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SUSTAINABLE ENTREPRENEURSHIP AND PRODUCTIVITY OF FISHERY AND POULTRY FIRMS IN DELTA STATE, NIGERIA

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Abstract

This study examined sustainable entrepreneurship and productivity of fishery and poultry firms in Delta State, Nigeria..Descriptive survey research was adopted for the study. The researcher developed five specific objectives which were to: Examine the effect of social sustainability on customers satisfaction of fishery and poultry firms in Delta State; Assess the effect of economic sustainability on employee' output of fishery and poultry firms in Delta State and investigate the effect of environmental sustainability on task completion rate of fishery. This study was anchored on The Resource-Based View. Data were generated through primary and secondary sources. The method for data collection was the questionnaire which was administered randomly among the staff of the fishery and poultry firms. The hypotheses were tested using multiple regression analysis method at 0.05% level of significance. Findings revealed that, Social sustainability has

significant effect on customers satisfaction of fishery and poultry firms in Delta State (t=8.970, p, 000); Economic sustainability has significant effect on employee output of fishery and poultry firms in Delta State (t=3.269, p, 000); Environmental sustainability has significant effect on task completion of fishery and poultry firms in Delta State. (t=2.963, p, 008). The study concludes that sustainable entrepreneurship is a strategic pathway for improving productivity, competitiveness, and long-term survival of fishery and poultry firms in Delta State. The study recommended that Fishery and poultry firm owners should prioritize employee welfare through fair wages, safe working conditions, regular training, and inclusive management practices.

Keywords: Sustainable Entrepreneurship, Productivity, Fishery, Poultry Firms, Delta State, Nigeria

Introduction

Entrepreneurship continues to serve as a critical engine for economic development across the globe, particularly in developing economies like Nigeria, where it contributes significantly to job creation, income generation, rural development, and poverty alleviation. Within the Nigerian context, small and medium enterprises (SMEs) dominate the entrepreneurial landscape, and are instrumental in stimulating local economies and enhancing livelihoods. Among the various sectors driven by entrepreneurship, agriculture and more specifically, the fishery and poultry subsectors play a vital role in national development due to their capacity to improve food security, generate employment, and support industrial supply chains (Uzonwanne, 2022).
In recent years, however, global attention has shifted towards ensuring that entrepreneurial activities are not only economically viable but also socially responsible and environmentally sustainable. This has led to the emergence of the concept of sustainable entrepreneurship, which refers to the pursuit of entrepreneurial ventures that seek to create economic, environmental, and social value simultaneously (Goyal, Sergi & Kapoor, 2021). Sustainable entrepreneurship integrates long-term thinking into business models by emphasizing the efficient use of natural resources, ethical practices, environmental stewardship, and social equity. This approach moves beyond the traditional profit-centered view of entrepreneurship, focusing instead on holistic and enduring value creation that benefits both businesses and society. Fishery refers to the occupation, industry, or activity involved in the breeding, rearing, harvesting, processing, and marketing of fish and other aquatic organisms for food, income, recreation, and industrial purposes. Fisheries may be classified into capture fisheries, which involve harvesting fish from natural water bodies

such as rivers, lakes, and oceans, and aquaculture (fish farming), which involves the controlled cultivation of fish in ponds, tanks, or cages.

Fisheries play a significant role in food security, employment generation, poverty reduction, and economic development, particularly in developing countries (FAO, 2024).

According to the Food and Agriculture Organization of the United Nations, fisheries encompass all activities related to the exploitation and management of fish resources and contribute substantially to global nutrition and livelihoods (FAO, 2024).

Several scholars have emphasized that sustainable entrepreneurship enhances business productivity by fostering innovation, improving customer trust, reducing operational costs, and facilitating access to funding, especially from environmentally and socially conscious investors (Ibrahim, Salihu & Yusuf, 2021). Sustainable fishery and poultry firms are also better positioned to comply with regulatory standards, adapt to climate change, and explore new market opportunities, such as organic or ethically-produced food products (Chukwujama & Alika, 2023). Thus, adopting sustainability in entrepreneurship is not just a moral or environmental obligation; it is a strategic tool for enhancing productivity and securing long-term viability.

