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GREEN OCEAN STRATEGY AND SUSTAINABILITY OF POULTRY FARMING SUB-SECTOR IN DELTA STATE

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Abstract: This paper examined the influence of green ocean strategy on the sustainability of poultry farming Sub-Sector in Delta state, Nigeria. The specific objectives were to examine the effects of both market innovation and value proposition on the sustainability of poultry farming Sub-Sector within the selected studied areas in Delta state. Combinations of multi-stage random and purposive sampling procedures were used to select ten poultry farmers from across twelve autonomous communities, to give a total of one hundred and twenty (120) respondents. The collected data were analysed with the aid of Statistical Package for Social Sciences (SPSS) and hypotheses were tested using multiple regression model. The results indicated market innovation had a standardised beta coefficient of 0.774 with a p-value of 0.228, while value proposition had a considerably lower standardised beta of .223 with a p-value of 0.669. The 95% confidence intervals for both variables included zero (X_1 -1.16 to 2.71; X_2 -1.86 to 2.34), emphasising the need for statistical caution in making generalizable deduction. The above revealed the unique influence of market innovation on sustainability of oil palm industry, independent of the influence of value proposition. It is therefore recommended for poultry farmers in the studied areas to adopt digital marketing and invests in cheaper, cost friendly feed and to add values to their feed by eliminating the health-hazard components. The noticeable limitation of this study was that none of the tested variables reaches the known conventional significance level at a 0.05; probability due to the tiny sampled size of 5 (n =5).

KEY WORDS: Green Ocean. Sustainability. Poultry. Farming. Market innovation. Value proposition

INTRODUCTION

In the recent world of developing economies, agribusiness practice is increasingly confronted with environmental and unsustainable practices. These practices cut across all sectors of agriculture including livestock farming such as the case of poultry Sub-Sector. Poultry farming is an important segment of livestock farming because of its protein richness and affordability. The importance of poultry also includes its potential to promote food security, employment, and income generation. However, like in many instances of agriculture challenges, the waste from poultry farms and its improper disposal has led to air pollution and contamination of agricultural farmlands and eventual surface and groundwater pollution and this has become a major public health concern to the society (Akporube, Ikpendu, & Edward, 2024). There are also cases of inorganic procedure for rearing chicken by farmers. For instance, utilising antibiotics and other dangerous drugs aimed to induce early maturity have reached grievous health challenges. Also, cases of land grabbing where influential community leaders in conjunction with government agencies arbitrarily allocate lands to farmers in total violation of policies such as free and prior knowledge of community members have been severally noticed. These necessitated the agitation for urgent shift from conventional practices to more innovative, inclusive and ecologically sensitive frameworks such as provided by the novel Green Ocean Strategy.

The Green Ocean Strategy (GOS) is a novel business strategy that integrates environmental stewardship through the dynamic of market innovation and value proposition to

provide economic gains and sustain social values (Ajimisogbe, Onwuchekwa, Dibua, & Ifeanyi, 2024). The novel strategy adapted the value offered by the Blue and Red strategies by emphasising value creation not only through differentiation and low-cost operations as is the case with Blue Ocean strategist, but through the incorporation of good ecological practices and strategic equitable social integration. As explicitly defined by Kim and Mauborgne (2015), the GOS focuses on environmental sustainability and responsibility within existing market. Companies that adopt this strategy aimed to reduce their ecological footprint, address environmental concerns, and appeal to environmentally conscious consumers (PICSO, 2024).

Within the context of poultry farming, the Green Ocean Strategy has the potential to recreate competitive advantage by encouraging organic poultry farming in detail like eliminating antibiotic usage and improving animal welfare practices, optimising feed efficiency, an initiating the use of alternative energy source (solar photovoltaic/thermal), effective waste management, and the importance of poultry welfare (Bist et al., 2024). These sustainable innovations in the estimation of this paper have the potential to significantly reduce environmental footprints and also enhance consumer trust, market access, and long-term profitability (Dharmendra, Poonam, Sanjeev, Milind, 2024).

It is important to emphasise that in doing business in the livestock industry, particularly in the poultry Sub-Sector, the adoption of the novel Green Ocean Strategy is crucial. More importantly, in Delta State where the environment is already volatile resulting from environmental and social impacts relating to gas flaring, ocean surge, and host community agitation against right violation. According to FAO (2023), Nigeria faces a challenge of food insufficiency doubt; owing to the reliance on rainfed agriculture, global economic downturn, low productivity, animal and plant diseases, and recently persistent flooding and ocean surge. The hardest hit is the poor and disadvantaged groups, such as orphans, female-headed households and those in rural communities and slums. Previous studies have suggested that with strategic investments in sustainable poultry production and with the support of proactive innovative market mechanisms, value proposition, and equitable social integration, the Sub-Sector can become more sustainable in the near future (Obriku, Grace & Peter, 2024).

In general term, the novel Green Ocean Strategy is effectively regulated by some fundamental variables including market innovation, value proposition, cost structure, and customer engagement. In the case of its application in the transformation of poultry farming Sub-Sector of the agricultural industry, the adoption of market innovation could guarantee a significant lift towards rebuilding new market communication strategies that would attract more consumers and the development of new products such as organic eggs or fortified poultry meat (Heise, Crisan, & Theuvsen, 2015), while the adoption of value proposition could ensure differentiation through Eco friendliness and sustainable practices (Soviadan, et al., 2024).

