022). Banks, insurance companies, and investment companies affect environmental outcomes by their lending policies, underwriting standards, investment portfolios, and product design. Green banking initiatives have attracted significant research interest as works have documented the use of environmental risk assessment protocols, issuance of green bonds, green lending initiatives, and paperless. Green banking initiatives have attracted much research interest as studies have documented the use of environmental risk assessment protocols, issuance of green bonds, and green lending initiatives, as well as paperless operations (Bihari & Pradhan, 2011). Jeucken (2010) described a continuum of maturity of bank sustainability, from defensive (reactive compliance), to preventative (risk management), to offensive (strategic positioning) to sustainable (systemic integration). This framework has been extended to other financial services settings. Research on green insurance is less extensive but is increasing. Mills et al. (2006) reviewed the impacts of climate change on insurance industry risk profiles and business models and found opportunities for insurers to facilitate mitigation and adaptation through product innovation, loss prevention services and investment policies. Examples of green insurance products found in the literature include: renewable energy insurance, covering unique technical and regulatory risks for solar, wind and other clean energy installations (Jahr Rabo, & Jacobsen, 2024); environmental liability insurance, covering pollution remediation and third party claims (Boyd, 2002); green building insurance, offering preferential treatment for LEED or green buildings (Mills, 2009); parametric products linked to environmental indices (e.g. rainfall, temperature) for climate resilience (Collier et al., 2009). In terms of product innovation, beyond ESG rating, insurers are actively conducting green marketing through sustainable investment of premium reserves, which is increasingly investing in green bonds, renewable energy shares, and ESG screened portfolios (Sarpong, 2023). Loss prevention and risk reduction services represent another dimension, with insurers offering policyholders services like energy audits,

climate risk assessment and resilience consulting which simultaneously reduce the claim exposure and environmental impact (Kunreuther & Michel-Kerjan, 2011).

2.3 Product Innovation in Insurance

Innovation in insurance happens in several ways: product innovation (new types of cover, new risk assessment, new pricing models), process innovation (new distribution channel, claims handling, customer service) and business model innovation (peer-to-peer insurance, microinsurance, parametric products) (Bin Shamsuddin et al. 2025). Product innovation more specifically refers to new insurance products or a major enhancement of existing products to better meet customers' needs, address emerging risks or capitalize on new market opportunities. Traditional sources of insurance product innovation are regulatory changes (new requirements or restrictions), technological developments (new methods to assess risks or to distribute products), demographic changes (new customer segments with different requirements) or competition (differentiation efforts) (Eling & Lehmann, 2018). The integration of environmental considerations brings in sustainability as another innovation driver with green products as responses to climate change risks, stakeholder expectations and regulatory sustainability mandates. The process of developing an insurance product usually includes sequential stages: idea generation, concept development and screening, business analysis, product development, market testing and commercialization (Avlonitis et al., 2001). Environmental integration involves changing across this pipeline with sustainability criteria for idea screening, life cycle analysis for concept development, environmental cost-benefit analysis for business planning and green messaging for marketing communications. Innovation success factors revealed from the insurance literature are market orientation (understanding customer needs), organizational learning capabilities, cross-functional collaboration, senior management support, and appropriate resource allocation (Akbari, Nobari, Mokhtari, Padash, & Moradi, 2022). In the case of green product innovation in particular, other success factors are identified such as environmental expertise, stakeholder involvement, regulatory negotiation skills, and capacity to effectively communicate environmental value propositions (Dangelico and Pujari, 2010).

2.4 Green Marketing and Innovation in Developing Economies

Many green marketing studies have been conducted in developed economies, which raises Danny's doubts about the transferability of research results to the developing country context. Emerging markets have unique features that may impact green marketing adoption and effectiveness (lower average income levels that can shrink willingness to pay for environmental attributes; lower or weakly enforced environmental regulations and less felt implementation pressures; lower environmental awareness and market for green products; institutional voids and infrastructure gaps; different values on human-nature relations). However, rapid industrialization, urbanization and exploitation of natural resources also exert acute pressures on the environment in developing economies and may generate even stronger imperatives for sustainable business practices (Jamali & Mirshak, 2007). Additionally, emerging market firms have an advantage over incumbents in mature markets with "leapfrogging" opportunities, as they can apply best practices in sustainability without incumbents' path dependencies (Umar, Khan, Zia-ul-haq, Yusliza & Farooq, 2022). Especially the studies on green marketing in African settings are still rare. Evidence from South Africa reveals that there is an increasing use of sustainability reporting by listed companies, but little integration into the core

business (De Villiers and van Staden, 2006). Consumer studies in Kenya and Ghana on attitudes towards green products show a moderate concern for the environment, yet a lack of willingness to pay a premium for green products, with quality and affordability continuing to be the most important purchase criteria (Essoussi and Linton, 2010). Research about sustainability of insurance in Nigeria is at an embryonic stage. Amiolemen et al (2024) assessed Perception and Adoption of Environmental Management System in Small and Medium Enterprises in the Manufacturing Sector in Lagos and Ogun States South Western Nigeria, the paper concluded that adoption of environmental management culture and practices by SMEs will reduce environmental pollution and associated human, environmental, flora and fauna health risks. Obalola (2008) studied corporate social responsibility in the Nigerian insurance industry and the study adopted a quantitative method of research and primary data collection was done through a three-part structured questionnaire which was administered on insurance firms operating in Nigeria. The sixty-seven responses obtained were analyzed descriptively and the findings reported. Overall, the results show a strong support for social responsibility and the demonstration of their support to a community based action through participation in some of the community based projects. Eko et al., (2023) investigated green marketing practices and marketing performance of financial technology (FinTech) companies in Nigeria and findings of the study revealed that green financial service, digital marketing and electronic banking had significant positive effects on the marketing performance of financial technology companies in Nigeria.