Despite the growing global interest in sustainable entrepreneurship, the concept remains under-explored in specific regional contexts such as Delta State, Nigeria. There is a noticeable gap in empirical studies that analyze how sustainable entrepreneurial practices affect the productivity of fishery and poultry firms in the region. Most available research tends to focus on general SME challenges or on agricultural production techniques without adequately addressing the interplay between sustainability and entrepreneurial productivity (Okon & Edem, 2022). This gap highlights the need for focused investigations that examine sustainability as a core business strategy and its measurable impact on firm productivity in the fishery and poultry subsectors.

Despite the proliferation of fishery and poultry firms, many of them struggle to achieve long-term productivity, growth, and sustainability (Nwankwo & Okeke, 2020). Therefore, this study seeks to fill this critical gap by examining the relationship between sustainable entrepreneurship and the productivity of fishery and poultry enterprises in Delta State, Nigeria. It aims to identify the extent to which sustainability-oriented practices are implemented, arises their impact on key productivity indicators such as productivity, profitability, and competitiveness, and provide practical recommendations for policy and practice. It is anticipated that the outcome of this study will offer valuable insights to entrepreneurs, policymakers, agricultural extension services, and development

organizations seeking to foster a more resilient, inclusive, and sustainable agro-entrepreneurial sector in Nigeria.\

Statement of the Problem

Fishery and poultry businesses contribute significantly to food production, employment creation, income generation, and the overall development of the agricultural sector in Nigeria. In Delta State, the growing demand for animal protein has encouraged increased participation in fishery and poultry farming activities. Despite the importance of these firms to the economy and food security, many operators continue to face serious challenges that affect their productivity and long-term sustainability.

One of the major issues confronting fish and poultry firms is the rising cost of production inputs such as feed, medication, transportation, electricity, and other operational materials. The persistent increase in these costs has made it difficult for many firms to sustain profitable operations and maintain stable production levels. As a result, several businesses struggle with reduced profit margins, inefficient resource utilization, and declining productivity.

Environmental sustainability is also becoming an increasing concern within the sector. Many fishery and poultry firms operate with poor waste management practices, improper disposal of animal waste, and inadequate environmental sanitation measures. These conditions may contribute to environmental pollution, health risks, and operational inefficiencies that can negatively affect the productivity and sustainability of the firms.

In addition, financial sustainability remains a major challenge for many operators. Access to adequate funding is still limited, while unstable cash flow, insufficient working capital, and dependence on personal savings continue to restrict business expansion and investment in improved production systems. Without strong financial capacity, many firms find it difficult to adopt sustainable practices that could enhance productivity and ensure business continuity.

Social sustainability is another area of concern among fishery and poultry firms in Delta State.

Statement of the Problem

In some cases, inadequate employee welfare, limited staff training opportunities, poor workplace safety practices, and weak relationships with host communities may reduce employee commitment and operational efficiency. Since the performance of workers plays a crucial role in business

productivity, poor attention to social sustainability practices may affect the overall performance of the firms.

Similarly, the level of innovation among many fishery and poultry firms appears relatively low. A significant number of operators still rely heavily on traditional production methods with minimal adoption of modern technologies, digital management systems, and innovative farming practices. This limited commitment to innovation may reduce efficiency, restrict productivity growth, and weaken the ability of firms to remain competitive in an evolving business environment. Although several studies have examined entrepreneurship, sustainability, and agricultural performance in Nigeria, limited attention has been given to how different dimensions of sustainable entrepreneurship collectively influence the productivity of fishery and poultry firms in Delta State, Nigeria. Existing studies have largely focused on broader agricultural enterprises without adequately addressing the specific sustainability challenges affecting fishery and poultry businesses in the state.

It is therefore necessary to examine how social sustainability, economic sustainability, environmental sustainability, financial sustainability, and innovation sustainability influence the productivity of fishery and poultry firms in Delta State. This study seeks to fill this gap by providing empirical evidence on the relationship between sustainable entrepreneurship practices and productivity within the sector.

Review of Related Literature

Conceptual Review

Sustainable Entrepreneurship

According to Baiocco and Paniccia (2023), sustainable entrepreneurship is a business strategy that focuses on seeing and seizing chances to launch creative and lucrative projects that both help the environment and society while maintaining financial viability. A company's strategy, business plan, and operations must incorporate social, economic, and environmental objectives in order to correct market failures and support long-term, sustainable development. Sustainable entrepreneurship is "the process of discovering, evaluating, and exploiting economic opportunities that are present in market failures which detract from sustainability, including those that are environmentally relevant," according to Rosário, Raimundo and Cruz (2022). According to Johnson and Schaltegger (2020), sustainable entrepreneurship is the study of "how opportunities

to bring into existence "future" goods and services are discovered, created, and exploited, by whom, and with what economic, psychological, social, and environmental consequences."