Despite the vast opportunities, empirical studies on the adoption of Green Ocean Strategy in poultry farming remain limited, especially in developing countries. Poultry farmers in Delta state for instance are not aware of the danger in the practices of utilizing antibiotic and other dangerous drugs to induce quick chicken maturity. With the foregoing in mind, this study seeks to explore how the adoption of green ocean strategy would enhanced the sustainability of poultry farming Sub-Sector in Delta state. To achieve that broard-base objective, the study will examine how market innovation and value proposition influence the economic sustainability of poultry farming in Delta State. In the meantime, this study postulated that both market innovation and value proposition have no significant influence on the economic sustainability of poultry farming Sub-Sector in Delta state.

By exploring the influence of the core variables of Green Ocean Strategy (market innovation and value proposition) on the composite values of sustainability, using multiple regression models, this research provided actionable insights for farmers, policymakers, and development practitioners towards addressing goal 2 (zero hunger), goal 8 (decent work and economic growth), and goal 12 (responsible consumption and production) of the United Nations Sustainable Development Goals.

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Statement of the Problem

Poultry farming has in the past played pivotal role in enhancing food security, economic livelihoods, and rural development across Delta State. May decades earlier, fish farming dominated the riverine communities making Delta State valued as home for aquaculture. However, in the last three decades, poultry farming steadily emerged as an accessible and more reliable source of income and nutrition for both rural and semi urban dwellers. As fish farming continued to decline due to crude oil pollution and frequent sea piracy, many traditional fish farmers have divested to poultry farming to meet the growing demand for affordable animal protein and to sustain household incomes. This shift no doubt has positioned poultry farming as a potential contributor to household food supply, employment, and local entrepreneurship within the agricultural economy of Delta State.

Within these decades, poultry farming has grown geometrically to become major enterprise, especially in the Delta North Senatorial District, with numerous small and medium-scale farmers engaging in egg and broiler production. This has motivated the Delta state government to devote significant attention to the Sub-Sector. The Sub-Sector continues to support food availability and local income generation. However, its growth has not been matched by corresponding improvements in ethical practices, ecological awareness, or responsible innovation. It has largely remains old-fashion practice with more emphasis on profit maximisation through the adoption of growth-enhancing antibiotics, unsustainable feed practices, and poorly managed waste disposal. These practices not only stand as serious health risk inducer to consumers but also degrade the environment and increase farming costs, thereby threatening the long-term viability of poultry farming Sub-Sector. This unsustainable practice is often made bold by intense competition "Red Ocean," with little or no regard for environmental, social, ethical, and health consequences. The short-term approach reduces profitability and eliminates smallholder farmers from the value chain to the detriment of the broader goals of sustainability.

Given these challenges, there is an urgent need to consider alternative models that can guarantee the future of poultry farming in Delta State. It was potentially assumed that the novel Green Ocean Strategy that priorities market innovation, ethical value proposition, and stakeholder engagement (Oladiran, Faith, Emmanuel, & Titus, 2024), promise potential path toward sustainable agricultural development. However, despite its conceptual potential, the practical application of this strategy within the poultry Sub-Sector in Delta State remains largely unexplored and under-researched. This study is, therefore, motivated by the urgent need to explore how key components of the novel Green Ocean Strategy, specifically market innovation and value proposition, can contribute to the economic, environmental, and social sustainability of poultry farming in Delta State. By addressing this gap, the research attempt to generate evidence-based insights that can inform policy, guide investments, and support a strategic transition towards addressing the United Nations Sustainable Development Goals 2, 8, and 12.

REVIEW OF RELATED LITERATURES

The independent variable of this paper is the novel green ocean strategy. The determinants of the novel strategy as it pertains to poultry farming are market innovation and value proposition and the dependent variable is sustainability as a standalone variable. The framework at fig. 1 demonstrates the relationship between the research variables, which include the independent variable (Green Ocean Strategy) and its proxy and the composite dependent variable (sustainability). The dependent variable will receive effect through manipulation of the proxy of the independent variables to guarantee profitability, survival, and resilience.