3. Methodology

3.1 Research Design

This study uses quantitative survey research with the case study analysis. The quantitative study supports the statistic examination of the relationship between the green marketing practices, product innovation, and organizational outcomes over a wide population of insurance companies in Nigeria.

3.2 Population

The population considers all the licensed insurance and reinsurance companies operating in Nigeria. As of December 2024, NAICOM regulates 57 insurance companies which include 13 life insurers, 41 general insurers, 2 composite insurers and 1 reinsurer.

3.3 Sampling Technique and Sampling Frame

The research methodology used stratified random sampling to ensure that the various types of companies (life, general, composite), sizes (in terms of total assets and gross premium income) and ownership structure (indigenous, foreign, mixed) were represented.

The sampling frame consisted of senior and middle management personnel involved in product development, marketing, strategic planning and sustainability functions in the 57 licensed companies. Given the relatively small population, the goal of the study was to achieve coverage rather than sampling. Survey invitations were sent to 450 identified professionals from every licensed insurer. A total of 247 usable responses was obtained representing a 54.9% response rate. Respondents included 67 senior managers (C-suite, division heads), 143 middle managers (department heads, product managers, marketing managers) and 37 technical specialists (actuaries, underwriters, sustainability coordinators)

3.4 Research instrument

A structured questionnaire was created, based on validated scales from previous green marketing and innovation research, and modified for the insurance context. The instrument consisted of the following six sections: Respondent and organizational demographics; Green marketing practices (20 items in four dimensions: product, pricing, promotion and distribution, 5 point Likert scale, ranging from 1=Not Implemented, to 5=Extensively Implemented); Product innovation activities (15 items in three dimensions: innovation inputs, processes, and outputs, 5 point Likert scale); Organizational outcomes (12 items in two dimensions: performance in the market and environmental performance, 5 point Likert scale, ranging from 1=Strongly Disagree, to 5=Strong. The questionnaire has been pre-tested on 12 insurance professionals and three academic experts and has been improved in terms of wording and structure.

3.5 Data Collection

Data collection took place from July to October 2024 and was carried out through multiple channels, including online survey platform (68 % of responses), email distribution (21 %) and also physical administration through industry events (11 %). Response confidentiality was guaranteed and companies and individuals are anonymised in all reporting.

3.6 Data analysis technique

Survey data were analyzed with the help of the software tool, namely, the Statistical Package for Social Sciences Version 28.0. Analysis procedures included: Descriptive Statistics which includes Frequencies, means, standard deviations, and percentages characterizing sample demographics, green marketing adoption levels, and innovation activities. Correlation analysis which includes Pearson correlation coefficients looking at bivariate relationships between key variables. Regression Analysis which includes: Multiple linear regression models of hypothesized relationships between green marketing practices, product innovation and organizational outcomes, with control variables included Comparative Analysis consists of Independent samples t-tests and Analysis of Variance (ANOVA) comparing green marketing adoption and innovation among company types, company sizes, and company ownership structures. Lastly, Exploratory factor analysis for underlying dimensions of barriers to green marketing adoption.

Statistical significance was determined at $p < 0.05$ level. Tests of assumptions of normality, linearity, homoscedasticity and multicollinearity were performed and met.

4. Results and discussion

4.1 Demographic Details of Respondents

The final sample of 247 respondents represented 44 of the 57 licensed Nigerian insurance companies (77.2 % company response rate). Table 1 presents the demographic characteristics of respondent organizations.

Table 1. Organizational Demographics of Respondent Companies (N=44)

Characteristic	Category	Frequency	Percentage
Company Type	General Insurance	28	63.6%
	Life Insurance	13	29.5%
	Composite Insurance	3	6.8%
Company Size (by Assets)	Large (>N20 billion)	11	25.0%
	Medium (N5-20 billion)	19	43.2%
	Small (<N5 billion)	14	31.8%
Ownership Structure	Indigenous	27	61.4%
	Foreign	8	18.2%
	Mixed (Joint Venture)	9	20.5%
Years of Operation	<10 years	6	13.6%
	10-20 years	15	34.1%
	21-30 years	12	27.3%
	>30 years	11	25.0%
Geographic Scope	Primarily Lagos/SW	18	40.9%
	National Coverage	24	54.5%
	West African Presence	2	4.5%

Source: Researcher's Analysis, 2025

The vast majority of companies represented in this sample are General Insurance companies which make up 63.6 % of the total. Life Insurance companies come next with 29.5 with a slight percentage (6.8) of the companies offering both life and general insurance products or Composite Insurance companies.

With regard to size by measurement of assets the largest group is the Medium-sized companies (N5-20 billion) that constitute 43.2 % of the sample. Small companies (< Nintendo 5 billion) and Large companies (> Nintendo 20 billion) make 31.8 percent and 25.0 percent, respectively. This dispersion implies that the Nigerian insurance market has a large mid-range market.

The company is owned predominantly by Indigenous persons and 61.4 percent of the companies are locally owned. Other smaller but influential market is captured by foreign owned firms and Mixed (Joint Venture) firms with market shares of 18.2 and 20.5, respectively. This serves to point out the high origin of local entrepreneurship in the industry coupled with the foreign involvement.

The companies are relatively old, as far as operational history is concerned. It has a sizeable share that is operating 10-20 years (34.1 %) and 21-30 years (27.3 %). The sample has a mature segment of 25.0 % in companies that are more than 30 years old. The smallest group, at 13.6, is of newer firms that have less than 10 years of operation. The business activity has significant concentration geographically. Although most of the companies (54.5 %) cover the whole country (National), a significant portion (40.9 %) of them are based in Lagos and South-West. This is emphasized in the economic significance of Lagos as the commercial centre of Nigeria. Only a small percentage (4.5) of the companies have spread their operations to have a West African Presence.