Sustainable entrepreneurship is a powerful force in the modern economy because it combines creative economic methods with a dedication to social justice and environmental conservation. Sustainable entrepreneurs are influencing a future in which companies prosper in balance with the environment by placing a high priority on long-term ecological health and societal well-being (Reuther, Dahle, Schmidt & Schösser, 2023).

Sustainable entrepreneurship represents a paradigm shift in the world of business, guided by the overarching principles of balancing economic prosperity with environmental sustainability. At its core, sustainable entrepreneurship seeks to redefine success by recognizing the interconnectedness of economic, social, and environmental factors (Beehner & Beehner, 2019, Terán-Yépez, et. al., 2020). Sustainable entrepreneurship is a business concept combining sustainable development principles with entrepreneurial activities. It is recognized as a business approach that prioritizes the three dimensions of sustainability, also known as the triple bottom line: people, planet, and profits.

Review of Related Literature

Organizational Productivity

Productivity is a productive; they accomplish more in a given amount of time. In turn, efficiency saves their company money in time and labour. When employees are unproductive, they take longer time to complete projects, which cost employee's more money due to the time lost (Ateke measurement or calculation between input and outputs. Inputs are the amount of resources such as human resource, money, time, physical, technological and effort spent working in the organization, while output are the result. If the inputs are equivalent to the outputs, the worker is considered productive. When the organization are & Akani, 2018). Productivity is a ratio to measure how well an organization converts input resources (labor, Materials, machines, money) into goods and services.

Hadi, Yanita, Hartanto, & Sychanina. (2020) defines productivity as "the increased functional and organizational performance, including quality. Rolloos (2017) claims that productivity is that which people can produce with the least effort. Hamadamin, & Atan, (2019) describe employee productivity as the measure of output per unit of input economically. Höglund, Caicedo,

Mårtensson, & Svärdsten, (2018) adopt a different view and see employee productivity as the log of net sales over total employees. Productivity refers to the real output per unit of labor. It is a powerful driver of international capital flows. James & Akintoye, (2023) defined productivity as the employee's ability to produce work or goods and services according to the expected standards set by the employers, or beyond the expected standards. Productivity is calculated by comparing total amount of output to the total amount of input used to produce this output James & Akintoye, (2023). Productivity is defined by Ateke & Akani, (2018) as the measure of how efficiently and effectively resources (inputs) are brought together and utilized for the production of goods and services (out puts) of the quality needed by society in the long term. This implies that productivity is a combination of performance and economic use of resources. High productivity indicates that resources are efficiently and effectively utilized and waste is minimized in the organization. Productivity balances the efforts between different economic, social, technical and environmental objectives (Choi & Luo, 2022). High productivity provides more profit for investors and promotes the development of the enterprise.

Theoretical Review

Resource Based View (RBV)

The Resource-Based View (RBV) emphasizes that what sets successful firms apart is not merely the external environment but their unique internal resources and capabilities. According to Barney (1991), when a firm possesses resources that are valuable, rare, difficult to imitate, and effectively organized, it can gain a lasting competitive edge. More recent studies have reaffirmed this idea, arguing that in today's dynamic business environment, firms must leverage their internal strengths such as knowledge, innovation, technology, and human capita to sustain productivity and performance (Nwachukwu & Chinomona, 2021; Rahman & Singla, 2023).
In the context of this research, the RBV provides a useful lens for understanding how fishery and poultry enterprises in Delta State can enhance productivity through sustainable entrepreneurship. Firms that effectively combine their internal resources like skilled labor, efficient feed utilization, eco-friendly production techniques, and managerial innovation are more likely to achieve sustainable growth. By managing these assets responsibly and strategically, they can improve both their competitiveness and long-term performance. The proponents of Resource Based View (RBV) are Wenerfelt (1984); Barney (1991) in their work on firm resources and sustained competitive advantage. The theory states that a business organization must have valuable, rare, inimitable and non-substitute resources to have a sustainable competitive advantage, and these resources includes

everything internal to the organization. Under the theory of the firm, the resources-based view was produced in which an Enterprise is defined as the summation of strategically important resources where everything matters. Choices matter, the leader matters, the culture matters, the values matter random events matter, and so on which assists in determination of advantages of long-term competitive strength.