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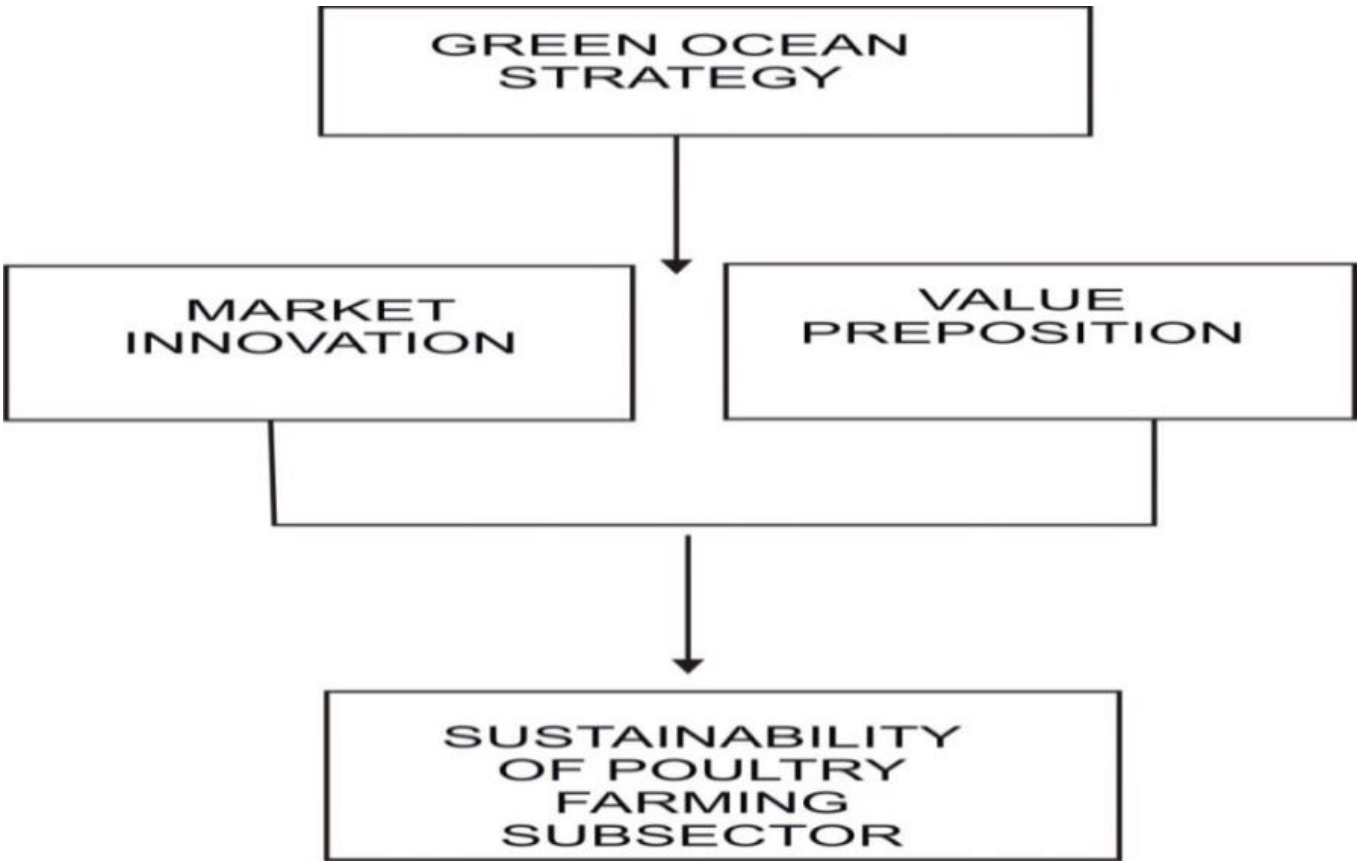

Fig. 1: Conceptual Framework (Researcher's own creation. Showing the direction of influence through which the novel GOS influences the poultry farming through the proxies; market innovation and strategic ecosystem alliances_____

Conceptual Review

Market Innovation

In the modern economies of the world, poultry farming is a major global agricultural Sub-Sector, producing over 120 million tons of chicken, turkey, duck, and other poultry meat annually (George, & George, 2023). At the heart of its transformation is market innovation encompassing impressive blend of creativity, strategy, and responsiveness to consumer needs. The recent innovation in the poultry farming Sub-Sector is not only about how poultry products are produced and delivered; it present a transformative strategies, such as holistic farming dynamics, opportunities for farmers to thrive in the red markets while meeting the growing demand for quality, and sustainability to deliver green products and services (Bist, et al., 2024).

These innovations are now contributing excessively to the restructuring of production methods, including enhancing animal welfare, and introducing new business models that align with global trends. It involves the strategic transformation of production and distribution systems to meet evolving consumer preferences while ensuring environmental and social responsibility (Bist, et al., 2024). The various ways with which poultry farming can benefit from market innovation have severally been documented by scholars both in agriculture and management science

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professions. For instance, it helps business to reach larger market and make them less reliant on local purchaser (Morepje, Sithole, Msweli, & Agholor, 2024). Also, the social media marketing is a substantial marketing innovation strategy (Bennett, 2025). The surge in e-commerce platforms as currently been used in the agricultural industry has enabled rural farmers including poultry farmers improve their financial results and allowed them conduct direct communication with consumers (Morepje, Sithole, Msweli, & Agholor, 2024). This model allows for better pricing strategies, personalized marketing, and enhanced customer engagement. So also the adoption of effective branding allows farmers to command premium prices and align with consumer demands for transparency, sustainability, and ethical sourcing (Chaturvedi, & Sinha, 2025) and (Tétédé, et al., 2024).