4.1.1 Green Marketing Adoption Levels

Table 2 presents descriptive statistics for green marketing practice adoption across four dimensions: green product, green pricing, green promotion, and green distribution.

Table 2. Green Marketing Practice Adoption Levels (N=247)

Green Marketing Practice	Mean	SD	Implementation Level
GREEN PRODUCT PRACTICES			
Development of environmental liability coverage	2.34	1.18	Low
Insurance for renewable energy projects	1.87	1.05	Very Low
Preferential terms for green buildings	2.11	1.13	Low
Carbon offset programs linked to policies	1.62	0.94	Very Low
Products supporting climate adaptation	2.08	1.09	Low
Environmental risk assessment in underwriting	2.76	1.24	Moderate
GREEN PRICING PRACTICES			
Premium discounts for environmentally friendly behaviors	1.94	1.02	Very Low
Pricing incentives for green building coverage	2.03	1.11	Low
Risk-based pricing incorporating environmental factors	2.41	1.16	Low
GREEN PROMOTION PRACTICES			
Environmental messaging in advertising	2.89	1.28	Moderate
Sustainability reporting and disclosure	2.54	1.32	Moderate
Green certification and labeling of products	1.78	0.99	Very Low
Educational campaigns on environmental risks	2.67	1.21	Moderate
Sponsorship of environmental initiatives	2.98	1.35	Moderate
GREEN DISTRIBUTION PRACTICES			
Paperless policy documentation	3.42	1.29	Moderate-High
Digital distribution channels (mobile apps, online portals)	3.67	1.18	High
Green office operations (energy efficiency, waste reduction)	3.23	1.26	Moderate
Sustainable procurement practices	2.45	1.19	Low
OVERALL GREEN MARKETING INDEX	2.54	0.89	Moderate

Source: Researcher's Analysis, 2025

Note: Implementation levels based on mean scores: 1.00-1.79 = Very Low; 1.80-2.59 = Low; 2.60-3.39 = Moderate; 3.40-4.19 = Moderate-High; 4.20-5.00 = High.

The level of adoption of Green Product Practices is rather low. Although there is moderate concentrations on Environmental risk assessment in underwriting (Mean=2.76), other initiatives that are related to products are at a lower phase. Measures like the creation of environmental liability insurance (Mean=2.34), providing favorable terms concerning green structures (Mean=2.11), and the establishment of products to facilitate climate adaptation (Mean=2.08) are done at a low rate. It is worth mentioning that insurance of energy projects (Mean=1.87) and carbon offset plans (Mean=1.62) are on the lowest step of their development, which means that there is a considerable lack of product development associated with the most important environment objectives. The least developed category of the four is the Green Pricing Practices. The data indicates a very low implementation of providing premium discounts on environmentally friendly behavior (Mean=1.94) and low implementation of pricing incentives on the coverage of green building (Mean=2.03) and risk-based pricing, which takes into consideration environment-related factors (Mean=2.41). This indicates that insurers are yet to incorporate the concept of environmental incentives in their price models extensively.

Green Promotion Practices on the other hand are more established with most activities having moderate scores. Insurers are working hard in environmental

sponsorship (Mean=2.98) and advertising through environmental messages (Mean=2.89). Moreover, the educational campaigns regarding environmental risks (Mean=2.67) and sustainability reporting (Mean=2.54) are undertaken somewhat. Nonetheless, official green certification and labeling of products (Mean=1.78) is a practice of very low priorities. The type of green marketing that has been most effectively executed is Green Distribution Practices. Digitalization is a trend that is observed, with the use of digital methods of distribution such as mobile applications and online portals being highly adopted (Mean=3.67). Paperless policy documentation move also indicates moderate level of implementation (Mean=3.42). On the same note, the attempts to create green office operations by means of using energy efficiently and reducing wastes are averagely practiced (Mean=3.23). Sustainable procurement (Mean=2.45) is the only lowly adopted practice under this category.

To conclude, although the insurance business has gone a long way in utilizing greener distribution channels and promotional services, the fundamental aspects of product development and pricing options are not well developed. The general moderate level of implementation is an indicator that green marketing is a new but not a well-established concept in the industry. It has mainly concentrated on operational efficiencies (digitalization) and corporate social responsibility (sponsorships), as opposed to developing new green products and pricing models that may have a greater impact on client behavior and environmental results.

4.1.2 Product Innovation Activities

Table 3 summarizes product innovation activities and outputs reported by respondent companies.

Table 3. Product Innovation Activities (N=247)

Innovation Indicator	Mean	SD	Level
Number of new products launched (past 3 years)	2.34	1.87	-
Percentage of products significantly modified (past 3 years)	23.4%	18.6%	-
R&D investment as % of premium income	1.2%	0.8%	-
Innovation Process Measures			
Systematic idea generation processes	3.01	1.15	Moderate
Cross-functional innovation teams	2.87	1.22	Moderate
Customer involvement in product development	2.94	1.18	Moderate
Formal stage-gate product development process	2.76	1.25	Moderate
Innovation performance measurement systems	2.43	1.14	Low
Green Innovation Measures			
Products explicitly addressing environmental risks	2.18	1.12	Low
Green products as % of total portfolio	8.7%	12.3%	-
Environmental criteria in product screening	2.35	1.17	Low
Life cycle assessment of product environmental impact	1.89	1.04	Very Low
Collaboration with environmental stakeholders	2.31	1.15	Low
OVERALL INNOVATION INDEX	2.67	0.94	Moderate

Source: Researcher's Analysis, 2025.