Resources-Based View is often related to Entrepreneurial orientation performance and growth since the analysis of orientation of entrepreneur values in terms of pro-activeness, risk taking and autonomy has become one of the most important estimation tools in the last decade for enterprise performance and competitive strength as well as innovation.

Empirical Review

Thi, et al. (2025) explored the factors influencing sustainable entrepreneurial intentions in Vietnam. A survey of 330 university students in Vietnam was conducted, and the data were analyzed using multiple regressions. Applying the theory of planned behavior and the entrepreneurial event model as theoretical lens, the findings suggest that attitude toward sustainability and perceived entrepreneurial feasibility influence positively sustainability-oriented entrepreneurial intentions. Contrary to what expected, perceived entrepreneurial desirability has no impact on sustainability-oriented entrepreneurial intentions. In addition, attitude toward sustainability is positively influenced by altruism and intrinsic rewards, whereas perceived entrepreneurial feasibility is positively related to self-efficacy and negatively related to job security. Finally, perceived entrepreneurial desirability is positively influenced by intrinsic rewards. The research applies the entrepreneurial intention model to sustainable entrepreneurship in the Vietnamese context, highlighting the need to consider variations in entrepreneurial opportunities in intention models and the potential conflict between different work values

Attah and Lamidi, (2025) explored how sustainable entrepreneurship integrates environmental responsibility with financial success. Drawing on survey data from 380 companies across various industries, including SMEs and large corporations, the study examines how eco-friendly practices, sustainability-driven innovations, and green business models influence financial and environmental outcomes. Using descriptive statistics, correlation, and Structural Equation Modeling (SEM), the analysis reveals that companies emphasizing sustainability such as improving energy efficiency and reducing waste achieve both enhanced profitability and stronger environmental performance. The findings suggest that green strategies reduce resource use and emissions while also bolstering long-term competitiveness and resilience.

Entrepreneurs who embed sustainability into their business models tend to attract capital and loyal customers, as stakeholders increasingly appreciate transparent and environmentally responsible behavior.

Syahida, et al. (2025) examined the impact of entrepreneurial skills on the sustainable performance of homestay businesses in Terengganu, Malaysia. Despite the recognized significance of entrepreneurial competencies for business success, research on their impact on sustainable performance in home stays remains limited. The research examines how entrepreneurs' skills, knowledge, and attitudes contribute to their sustainable business performance. The research employed a quantitative approach and purposive sampling to analyse 102 completed questionnaires using Partial Least Squares Structural Equation Modelling (PLS-SEM). The results revealed an unexpected outcome: While a positive attitude towards sustainability significantly influenced sustainable performance, entrepreneurial skills and knowledge did not directly impact it. These findings challenge the conventional understanding of entrepreneurial competencies, emphasizing the critical role of attitude in driving sustainable performance.

Nwaobia and Omoniyi, (2025) examined the connection between stated Nigerian manufacturing companies' financial performance and environmental sustainability measures. The study, which is based on stakeholder theory, uses an ex post facto design to assess whether sustainability measures affect two important financial metrics, Return on Assets (ROA) and Earnings Per Share (EPS), while adjusting for business size, liquidity, and leverage. Data from sustainability and annual reports covering 2015–2024 were taken out and subjected to panel-corrected standard errors (PCSEs), fixed effects, random effects, and pooled OLS regression models. PCSEs were required because diagnostic testing showed cross-sectional dependency and heteroskedasticity. The results show that while firm size and debt have little bearing on financial performance, environmental sustainability policies and liquidity have a large and beneficial impact. In terms of

ROA and EPS, Nestlé did better than Cadbury, demonstrating a more deliberate incorporation of sustainability into its business practices. Both companies, however, showed only mediocre adherence to GRI4 (Global Reporting Initiative) guidelines. The findings validate stakeholder theory and confirm the significance of sustainability in raising firm value, but they also highlight how inadequate current financial models are at explaining the full range of sustainability's effects. The report urges industry-wide adoption of comprehensive sustainability frameworks and suggests more robust legislative incentives for environmental compliance.