Also, the organic product differentiation, such as the promotion of antibiotic-free beds and free-range poultry because consumers perceive organic meat as a more healthful food because the birds are not raised with antibiotics, and this is a primary reason why consumers purchase organic poultry products, driving sales of organic poultry meat and eggs, which increased 151% over a 1-year period (1999 to 2000) and which have continued to increase since 2000 (Díaz-Sánchez, et al., 2015). This allows food manufacturers to tap into the growing market of health-conscious consumers who prioritize natural, minimally processed foods (Cata 2023). Additionally, the adoption of digital traceability tools such as blockchain and QR-code systems have been adjudged to enhance traceability, transparency, efficiency, reliability, and security through all the stages of a food supply chain (Mishra, et al., 2020).

There are also cases of technological advancement such as ovo sexing technologies to improve animal welfare by identifying male embryos in an early embryonic stage and disposing of them before pain perception (Corion, et al., 2023). These methods allow for the identification of chick sex before hatching, thereby eliminating the need for post-hatch culling. Companies such as Orbem are utilizing AI-powered imaging to achieve this, enhancing animal welfare standards. The approval of lab-grown chicken meat by regulatory bodies marks a significant milestone. The 2023 2023, USDA approval to two cell-cultivated meat companies given to UPSIDE Foods and GOOD Meat, Incorporations, offers a sustainable and ethical alternative to traditional meat production (Marquez, Messer, Gerber, & Cash, 2025). All these are helps in significant measures to revolutionise poultry management by enabling predictive analytics for disease outbreaks, optimizing feeding schedules, and monitoring environmental conditions. These technologies facilitate real-time decision-making, improving overall farm efficiency.

Again, innovations in insects as alternative animal protein source, which can sustainably rear on organic side stream, are gaining traction (Adetunmbi, 2023). Companies like STAX are utilizing vertical farming to produce sustainable, protein-rich feed pellets from insects, offering an eco-friendly alternative to traditional soy and fish meal-based feeds. Also, poultry farms are increasingly adopting renewable energy sources, including solar power and biogas, to reduce carbon footprints and operational costs. This shift supports environmental sustainability and aligns with global climate goals. And finally, In Nigeria, the poultry industry is embracing technological advancements and responding to shifting consumer preference. Efforts in this direction include automated systems in feeding and waste management thereby improving efficiency and productivity.

Impact of Market Innovation on Sustainability

The poultry industry in sub-Saharan Africa most especially in Nigeria faces significant sustainability challenges associated with social equity, economic stability, and environmental degradation (Nwobodo, et al., 2023). The concept of market innovation in the Sub-Sector however, has come to mitigate these challenges and replace them with sustainable environmental, social and economic practices. From micro economic perspective, the adoption of sustainable practices preserves natural resources and mitigating environmental impacts; ensuring the welfare of the birds and the livelihoods of the poultry farmers (Bist, et al., 2024). So also is the integration of environmentally friendly technologies that ensure conservation of natural resources, and increasing income opportunities for local

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populations (Shasan, 2024; Bist, et al., 2024). For instance, many sustainability certification schemes require that poultry farmers meet certain social criteria, such as ensuring fair wages and safe working conditions.

Value Proposition

One of the most valuable resources a company owns to its stakeholders are the "portfolio of value propositions" (Bailetti, Tanev, & Keen, 2020). It is an explicit promise made by a company to its customers that it will deliver a particular bundle of value creating benefits (Almoatazbillah, 2012). Value proposition answers the essential question: "What justification defines the loyalty of customer to your product or service and not to your main rival?" In poultry farming for instance, this question could be in the form of addressing several key determinants including Product quality, health-safety, cost-effectiveness, nutritional value, ethical practices, reliability and consistency, and of course customer experience. A major component of value proposition in the poultry business is quality assurance in the areas of nutritional composition. The nutritional composition of the diet plays a crucial role in determining the quality of poultry meat (Sashuang, et al., 2024). Customers look out for hygienically processed, non contaminants poultry products, and cost friendly (FAO, 2020). There are avalanche of research findings justifying the aforesaid. For example, the rising consumer interest in nutritionally fortified foods, omega3-enriched eggs have emerged as a viable source of essential fatty acids, offering potential benefits for cardiovascular health, inflammation reduction, and cognitive function and farmers with such valued qualities must adopt responsible innovative marketing strategy to outline them (Usturoi, et al., 2025). Again, offering low-cost products to meet the needs of low and middle-income consumers (FAO, 2004). Also, animal's welfare and their health quality before slaughter, environmental sustainability, fair trade practices, and their consequences for consumers (Bist, et al., 2024), (Matangi, et al., 2024), and (Olushola, et al., 2025). In the aforesaid cases, reliability becomes a unique selling point constituting value proposition especially for contract growers and integrated poultry businesses.