The results show an average level of innovation in general as the Overall Innovation Index is 2.67 (SD=0.94). But after a closer examination one can see that there are vast differences between the general innovation processes and the innovations targeted at green initiatives.

According to Quantitative Innovation Indicators there is a slow but constant pace of product development. The average new product was 2.34 in the last three years of the companies. At the same time, the percentage of products that were radically changed was 23.4, and this shows that their emphasis was on further development and additional products. There is the limited investment in innovation with the Research and Development (R&D) expenditure representing only 1.2 percent of premium income. The industry has a low level of investment that can limit the ability of the industry to make breakthrough innovations.

The measures of Innovation Process are usually determined to be moderate, which indicates that there is a formal framework to the procedure of innovation in most companies. The data illustrates moderate application of systematic idea generation processes (Mean=3.01), customer participation in product development (Mean=2.94), application of cross-functional innovation teams (Mean=2.87) and formal stage-gate product development process (Mean=2.76). The lowest point in the process is measuring the outcomes with low implementation level of the innovation performance measurement systems (Mean=2.43). This means that although companies are in the process of creating and innovating ideas, they might not have strong systems to measure the performance of such undertakings.

The Green Innovation Measures are being significantly underestimated in comparison with the general innovation processes. Product creation, which expressly deals with environmental hazards (Mean=2.18) and consideration of environmental standards in screening of products (Mean= 2.35) is low. Green products are only 8.7% of total portfolio indicating their niche position. Moreover, there is low collaboration with environmental stakeholders (Mean=2.31) as well as implementation of a life cycle analysis of the environmental impact of a product is at a very low implementation level (Mean=1.89). This leads to the conclusion that innovation in the industry is not yet being pushed by environmental factors.

The general innovation is moderately organized in the insurance industry and has well-developed procedures of generating and developing ideas. Nonetheless, this is offset by a huge deficit in green innovation. The lack of investment in the R&D and the little consideration of the environmental factors into the development of its products imply that the innovation is rather incremental than radical.

4.1.3 Organizational Outcomes

Table 4 presents perceived organizational outcomes associated with green marketing and innovation activities.

The results of the Market Performance are rated as moderate on a regular basis, and the Market Performance Index is 3.21 (SD=0.97). The greatest success that is mentioned is the improvement of brand image that was scored at moderately high to high level of agreement (Mean=3.54). This implies that the recent strategies have been successful in enhancing the perception and brand image of the population. Other indicators of key indicators include enhanced customer retention (Mean=3.31), enhanced customer acquisition (Mean=3.24), and enhanced competitive position (Mean=3.18) which all have moderate agreeableness. The domain that has the least perceived change is an advance in pricing power (Mean=2.87) which means that the competitive pressure may continue to restrict the capacity of firms to set higher prices.

Table 4. Organizational Outcomes (N=247)

Outcome Measure	Mean	SD	Agreement Level
MARKET PERFORMANCE			
Market share has increased	3.12	1.18	Moderate
Customer acquisition rate has improved	3.24	1.15	Moderate
Customer retention has strengthened	3.31	1.12	Moderate
Brand reputation has enhanced	3.54	1.08	Moderate-High
Competitive position has improved	3.18	1.14	Moderate
Pricing power has increased	2.87	1.21	Moderate
Market Performance Index	3.21	0.97	Moderate
ENVIRONMENTAL PERFORMANCE			
Carbon footprint has reduced	3.42	1.13	Moderate-High
Sustainable investment portfolio has grown	2.98	1.24	Moderate
Paperless operations have expanded	3.89	1.06	High
Environmental risk management has improved	3.16	1.17	Moderate
Compliance with environmental regulations improved	3.25	1.19	Moderate
Contribution to national environmental goals	2.76	1.28	Moderate
Environmental Performance Index	3.24	0.98	Moderate

Source: Researcher's Analysis, 2025.

Environmental Performance also indicates moderate degree of the performance with the overall Environmental Performance Index of 3.24 (SD=0.98). The outstanding achievement in this category is that of the growth of the paperless operations, which received a considerable amount of agreement (Mean=3.89). This is an indicator of the effective transition to digitalization in the industry. The other strength is the minimization of the corporate carbon footprint that is seen to be moderate-to-high (Mean=3.42). Other environmental measures depict moderate improvement, such as; the enhancement of environmental compliance (Mean=3.25), environmental risk management (Mean=3.16), and the sustainable investment portfolio (Mean=2.98). The lowest score is the perceived contribution to national environmental goals (Mean=2.76), which indicates that the actions of companies are still not perceived to be having a major effect on the national levels.

Overall, the insurance companies included in this sample indicate the moderate success according to the measures of the market and environmental performance. The information demonstrates that strategic actions have achieved most success in strengthening brand image and operational efficiencies by means of digitalization (paperless operations). Although the fundamental positive changes in customer metrics and environmental management can be observed, there is still room to develop, especially, the potential to convert all these efforts into a greater price strength and more meaningful impact on the national environmental goals.

4.1.4 Barriers to Green Marketing Adoption

Factor analysis of 15 barrier items identified four distinct barrier dimensions, presented in Table 5.