Sudjono, (2024) explored the development and implementation of sustainable business models that integrate environmental considerations into core business strategies. Through a review of existing literature and case studies, the research identifies key components of sustainable business models, including resource efficiency, renewable energy adoption, waste minimization, and ethical supply chain management. The article also examines how these models can drive long-term profitability by fostering innovation, improving brand reputation, and enhancing customer loyalty. However, it highlights several challenges, such as the potential for increased short-term costs and the complexities of transitioning from traditional to sustainable practices. Despite these obstacles, the findings suggest that businesses embracing sustainability are better positioned to meet regulatory requirements, mitigate environmental risks, and capitalize on emerging market opportunities. This study provides insights into how businesses can strike a balance between profitability and environmental responsibility, ultimately contributing to the broader goal of sustainable development.

Odeyemi, et al. (2024) provides a comprehensive review of green business practices within the context of sustainable entrepreneurship, shedding light on the multifaceted dimensions of environmental impact. The study delves into the core principles that underpin sustainable entrepreneurship, examining the integration of environmental considerations into business strategies and operations.

Entrepreneurs, driven by a heightened awareness of global environmental challenges, are increasingly adopting eco-friendly practices to mitigate negative effects on the planet. The paper explores various green business models, such as circular economy approaches, eco-innovation, and sustainable supply chain management, as key enablers of sustainable entrepreneurship. Furthermore, the environmental impact of sustainable entrepreneurship is assessed through an examination of case studies and empirical evidence. From reduced carbon footprints to resource efficiency and waste reduction, the positive outcomes of green business practices are elucidated. The paper also highlights the potential challenges and barriers faced by sustainable entrepreneurs, such as market acceptance, regulatory constraints, and financial implications.

Mohammed, et. al. (2024) explored the concept of sustainable entrepreneurship, focusing on how entrepreneurs integrate environmental and corporate social responsibility into their business ventures for developing smart Bangladesh. It examines the motivations behind sustainable entrepreneurship, the challenges faced by entrepreneurs in implementing sustainable practices, and the impact of such practices on business performance and societal well-being and corporate

motives regarding sustainable entrepreneurship. Existing published literature and case studies were analyzed for developing the literature review of this study. This study identifies the current state of sustainable entrepreneurship and the extent to which environmental and corporate social responsibility are integrated into business ventures. This study evaluating the impacts and outcomes of sustainable entrepreneurship practices on business performance, environmental sustainability, and corporate social responsibility.

Gap in Literature

Despite the rich body of literature on sustainable entrepreneurship and SME performance, several gaps were discovered: Most existing studies have focused on broad national or regional levels. Limited empirical attention has been given specifically to fishery and poultry enterprises in Delta State, Nigeria. There is a scarcity of focused studies that isolate fishery and poultry sub-sectors to examine the unique challenges and sustainability strategies within these agribusiness domains**:** Few studies holistically examined the economic, environmental, and social dimensions of sustainability in relation to performance, especially among small-scale enterprises.

Methodology

Research Design

The study adopted descriptive survey research design. This study was conducted in Delta State.

In testing hypotheses, the calculated value of the test statistic was compared with critical or table value of the statistic.

Analysis of Data

Hypothesis Testing

Hypothesis One

Ho1: Social sustainability has no significant effect on customers satisfaction of fishery and poultry firms in Delta State.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.617[a]	.781	.780	1.07102	.381	360.030	1	585	.000	1.860

a. Predictors: (Constant), SOS

b. Dependent Variable: CUS

Table 1 show that R^2 co-efficient of determination which measures the strength of the effect of independent variables on the dependent variable has the value of 0.78. This implies that 78% of the variation in social sustainability is explained by variations in customer's satisfaction. This was supported by adjusted R^2 of 0.78%. Test for autocorrelation: This is used to test whether errors corresponding to different observations are uncorrelated. If the value of the durbin-watson from the regression result is close to 2 no autocorrelation in that regression result, but if it deviates significantly then there is autocorrelation. The Durbin-Watson statistic (D.W) of 2 reveals no autocorrelation in the model. Hence, the result is good for business analysis because the Durbin Watson result is 1.860 which indicates that the study is free from the problems of autocorrelation.