The Role of Value Proposition

A value proposition in poultry farming must balance economic benefits with environmental and social considerations. There are several ways in which the value proposition can be framed to support the industry's transition to more sustainable practices. One of such ways is by focusing in market segmentation and consumer demand. A robust value proposition drives Green Ocean Strategy by influencing market segmentation (Wongtangtintharn, et al., 2025). The global shift towards animal protein and the affordability of poultry to meet the demand would however benefit only companies that adopt certified sustainable palm oil (CSPO) as part of their value proposition. They will be able to command premium-prices and gain access to exclusive global markets. For instance, shops like ShipRite, Town Square market, and Annie Market Place in Asaba, Delta state, trace their supply chains to honour only veterinary-certified chicken, thereby influencing the entire supply chain of poultry Sub-Sector in and around (Salam, Singkeruang, Husni, Baharuddin, & A.R, 2024); (Johnny, W. in WEC, 2022). Failure to align production with consumer-driven sustainability demands would weaken competitive advantage most especially in the already tainted image of the poultry farming Sub-Sector of agriculture. Branding also fosters emotional connections with consumers, encouraging repeat purchases (Rane, Achari, & Choudhary, 2023). Poultry businesses that engage directly with customers through farm tours, feedback systems, and social media platforms build stronger relationships. Offering insights either through Facebook or Whatsapp live streams into poultry rearing practices adds transparency, thus reinforcing trust and value (Joshi, & Tripathy, 2024). And also, online ordering platforms, and automated feeding or climate control systems help to improve efficiency, convenience, safety, and transparency (Yang et al., 2022).

Challenges in Developing a Strong Value Proposition

Despite its importance, several challenges hinder the development of an effective value proposition in agricultural industry and particularly in poultry farming

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Sub-Sector. For instance, challenges such as inconsistent product quality due to poor feed or health management have been accounted for the cause of highest rate of brand disloyalty. Also, high production costs result from increased prices feed trolley, water containers, and feeds (Kanyama, et al., 2024). Limited access to modern processing and storage facilities is another challenging point for poultry farmers. Lack of market information and customer insight, and poor branding and communication skills are also identified as challenges of the Sub-Sector. Addressing these challenges requires capacity-building, policy support, and investment in infrastructure and marketing (Yami, Esatu, Rege, & Dessie, 2024); (Ociepa-Kubicka, 2024); (Hassan & Osman, 2025); and (Santa-Maria, Dougnac, Llorente-González, & Geissdoerfer, 2025). A well-structured value proposition reinforces profitability, resilience, and survival in a number of ways. Firstly, it ensures compliance with evolving sustainability regulations. Non-compliance to lay down rules such as state veterinary and animal husbandry laws, and several other regulations frequently leads to legal and financial risks. Delta state animal rearing laws for instance, enforces strict disclosures of health status of poultry products. So also the United States of America animal welfare certification programs and the animal-based indicators for broilers do same. This is to ensure that Farm Animal Care and the National Chicken Council auditing guidelines meet specific compliance standards. A value proposition in the poultry Sub-Sector is partly technology-driven. One of such transformative technologies in the poultry farming Sub-Sector is the use of real-time monitoring systems. The system employs sensors and cameras to collect data on various parameters such as temperature, humidity, light, and the health of the chickens. By continuously monitoring these factors, farmers can quickly identify and address issues that may compromise animal welfare (Jim, 2024). Precision feeding systems; a feeders equipped with sensors to deliver the right amount of feed at the right time, tailored to the specific needs of each bird falls into this category (Jim, 2024). The inter-link between poultry farming Sub-Sector or individual poultry firm within the entire livestock and market for animal protein is value proposition. As consumers become increasingly aware of the values and content of a given firm within the larger poultry farm Sub-Sector, the greater the sustainable strength of the farm because it will differentiate the environmental and social contributions of the farm from rivals. This is exactly the position of sustainability-driven value proposition.

The Intersection of Market Innovation and Value Proposition

When discussing agrobusiness, particularly in the case of poultry farming, the intersection of market innovation and value proposition falls in-between competitiveness, sustainability, and customer satisfaction. While value proposition encompasses the unique benefits poultry businesses offer, such as quality, affordability, and product differentiation (Kotler & Keller, 2016); market innovation in poultry farming involves digital tools like mobile apps, e-commerce platforms, and social media for customer engagement. These tools expand market access, eliminate intermediaries, and support traceable, farm-to-table models (Akinwale & Adekunle, 2021). For example, digital platforms allow urban consumers to order fresh eggs or live birds directly from farms, enhancing convenience and trust in product quality. The synergy between market innovation and value proposition therefore lies in how market innovation enables poultry businesses to deliver distinct offerings that can influence buyers' favourable judgment about product or services. Market innovations make it easier to promote such differentiated products, supported by branding, storytelling, and transparent information on production practices.

Again, loyalty programs, subscription-based delivery services, and customized nutrition-based offerings backed by data and digital engagement enhance value delivery and customer retention (PwC Nigeria, 2021). For instance, rural areas farmer cooperatives adopting innovative marketing can aggregate output, standardize quality, and jointly negotiate better market prices, thereby improving value for both producers and consumers (IFAD, 2018). In urban markets however, premium branding supported by innovative packaging and quality certifications reinforces the value proposition and allows poultry businesses to charge higher prices. These strategies not only satisfy discerning consumers but also contribute to enterprise

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sustainability by creating stable income streams and market differentiation (Deloitte, 2020).