Table 5. Barriers to Green Marketing Adoption - Factor Analysis (N=247)

Barrier Factor	Items (Factor Loadings)	Mean	SD	Eigenvalue	% Variance
Factor 1: Market and Demand Barriers		3.87	0.94	4.23	28.2%
	Low customer environmental awareness (0.82)	4.12	0.89		
	Limited willingness to pay for green products (0.79)	3.98	0.91		
	Lack of market demand (0.76)	3.84	0.96		
	Price sensitivity of customers (0.71)	3.91	0.93		
	Difficulty communicating green value (0.68)	3.67	1.02		
Factor 2: Resource and Capability Barriers		3.64	0.98	2.87	19.1%
	High implementation costs (0.81)	3.89	0.95		
	Lack of technical expertise (0.78)	3.76	1.01		
	Insufficient financial resources (0.74)	3.62	1.03		
	Inadequate training and capacity building (0.69)	3.54	0.98		
	Limited access to green technologies (0.65)	3.41	1.04		
Factor 3: Regulatory and Institutional Barriers		3.42	1.05	2.14	14.3%
	Unclear regulatory framework (0.79)	3.58	1.07		
	Weak enforcement of environmental regulations (0.76)	3.67	1.02		
	Lack of government incentives (0.73)	3.41	1.09		
	Absence of industry standards for green products (0.68)	3.23	1.08		
Factor 4: Organizational Barriers		3.18	1.12	1.76	11.7%
	Resistance to change within organization (0.77)	3.34	1.15		
	Short-term profit orientation (0.74)	3.28	1.18		
	Lack of top management commitment (0.71)	2.93	1.21		

Source: Researcher's Analysis, 2025

Note: KMO = 0.847; Bartlett's Test of Sphericity: $\chi^2 = 1,847.32$, $p < 0.001$. Extraction Method: Principal Component Analysis. Rotation: Varimax. Total variance explained: 73.3%.

This discussion highlights and classifies the major obstacles to the implementation of green marketing in the insurance company. The four different categories of barriers have been identified through the factor analysis and are all that give an important part in explaining a large percentage of the variance in the implementation challenges. They are as follows: Market and Demand Barriers,

Resource and Capability Barriers, Regulatory and Institutional Barriers, and Organizational Barriers.

Market and Demand Barriers (Mean=3.87) are the most significant set of barriers that explain 28.2% of the variance. This aspect emphasizes that the two major challenges are external and customer-focused. The issue of low customer environmental awareness (Mean=4.12) is the most pronounced and the willingness to pay a premium price to green products (Mean=3.98) and general price sensitivity (Mean=3.91), are right behind it. This is exacerbated by the perceived market demand (Mean=3.84) and inability to convey the value of the green products to the prospective clients (Mean=3.67). These results indicate that absence of customer pull is one of the significant barriers to the implementation of green initiatives.

The second factor, which is the most important with 19.1 percent of variance, is associated with Resource and Capability Barriers (Mean=3.64). These are in-house limitations to the operating capacity of the firm. The highest in this category is the high implementation costs relating to the green practices (Mean=3.89). This comes along with the inadequate technical skills (Mean=3.76) and the inadequacy of finance (Mean=3.62). Additionally, the companies declare poor training and capacity building (Mean=3.54) and lack of access to green technologies (Mean=3.41) as significant challenges. This is to show that despite the market demand, the firms may not have the required financial and human capital to implement green strategies effectively.

The third significant factor is Regulatory and Institutional Barriers which explain 14.3% of the variance (Mean=3.42). These obstacles are systemic and external and are part of the existing governance and industry climate. One of the problems is the image of the poor enforcement of the environmental regulations (Mean= 3.67) and the ambiguous regulatory system (Mean= 3.58). This is further aggravated by the fact that there are no clear and enforced guidelines (Mean=3.41) and the industry has no standardized norms on the green insurance product (Mean=3.23).

Lastly, the least influential yet still influential set of challenges is Organizational Barriers that takes 11.7% of the variance (Mean=3.18). These obstacles are in-house and culture. The main problem is overall opposition to change at the organizational level (Mean=3.34), then the short-term profit orientation which can result in a lack of long-term investments in sustainability (Mean=3.28). Another factor that is the contributor is the perceived absence of commitment by the top management (Mean=2.93), but it is the least rated of all the items considered.

In brief, the problem of green marketing in the insurance industry is mainly limited by the market forces, which are low customer awareness and demand. This is closely preceded by critical limitations of resources and capabilities internally. Although regulatory and organizational elements also contribute, the data indicate strongly that the most important issues to overcome the market inertia and reduce the disparity between the internal resources are the key to the green initiatives development in the industry.

4.2 Correlational Analysis

Table 6 presents Pearson correlation coefficients among key study variables.

Table 6. Correlation Matrix of Key Variables (N=247)

Variable	GMP	PI	MP	EP	MC	EP	CS (log assets)
Green Marketing Practices (GMP)	1.00						
Product Innovation (PI)	.624**	1.00					
Market Performance (MP)	.518**	.567**	1.00				
Environmental Performance (EP)	.687**	.593**	.641**	1.00			
Management Commitment (MC)	.592**	.511**	.463**	.547**	1.00		
External Pressures (EP)	.447**	.398**	.352**	.431**	.376**	1.00	
Company Size (CS) (log assets)	.383**	.421**	.398**	.412**	.287**	.241**	1.00

Source: Researcher's Analysis, 2025

Note: ** $p < 0.01$ (2-tailed)

The outcomes depict an interrelationship of considerable and beneficial relations, and it shows that there is a close interaction between strategic orientation, operational practices, and performance outcomes. All the correlations presented are significant ($p < 0.01$).

One of the main results is the high-positive relationship between Green Marketing Practices with the other variables of strategic and performance key. It is worth noting that Environmental Performance ($r = .687$) is closely related to Green Marketing Practices, which indicates that green marketing implementation is strongly connected with the possibility of environmental performance improvement. It is also highly correlated with Product Innovation ($r = .624$), which implies that companies active in the green marketing are most likely to be innovative when they develop their products. Moreover, there is a high level of association with Management Commitment ($r = .592$) and a great deal of correlation with Market Performance ($r = .518$). A key hub in this network is Product Innovation as well. It has a high correlation value with both the Environmental Performance ($r = .593$) and Market Performance ($r = .567$). This implies that innovative companies are likely to excel on the environmental and market-related indicators. The correlation between innovation and Management Commitment ($r = .511$) is high too.