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	412.985	1	412.985	360.030	.000[b]
	Residual	671.046	585	1.147		
	Total	1084.031	586			

a. Dependent Variable: CUS

b. Predictors: (Constant), SOS

The f-statistics value of 360.030 in table 4.4.2 with F-statistics probability of 0.000 shows that the independent variables have significant effect on dependent variable such as social sustainability can collectively explain the variations in customers satisfaction.

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	.575	.085		6.806	.000	.409	.741
	SOS	.737	.039	.617	8.974	.000	.661	.814

a. Dependent Variable: CUS

A'priori Criteria: This is determined by the existing business theories; it also indicates the signs and magnitude of the business parameter under review. In table 4.4.3 we found out that social sustainability has a positive sign given its value as 0.73; this implies that a unit increase in social sustainability increases the customers satisfaction by 73%, this conform to the a' priori expectation.

T- Statistics: The t-test is used to measure the individual statistical significance of the explanatory parameters in the model. From table Coefficients above social sustainability is 8.974, this is statistically significant, this suggest that it contribute significantly to customers satisfaction**.** Social sustainability has a T-statistic of 8.974 and a probability value of 0.000 which is statistically significant. Therefore, we accept the alternative hypothesis and reject the null hypotheses which state that Social sustainability has significant effect on customer's satisfaction of fishery and poultry firms in Delta State

Hypothesis Two

Ho12: Economic sustainability has no significant effect on employee' output of fishery and poultry firms in Delta State.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.481[a]	.731	.730	1.16200	.231	176.072	1	585	.000	1.669

a. Predictors: (Constant), EPO

b. Dependent Variable: ECS

Table 2 shows that R^2 co-efficient of determination which measures the strength of the effect of independent variables on the dependent variable has the value of 0.73. This implies that 73% of the variation in economic sustainability is explained by variations in employee output. This was supported by adjusted R^2 of 0.73%. Test for autocorrelation: This is used to test whether errors corresponding to different observations are uncorrelated. If the value of the durbin-watson from the regression result is close to 2 no autocorrelation in that regression result, but if it deviates significantly then there is autocorrelation. The Durbin-Watson statistic (D.W) of 2 reveals no autocorrelation in the model. Hence, the result is good for business analysis because the Durbin Watson result is 1.669 which indicates that the study is free from the problems of autocorrelation

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	237.738	1	237.738	176.072	.000[b]
	Residual	789.887	585	1.350		
	Total	1027.625	586			

a. Dependent Variable: ECS

b. Predictors: (Constant), EPO

The f-statistics value of 176.072 in table 3 with F-statistics probability of 0.000 shows that the independent variables have significant effect on dependent variable such as economic sustainability can collectively explain the variations in employee output.

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	1.048	.097		0.841	.000	.858	1.238
	ECS	.444	.033	.481	3.269	.000	.378	.510

a. Dependent Variable: EPO

A'priori Criteria: This is determined by the existing business theories; it also indicates the signs and magnitude of the business parameter under review. In table 4.4.3 we found out that economic sustainability has a positive sign given its value as 0.44; this implies that a unit increase in economic sustainability increases the employee output by 44%, this conform to the a' priori expectation.

T- Statistics: The t-test is used to measure the individual statistical significance of the explanatory parameters in the model. From table Coefficients above economic sustainability is 3.269, this is statistically significant, this suggest that it contribute significantly to employee output

Social sustainability has a T-statistic of 3.269 and a probability value of 0.000 which is statistically significant. Therefore, we accept the alternative hypothesis and reject the null hypotheses which state that Social sustainability has significant effect on employee output of fishery and poultry firms in Delta State

Hypothesis Three

Ho3: Environmental sustainability has no significant effect on task completion rate of fishery and poultry firms in Delta State.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.672[a]	.852	.831	.94185	.452	482.365	1	585	.000	1.508

a. Predictors: (Constant), TKC

b. Dependent Variable: EMT

Table 4 shows that R^2 co-efficient of determination which measures the strength of the effect of independent variables on the dependent variable has the value of 0.85. This implies that 85% of the variation in environmental sustainability is explained by variations in task completion. This was supported by adjusted R^2 of 0.83%. Test for autocorrelation: This is used to test whether errors corresponding to different observations are uncorrelated. If the value of the durbin-watson from the regression result is close to 2 no autocorrelation in that regression result, but if it deviates significantly then there is autocorrelation. The Durbin-Watson statistic (D.W) of 2 reveals no autocorrelation in the model. Hence, the result is good for business analysis because the Durbin Watson result is 1.508 which indicates that the study is free from the problems of autocorrelation