Sustainability

As said earlier, a critical components of food security and rural livelihoods in Nigeria and particularly in Delta state is poultry farming and it is also one of the most significant Sub-Sector of livestock farming, globally. To them in Delta state of Nigeria, the original source of animal protein was fishing. That enterprise has been significantly threatened by the pollution that comes with crude oil exploration. This necessitated the exponential growth in poultry farming; an alternative to the protein gotten from fish. However, the poultry Sub-Sector is also known to come with its own disability; a considerable deficit between supply and demand including greenhouse gas emissions, and labour rights violations. The foregoing necessitated this research article with proposition that the adoption of the novel GOS could ensure adequate sustainability of the Sub-Sector. The novel GOS, which is the independent variable in this research was given birth to by the concept of sustainability which itself gained prominence in the late 20th century and has since evolved and influenced various fields including business dynamics. This same concept of sustainability itself was not known world all over until the Brundtland Report of (1987) gave birth to it (Oladiran, Faith, Emmanuel, & Titus, 2024). In that report, the concept of sustainability was simply referred to as "***Our Common Future***." The report was produced by the United Nations World Commission on Environment and Development (WCED), chaired by Gro Harlem Brundtland, the former Prime Minister of Norway (Yan, 2024). The report defined the concept of sustainability to mean conscious efforts that address the needs of the present generation without compromising the ability of future generations to meet their own needs (Sahoo & Goswani, 2024) in (Oladiran, Faith, Emmanuel, & Titus, 2024). In its simplest term, the concept of sustainability emphasises the integration of economic, environmental, and social considerations in decision-making processes (Mensah & Casadevall, 2019). The idea is to address global environmental challenges, reduce poverty, and achieving equity in resource allocation and distribution. It serves as a multi-dimensional construct, encompassing interconnected dimensions such as environmental responsibility, economic viability, social equity, and technological innovation. Treating sustainability in the context as stated above allows for an integrated assessment of how strategic approaches like the Green Ocean Strategy (GOS) drive holistic and long-term profitability, resilience, and, survival of business venture including poultry farming.

The foregoing is a testament to the fact that addressing the sustainability of the poultry Sub-Sector would require tact devoid of scattered front. It has to be treated as a unified whole despite its inherent multi-dimensional constructs such as environmental sustainability (e.g., pollution and emissions reduction), economic sustainability (e.g., profitability, resilience, and survival), equitable social integration (e.g., smallholder welfare, community relations, and labour rights). It is essential to know that these dimensions are interdependent and they require systems thinking approach to achieve proper business success. That is, instead of isolating the dimensions into multi-varied or simply standalone variables, this study adopts a “bowel systems” approach, where sustainability is viewed as a convergence of multiple interacting variables contained within a single conceptual “bowel.”

Intersection of Market Innovation, Value Proposition, and Sustainability

Poultry farming, a critical Sub-Sector of livestock production, plays a vital role in food security, employment creation, and economic diversification in developing economies. However, the sector faces challenges related to climate change, rising input costs, and limited access to modern technology. The intersection of market innovation, value proposition, and sustainability offers a compelling framework to revitalize poultry farming in a competitive and environmentally responsible manner. Market innovation in poultry farming has empirically been proven to parade concepts such as the adoption of new technologies, new products design, and new business ideology that enhance productivity and market reach. Innovations such that enhance capability to monitor climate change on chicken production, highlighting

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primary challenges and exploring potential solutions, improved housing, water management, feed innovation, disease control, and genetic selection and the use of data analytics to control flock health and performance are alternatives ways to accomplish greater productivity and return in poultry farming (Haldar, et al., 2022). Other areas of intersection is found in (Haldar, et al., 2022). These innovations reduce production risks and enhance output quality, aligning the poultry industry with modern agricultural trends. Value proposition defines the clear articulation of the unique benefits delivered to customers in real-time. For poultry farmers, value propositions often focus on offering healthier, organically raised birds, and eggs enriched with nutrients usually adoptable by small farmers. Through the adoption of strategic differentiation, poultry farmers can create brand loyalty and attract premium markets. Value propositions also extend to feed producers and veterinary services that support poultry operations, underscoring the broader agribusiness ecosystem. The drive toward sustainability; environmental, economic, and social, requires poultry farms to operate in ways that conserve resources, ensure long-term profitability, and support community well-being. Environmentally, sustainable poultry farming reduces the carbon footprint through efficient feed conversion, manure recycling, and water-saving practices. Economically, it involves optimizing production costs, minimizing losses through biosecurity measures, and accessing stable markets. Social sustainability includes creating decent jobs, improving rural livelihoods, and ensuring food safety for consumers.

The intersection of these three dimensions; market innovation, value proposition, and sustainability, is transformative. Market innovation provides the tools and systems that enable poultry businesses to create more compelling value propositions. For instance, digital traceability tools not only improve food safety, they enhance increase consumer trust, and reinforcing the farm's brand identity (Munteanu, 2024). Similarly, value oriented driven offerings to consumers such as organic or antibiotic-free chicken also promote sustainability by reducing reliance on harmful inputs, catering to health-conscious consumers, and provide digital identity of a products with the potential to improve transparency and traceability (Cordeiro, Fernandes, Curado, & Ferreira, 2024). In essence, sustainable poultry farming thrives when innovation aligns with customer value and ecological responsibility as shown in fig. 2.