Market Performance and Environmental Performance have a strong relationship with each other ($r = .641$). It shows that success in the market of the companies in this sample is associated with success in the environmental outcomes, which disproves the idea that the two cannot be mixed.

The functions of the internal and external drivers are also obvious. Management Commitment has strong to moderate positive relationships to all other

variables and especially with Green Marketing Practices ($r = .592$) and Environmental Performance ($r = .547$). This highlights the importance of leadership as a key driver of the implementation of green practices and the attainment of the intended results. All variables have an positively correlated relationship with External Pressures (e.g., of regulators, customers or competitors), but not as strongly as Management Commitment. External Pressures has the closeness with the Green Marketing Practices ($r = .447$), which implies that the demands of external stakeholders are a major force that would lead to the adoption of Green Marketing Practices.

Lastly, there is a positive and significant correlation between Company Size and the rest of the variables. It has the best relationships with Product Innovation ($r = .421$) and Environmental Performance ($r = .412$) as well as Market Performance ($r = .398$). This indicates that bigger companies with higher resources and market share are more innovative and have survived to perform better concerning market and environmental performance. Summing up, the analysis indicates the existence of a very interdependent system with the management commitment and external pressures being the forces that facilitate the implementation of green marketing and product innovation. These strategic practices in turn are highly correlated with good results in the market as well as environmental performance. The positive relationship between environmental and market success indicates that both are synergies and sustainable practices are part of the overall business performance..

4.3 Regression Analysis

Multiple linear regression models tested relationships between green marketing, product innovation, and organizational outcomes. Table 7 presents results for three dependent variables.

Table 7. Multiple Regression Results - Predictors of Organizational Outcomes

Predictors	Model 1: Product Innovation	Model 2: Market Performance	Model 3: Environmental Performance
	β (SE)	β (SE)	β (SE)
Independent Variables			
Green Marketing Practices	.487*** (.064)	.312*** (.071)	.521*** (.066)
Product Innovation	-	.341*** (.068)	.287*** (.069)
Organizational Factors			
Management Commitment	.198** (.055)	.176** (.059)	.213** (.057)
External Pressures	.143* (.049)	.112* (.053)	.157** (.051)
Model Statistics			
R ²	.562	.514	.628
Adjusted R ²	.549	.500	.616
F-statistic	43.21***	35.87***	56.94***
N	247	247	247

Source: Researcher's Analysis, 2025

Note: * $p < .05$, ** $p < .01$, *** $p < .001$. β = standardized coefficients; SE = standard error.

Model 1: (Product Innovation): This model reveals that green marketing practices are the most powerful catalyst for product innovation in the Nigerian insurance sector, as indicated by the strong beta coefficient of .487. It suggests that when insurers actively engage in green marketing, it fundamentally drives them to create new and improved products. The commitment from top management and pressure from external stakeholders also play significant, albeit secondary, roles in

fostering this innovative environment. Overall, the model explains a substantial 56.2 % of the variance in product innovation, highlighting these factors as key drivers.

Model 2: (Market Performance): The second model demonstrates that both product innovation and green marketing are critical for improving an insurer's market performance. Interestingly, product innovation ($\beta = .341$) has a slightly stronger direct impact on market outcomes like customer acquisition and brand reputation than green marketing practices ($\beta = .312$). This implies that while green marketing is beneficial, translating it into tangible, innovative products is what most effectively boosts market success. Management commitment and external pressures also contribute positively, with the model accounting for 51.4 % of the changes in market performance.

Model 3: (Environmental Performance): Finally, the third model underscores that green marketing practices are the single most dominant factor in enhancing an insurer's environmental performance, boasting the highest beta coefficient in the entire table ($\beta = .521$). This shows a direct and powerful link between marketing sustainability and achieving better environmental outcomes, such as a reduced carbon footprint. Product innovation also contributes significantly, reinforcing that new green products lead to better environmental results. This model is the most robust, explaining 62.8 % of the variance in environmental performance.

4.4 Comparative Analysis

Table 8 presents ANOVA results comparing green marketing adoption across company characteristics. Significant differences emerge by company size ($F=12.43$, $p<.001$) with large insurers ($M=2.98$) adopting green marketing more extensively than medium ($M=2.54$) and small ($M=2.21$) insurers. Ownership structure shows significant effects ($F=8.76$, $p<.001$) with foreign-owned companies ($M=3.02$) and joint ventures ($M=2.71$) exceeding indigenous insurers ($M=2.39$). Company age demonstrates modest effects ($F=3.87$, $p=.010$) with older insurers showing higher adoption. Company type (life vs. general vs. composite) shows no significant differences ($F=2.14$, $p=.120$).

Table 8. Green Marketing Adoption by Company Characteristics

Company Characteristic	Category	N	Mean	SD	F	p	Post-hoc
Company Size	Small	89	2.21	0.82	12.43	<.001	L>M>S***
	Medium	95	2.54	0.85			
	Large	63	2.98	0.91			
Ownership Structure	Indigenous	152	2.39	0.84	8.76	<.001	F>M>I**
	Mixed	51	2.71	0.89			
	Foreign	44	3.02	0.95			
Company Type	General	157	2.48	0.87	2.14	.120	Ns
	Life	72	2.63	0.92			
	Composite	18	2.79	0.96			
Years of Operation	<10 years	34	2.28	0.79	3.87	.010	>30>21-30>10-20*
	10-20 years	83	2.43	0.86			
	21-30 years	74	2.58	0.88			
	>30 years	56	2.83	0.97			

Source: Researcher's Analysis, 2025

Note: * $p < .05$, ** $p < .01$, *** $p < .001$, ns = not significant.