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	427.901	1	427.901	182.365	.000[b]
	Residual	518.947	585	.887		
	Total	946.848	586			

a. Dependent Variable: TKC

b. Predictors: (Constant), EMT

The f-statistics value of 182.365 in table 4.4.2 with F-statistics probability of 0.000 shows that the independent variables have significant effect on dependent variable such as environmental sustainability can collectively explain the variations in task completion.

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	.514	.076		6.733	.000	.364	.664
	EMT	.670	.030	.672	2.963	.008	.610	.730

a. Dependent Variable: TKC

A'priori Criteria: This is determined by the existing business theories; it also indicates the signs and magnitude of the business parameter under review. In table 4.4.3 we found out that environmental sustainability has a positive sign given its value as 0.67; this implies that a unit increase in environmental sustainability increases the task completion by 67%, this conform to the a' priori expectation.

T- Statistics: The t-test is used to measure the individual statistical significance of the explanatory parameters in the model. From table Coefficients above environmental sustainability is 2.963 this is statistically significant, this suggest that it contribute significantly to task completion.

Environmental sustainability has a T-statistic of 2.963 and a probability value of 0.000 which is statistically significant. Therefore, we accept the alternative hypothesis and reject the null

hypotheses which state that environmental sustainability has significant effect on task completion. of fish and poultry firms in Delta State

Conclusion

This study examined the effect of sustainable entrepreneurship on the productivity of fishery and poultry firms in Delta State, Nigeria with specific focus on social sustainability, economic sustainability, environmental sustainability, financial sustainability, and innovation sustainability. The findings provide strong evidence that sustainable entrepreneurial practices play a critical role in enhancing productivity within the fishery and poultry subsector. The study concludes that social sustainability significantly improves productivity by promoting good labour relations, employee welfare, community engagement, and ethical business practices, which collectively enhance workforce commitment and operational stability. Economic sustainability was found to strengthen productivity through efficient resource utilization, cost control, market stability, and long-term profitability, enabling firms to withstand economic fluctuations and maintain steady output levels. Furthermore, environmental sustainability contributes positively to productivity by encouraging eco-friendly production methods, waste management, and efficient use of natural resources, thereby reducing operational risks and regulatory challenges. Financial sustainability was also shown to be a major driver of productivity, as access to stable funding, effective financial planning, and sound capital management improve production capacity and business continuity. Lastly, innovation sustainability enhances productivity by fostering the adoption of modern farming technologies, improved feed formulations, disease control methods, and innovative management practices, which increase output and efficiency. Overall, the study concludes that sustainable entrepreneurship is a strategic pathway for improving productivity, competitiveness, and long-term survival of fishery and poultry firms in Delta State. Firms that integrate social, economic, environmental, financial, and innovation sustainability into their business models are better positioned to achieve higher productivity and sustainable growth in an increasingly competitive agribusiness environment.

Recommendations

Amongst the recommendation is that fishery and poultry firm owners should prioritize employee welfare through fair wages, safe working conditions, regular training, and inclusive management practices. Strong relationships with host communities should be encouraged through community engagement, local sourcing of inputs, and conflict-free operations, as these enhance workforce stability and support sustained productivity.

Operators should adopt cost-efficient production techniques, diversify income streams, and strengthen market linkages to reduce vulnerability to economic shocks. Government and agricultural agencies should provide economic support mechanisms such as price stabilization policies, extension services, and access to cooperative marketing platforms to improve long-term productivity and those firms are encouraged to adopt environmentally friendly practices such as proper waste disposal, water recycling, biosecurity measures, and environmentally safe feed and medication usage. Regulatory bodies should promote compliance through incentives for green practices and regular environmental awareness programs tailored to small and medium-scale fishery and poultry enterprises.

iv. Fishery and poultry entrepreneurs should strengthen financial planning, record-keeping, and budgeting practices to ensure efficient use of funds. Financial institutions and government agencies should design affordable credit schemes, grants, and insurance products specifically targeted at agribusiness operators to enhance capital availability and business resilience.

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