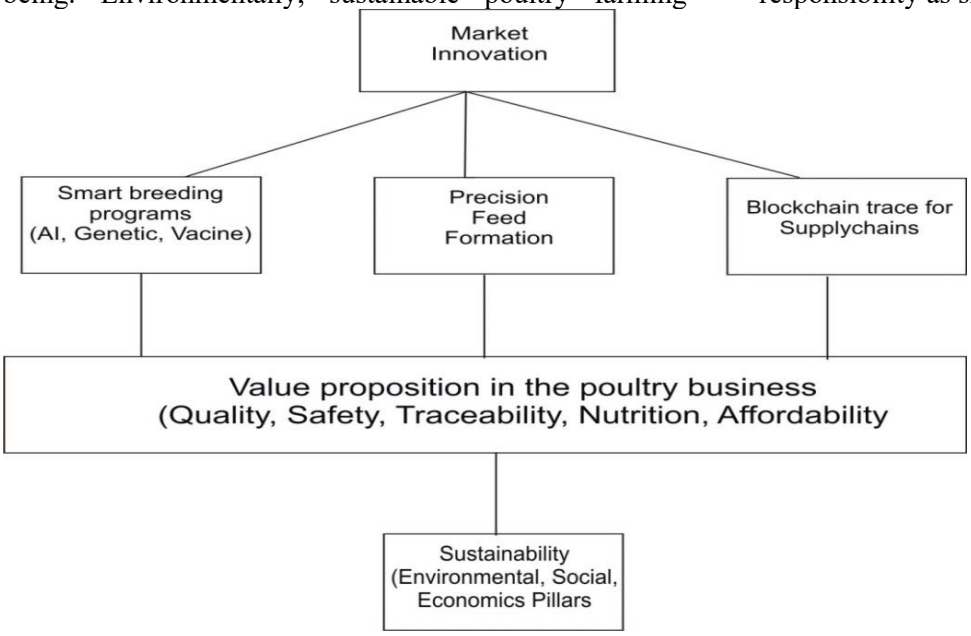

Fig. 2: Intersection of market innovation, value proposition, and sustainability.

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Theoretical Review:

This research was anchored upon a classical resources management theory called the Resource-Based View (RBV). The RBV, originally proposed by Penrose (1959) and enhanced by Barney (1991), offers a theoretical framework for analysing organisational resources utilization and offers framework to navigate the inadequacy of existing ones (Agbogu, N.D.). The theory revealed how firms use internal resources such as innovation, knowledge, customer relationships, technology, eco-friendly practices to gain competitive advantage and ensure long-term sustainability. This view is in tandem with the core of Green Ocean Strategy.

Empirical Review:

'Challenges and constraints to the sustainability of poultry farming in Thailand' was a research conducted by Wongtangtintharn et al (2025). The review examined the current state of poultry farming in Thailand, focusing on broilers, layers, and ducks. The researchers argued that disease control require strict biosecurity measures and government interventions. They carried out comprehensive review of existing literature and data to ascertain the multifaceted challenges affecting the sustainability of Thailand's poultry. They considered rising demand for organic, ethically produced poultry products, regulatory compliance, and others. Their finding was that the industry can maintain its global competitiveness only if Thailand is able to innovate the industry and eliminate constraints to sustainable food production and environmental conservation.

Another evidence based study in support of market innovation in the poultry farming Sub-Sector was that of (Oladele, 2021) thesis with the title; 'impact of Innovation-Mix on the Performance of Small Poultry Businesses in Kwara State, Nigeria;' (Master's degree thesis, Kwara State University (Nigeria). The study examined the impact of innovation-mix on performance of small Poultry businesses in Ilorin West Local Government, Kwara state, Nigeria. The author adopted sequential mix method using questionnaire and interview to answer the research questions. The author administered questionnaire to 210 respondents and interviewed ten respondents to derive his conclusion. His multiple findings were that innovation has a positive and significant effect on efficiency and that technological innovation has a positive and significant effect on efficiency and performance of small poultry farmers. This is a glaring revelation that innovation at every stage of poultry value chain is crucial for sustainability of the enterprise. This also includes developing new market channel for customer satisfaction.

In a related development (Ovonomo & Onuoha, 2023), in their research work; 'Strategic planning and growth of poultry business in Warri, Delta State,' examined investigate the relationship between strategic planning and Growth of poultry business in Warri Delta State. The idea was to ascertain the necessary course of action to be adopted in order for poultry business to be sustainable. The postulated that the survival and growth of the poultry businesses, solely depends on strategic planning, marketing strategies and innovative measures employed by the business owns and managers. Data were collected through questionnaire from 38 poultry operators and owners. The findings of data analysis indicated strong influence of strategic planning influences on the growth of poultry businesses and also a strong positive relationship between market strategy and growth exist. This indicated how relevance is market innovation on poultry farming Sub-Sector.

Still on the discussion of sustainability, Vlaicu, Untea & Oancea (2024) in their research article; "sustainable poultry feeding strategies for achieving zero hunger and enhancing food quality" argued that the global demand increases for poultry products, innovative feeding strategies that reduce resource efficiency and improve food safety are urgently needed. They therefore examined the potential of alternative sustainable poultry feeding strategies aimed at achieving SDG2 (Zero Hunger) while increasing production performance and food quality. Their focuses were on potential gains in recycling of by-products, plants, and food waste derived from fruits, vegetables, and seeds, which account for up to 35% annually. They adopted a comprehensive review-based research methodology in conducting their research. Their

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approach involved synthesising existing scientific literature to evaluate alternative poultry feed ingredients derived from agricultural by-products, plant materials, and food waste. Findings indicated nutritional benefits of alternative feed ingredients such as carrot, paprika, rosehip, and some berry waste that are rich in carotenoids, polyphenols, and vitamins, while the seed meals, including their effects on poultry production and health, and their potential for improving poultry product quality.