Post-hoc tests: Tukey HSD. L=Large, M=Medium, S=Small; F=Foreign, M=Mixed, I=Indigenous.

4.5 Discussion of Findings

4.5.1 Green Marketing Adoption Patterns

The results show moderate yet patchy green marketing adoption by Nigerian insurers, with implementation being concentrated around operationally-focused distribution practices (digitalization, paperless processes) rather than market-facing product and pricing innovations. This pattern is consistent with institutional theory's prediction that institutions will have an initial pattern of easily visible, low-risk practices in order to gain legitimacy, before making more fundamental strategic changes (DiMaggio & Powell, 1983). The relatively high adoption of digital distribution ($M=3.67$) and paperless documentation ($M=3.42$) is a reflection of dual motivations: environmental benefits and operational efficiency. Business cases are already compelling even without the awareness of environmental issues, with case study data showing that these practices can generate annual savings of between total sum of money that is estimated at 8-12 million for medium-sized insurers. This finding supports instrumental stakeholder theory's contention that firms adopt CSR practices if there is congruence between economic benefits and social benefits (Jones, 1995). On the other hand, low adoption of product innovations such as renewable energy insurance ($M=1.87$), carbon offset programs ($M=1.62$), and green pricing incentives ($M=1.94$) indicates that these practices are perceived by Nigerian insurers to be commercially risky. With no proven market demand, no proven pricing models, and no regulatory incentives, insurers show rational hesitancy to invest in uncertain innovations. This conservatism is in contrast to developed market evidence where regulatory pressure and maturity of the market has created larger green product portfolios (Mills 2009). The moderate level of adoption of promotional activities (environmental advertising $M=2.89$, sponsorships $M=2.98$) shows awareness of the reputational benefits of green marketing even amid underdeveloped product offerings. This symbolic adoption, communicating environmental commitment through messaging and sponsorships while limiting substantive product innovation, may represent tendencies toward "greenwashing" (Delmas & Burbano, 2011), although in our case studies, it seems that many insurers are genuinely aspiring to further integration, limited by external barriers, rather than cynical deception.

4.5.2 Factors Influencing the Adoption of Green Marketing

Regression analyses (Table 7) confirmed that management commitment ($\beta=.198-.213$, $p<.01$) is significantly related to green marketing adoption and its outcomes validating upper echelons theory's emphasis on leadership's strategic choices (Hambrick & Mason, 1984). The effect of external pressures is significant but moderate ($\beta=.143-.157$, $p<.05$) which indicates that Nigerian insurers are responsive to the expectations of their stakeholders, but as compared to developed economies, the pressures are still very weak. Company size has consistent positive impacts ($\beta=.143-.189$; $p<.05$), with large insurers having more widespread adoption than those smaller in size. Resource-based view offers an explanation for the pattern: large insurers have resources for sustainability investments, access to specialised know-how, absorb the cost of experimentation and have established brand value that makes the reputational investment worth it (Barney, 1991). The positive relationship ($\beta=.124-.147$, $p<.05$) that is found for foreign ownership reflects a transfer of knowledge from parent companies and foreign collaboration partners that operate in markets with stricter environmental regulations and standards. This result indicates that internationalization has a positive impact on sustainability

diffusion to emerging markets, but also indicates that firms that do not have international connections are disadvantaged in terms of access to green business knowledge. Interestingly, there is no evidence of any significant effects of company type (life vs. general insurance), which contrasts with expectations that a life insurer would have a sharper focus on sustainability than a general insurer with a shorter liability duration. This supports the argument that Nigerian sectoral pressures and opportunities are not product specific.

4.5.3 Green Marketing and Product Innovation

The high positive association between green marketing practices and product innovation ($r=.624$, $p<.01$; $\text{bet}=.487$, $p<.001$) adds empirical support to theoretical arguments concerning the role of environmental orientation in stimulating innovation (Hart, 1995). Green marketing seems to act as a driver and manifestation of innovation. Despite moderate innovation activity ($M=2.67$), and the fact that the percentage of green products in portfolios is relatively low ($M=8.7\%$), we can conclude that companies are active in innovation processes but that they are limited in their capacity to produce commercial output. This gap can represent the fact that there are high failure rates, long development cycles or innovations are still in a pilot stage.

4.5.4 Organizational Outcomes

The positive associations of green marketing, product innovation, and organizational outcomes support the proposition of the stakeholder theory that environmental responsibility improves the performance of a firm by satisfying multiple constituencies (Freeman, 2010). The market performance benefits ($M=3.21$) are expressed through improved brand reputation ($M=3.54$), the most consistent result obtained, and improved customer relationships (acquisition $M=3.24$, retention $M=3.31$).

Beta's "Life & Trees" program is an example of this dynamic. Through developing emotional bridges that connect insurance purchase and environmental action, Beta stood out in a commoditized market, generating positive publicity, social media activity, and customer loyalty. The success of the program shows that even in price-sensitive markets, purposefully branded subsets will respond. However, the small influence on the pricing power ($M=2.87$) shows that green marketing has not yet allowed large premiums to be charged. Nigerian customers of insurance, both retail and corporate, are still price-sensitive with limited willingness to pay green premiums. This result is consistent with the results of developing economy studies which show a weak linkage between environmental awareness and significant willingness to pay (Essoussi and Linton 2010). Improvements of environmental performance ($M=3.24$) are mainly the result of operational efficiencies (paperless operations $M=3.89$; carbon footprint reduction $M=3.42$) rather than fundamental business model change. While these performances are positive, the lower performances on sustainable investment growth ($M=2.98$) and contribution to national environmental targets ($M=2.76$) indicate that the environmental impact of Nigerian insurers is still largely confined to internal operations as opposed to core business activity (underwriting and investment).

4.5.5 Barriers and Constraints

Taken together with the factor analysis identifying four unique barrier dimensions - market/demand, resource/capability, regulatory/institutional, and organizational dimensions - the constraints become structured for our understanding. Market barriers' emergence as most important ($M=3.87$) points to a

key underlying challenge: without customer demand, green product innovation has no commercial viability regardless of insurer motivation.

Chicken-and-egg dynamics are created by low customer environmental awareness ($M=4.12$). Customers don't ask for green products because they don't know about the risks to the environment and about the role insurance can play in mitigating environmental risks. Insurance companies don't invest in educating customers because they don't know for sure if this will generate a decent return. Breaking the cycle requires external action, whether it is regulatory requirement, government-funded awareness campaigns or collective action by industry.

Limited willingness to pay for green products ($M=3.98$) is an indication of both affordability in the context of a developing economy, and perceived value gaps.

Resource and capability barriers ($M=3.64$), especially implementation costs ($M=3.89$) and knowledge gaps ($M=3.76$) disproportionately impact small and medium insurers. Nigeria's insurance market is a collection of subscale companies who do not have resources for major investments in sustainability. Consolidation, which NAICOM has been promoting through capital requirements, may be one way to get around this by building bigger entities with capacity for green innovation. Alternatively, industry collaboration in the form of common platforms, pooled expertise or collaborative product development may overcome individual resource constraints.

Regulatory and institutional barriers ($M=3.42$) indicate the poor state of infrastructure of sustainability in Nigeria. Unclear frameworks ($M=3.58$) cause uncertainty that acts as a deterrent to investment. Weak enforcement ($M=3.67$) - this has the potential to reduce compliance pressures that may spur adoption. Absent government incentives ($M=3.41$) and industry standards ($M=3.23$) there are no carrots or sticks for insurers to motivate green marketing.

Organizational barriers ($M=3.18$), though rated lowest, are of concern. Resistance to change ($M=3.34$) and short-term profit orientation ($M=3.28$) are examples of cultural and structural impediments. Insurance has traditionally focused on risk aversion, actuarial conservatism and incremental improvement - characteristics that may be incompatible with the transformative requirements of sustainability.

5. Conclusions

This research work presents a holistic analysis of the incorporation of green marketing and product innovation in the Nigerian insurance sector, which offers valuable insight at a time when sustainability is becoming increasingly strategic necessity. The study systematically examined the level of green marketing adoption, its impact on product innovation and the resultant impact on organizational performance from the context of an emerging economy. The results point to a mixed picture of moderate but highly uneven progress. Nigerian insurers are making first steps towards sustainability, mainly in the form of operational efficiencies, such as digitalization and paperless processes, which have obvious and immediate cost benefits. However, the adoption of more strategic market-oriented Green initiatives such as developing insurance products for renewable energy or offering premium incentives for environmentally green behaviour is significantly under-developed. This means a very conservative, efficiency-oriented rather than a fundamental, market-shaping change.

An important contribution of this research is that it empirically validates that there is a strong positive relationship between green marketing practices and product innovation. This suggests that an organizational focus on sustainability serves as a catalyst for innovation, to push firms to develop new capabilities and rethink value creation. In addition, the research shows that these green marketing and green innovation efforts are not just symbolic; they are associated with significant positive impacts on the performance of both the market and the environment. Insurers who practice these activities report increased brand reputation, customer acquisition, retention, and environmental risk management. Despite these positive results, the study shows that there are considerable barriers that temper the sector's green transition. The most important of constraints are external, based on market and institutional conditions. Low customer awareness of environmental issues and a lack of willingness to pay a premium for green products create a challenging demand environment, and insurers are hesitant to invest in the development of green products. This is worsened by a weak and un-clear regulatory environment that is not accompanied with the incentive and enforcement needed to achieve scale. Internally, insurers are limited in that they lack the financial resources and technical expertise, especially smaller, indigenous companies.

This research establishes that although Nigerian insurers are beginning to realize how valuable sustainability can be in their strategy, their journey is still in its early stages. The sector is trapped in a dynamic race between the identified potential of competitive advantage obtained through green initiatives versus the high market, resource and regulatory barriers preventing progress. The way forward is an all-hands-on-deck effort: insurers need to go beyond operational greening to strategic product innovation; regulators need to develop a supportive ecosystem with clear standards and incentives; and the industry as a whole needs to invest in market education to unleash latent demand for green insurance products. This study reinforces the point that for the Nigerian insurance industry, adopting sustainability is not only an ethical but a strategic imperative, with huge potential to boost performance, innovation and contribute substantially to the country's sustainable development goals.

The study recommends the following:

Insurers should develop comprehensive sustainability strategies that are integrated with corporate strategy, with environmental vision, goals and implementation roadmaps.

Companies should establish sustainability units with the right resources, expertise and organizational positioning (ideally reporting to CEO or Board) to drive sustainability implementation, integrate across functions, and track progress.

Purpose of training: training programs should be implemented to enhance staff competencies in the area of environmental risk assessment, green product development, sustainability communication, ESG investment analysis.

Digitization of current paper-based processes towards 90%+ paperless documentation. Digital operations mean less environmental impact and more efficiency and customer experience.

Screen investment portfolios for environmental risks, increase allocation for green bonds and renewable energy projects, adopt ESG integration frameworks and set targets for sustainable investments percentages.

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