Empirical evidence from Boimah, Weible, Chibanda, & Schott (2022) in their research publication on "value creation pays: a business model canvas approach to improve post-production activities in Senegal's broiler industry" shown that chicken production sector of Senegal has witnessed a significant growth after the ban on imported chicken meat was enacted in 2006. This study was carried out with the aim of assessing activities in the post-production chain in detail, and second, proposing solutions for upgrade dwelling on the Business Model Canvas. They adopted qualitative research method through primary source, an interview collected primary data collected in Dakar and Thiès, Senegal. Semi-structured questionnaires developed by the authors were used for the data from a total of 9 actors: 2 retailers of chicken products; 2 supermarkets, 1 supérette (grocery store or small supermarket), and 2 middlemen/retailers popularly referred to as "les banabanas" and 2 processors. After a thematic analysis of the data collected, the finding shows that processing of chicken is very limited in Senegal. Processed chicken remain whole dressed with just few traders offering cut portions (breast, wings, back, etc.) to their customers.

METHODOLOGY

This study adopted a descriptive research design, which is appropriate for examining and describing the characteristics and behaviours of a target population without manipulating any of the study variables. The design enabled the systematic collection of data through a purposive sampling technique. The study area comprised selected Local Government Areas (LGAs) in the Delta North Senatorial District of Delta State, chosen due to their strong reputation in poultry farming activities. Specifically, Ndokwa West, Ndokwa East, Aniocha South, and Ukwuani LGAs formed the focal areas of the study, with notable presence of established poultry enterprises such as the Obasanjo Farm (OFN – Delta), located within the study region. From the identified LGAs, four LGAs were selected, and subsequently, three (3) autonomous communities were randomly chosen from each LGA, resulting in a total of twelve (12) autonomous communities. Thereafter, a purposive sampling approach was employed to select ten (10) poultry farmers from each community, comprising five (5) male and five (5) female farmers, yielding a total sample size of one hundred and twenty (120) respondents. The determination of the sample size was guided by practical considerations, including limited access to remote farming communities and budgetary constraints. Notwithstanding, the sample size is considered reseanable for detecting meaningful relationships among the study variables using multiple regression analysis, with an assumed medium effect size, 80% statistical power, and a 5% level of significance. Furthermore, the sample was structured to capture diverse perspectives within the study area, thereby enhancing the validity and generalisability of the research findings.

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Local Government Areas	Selected autonomous communities	Respondents per LGA	Total respondents per state
Ndokwa West	Kwale, Emu, and Onicha-Ukwani	15 male and 15 female	30
Ndokwa East	Aboh, Ashaka, and Ibrede	15 male and 15 female	30
Aniocha South	Ogwash-Uku, Ubulu-Uku, and Ewulu	15 male and 15 female	30

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Ukwuani.	Obiaruku, Umutu, and Ebedei	15 male and 15 female	30
Total	**-**	**-**	**120**

Table 3.1 summary of population and sample allocation. Source: Field survey, 2025.

Testing of Hypothesis

The verification of hypotheses for this study was done with the aid of Statistical Package for Social Sciences (SPSS) and multiple regression model having the formula: $\bar{Y} = a + b_1X_1 + b_2X_2 \infty$

Where:

$\bar{Y}$ = estimated value corresponding to the dependent variable – sustainability

x a = $\bar{Y}$ - intercept.

X_1 and X_2 = values of the independent variables - market innovation and value proposition.

b_1 and b_2 = slopes associated with X_1 and X_2 respectively.

The regression equation coefficient when the data collected for the three variables (Market Innovation, Value Proposition, and Sustainability) were subjected to multiple regression models are as follow:

Intercept (β_0): -4.70

Coefficient for X_1 (Market Innovation): 0.774

Coefficient for X_2 (Value Proposition): 0.223

$Y = -4.70 + 0.774\ X_1 + 0.223\ X_2$

Discussion of Findings

The results revealed that Market Innovation had a standardised beta coefficient of 0.774 with p-value of .228, while Value Proposition had a considerably lower standardised beta of 0.223 with p-value of .669. This indicates that Market Innovation has a substantially stronger influence on Sustainability than Value Proposition when both variables are standardized and measured on a comparable scale. This underscores the unique predictive strength of Market Innovation in explaining the variability in Sustainability, independent of the influence of Value Proposition. This reconfirmed the justification of the findings of Ovonomo & Onuoha (2023) that there is potential strong linkage between market strategy and growth.

Recommendations

It is therefore recommended that:

1. Poultry farmers in the studied areas should innovate their digital marketing, invest in cheaper, cost friendly, and modernise poultry housing.
2. The studied areas should enhance their product values by eliminating health-hazards components of their feeds and also source for more nourishing organic feed in order to attract customers' attention.

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