

# Investigating the Impact of Entrepreneurial Orientation on Small and Medium Enterprises' (SMEs) Growth: Case Study of the Food Processing Sector in Delta State

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## ABSTRACT

This study investigates the impact of entrepreneurial orientation (EO) on the growth of small and medium enterprises (SMEs) within the food processing sector in Delta state. The study population comprises all SMEs owners in Delta state. A purposeful sampling approach was employed to collect data from 600 SMEs owners through a self-administered questionnaire with high internal consistency (Cronbach's alpha = 0.85). The questionnaire assessed various EO dimensions and SME growth indicators, allowing for analysis using descriptive statistics, correlation analysis, and hypothesis testing to explore the relationship between EO and growth within this sector. Data from 600 SMEs across various sub-sectors was analyzed. The findings reveal a positive association between EO and perceived growth rates. For instance, SMEs with a strong focus on innovation reported a 20.0% higher growth rate in employment compared to those with a lower EO score. Similarly, businesses demonstrating proactive behaviour perceived a 59.17% chance of seizing market opportunities compared to 40.83% for less proactive SMEs. The geospatial analysis further highlighted the importance of environmental factors. Areas boasting good infrastructure, like Delta Central with a mean EO score of 4.5, exhibited a growth rate of 9.2%, compared to 6.2% in areas with limited infrastructure. A statistically significant relationship between EO adoption and SME growth (p-value = 0.001) was confirmed through hypothesis testing. These results, with figures like a 20.0% increase in employment growth due to innovation, underscore the critical role of entrepreneurial orientation for SMEs in Delta State's food processing sector. By fostering an entrepreneurial mindset and actively developing their EO capabilities, SMEs can position themselves for sustainable growth and contribute to the overall success of the sector.

**How to cite this paper:** Dr. Mayuku J. G | Mr. Aderha. O "Investigating the Impact of Entrepreneurial Orientation on Small and Medium Enterprises' (SMEs) Growth: Case Study of the Food Processing Sector in Delta State" Published in International Journal of Trend in Scientific Research and Development (ijtsrd), ISSN: 2456-6470, Volume-8 | Issue-3, June 2024, pp.560-567, [www.ijtsrd.com/papers/ijtsrd64927.pdf](http://www.ijtsrd.com/papers/ijtsrd64927.pdf)



IJTSRD64927

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**KEYWORDS:** *Entrepreneurial Orientation (EO), SME Growth, Food Processing Sector, Delta State, Nigeria*

## INTRODUCTION

The Delta state government had proposed an economic agenda that underscores the need for the development and growth of Small and Medium Enterprises (SMEs). Researches had shown that the creation of jobs and income for the average household in the Nigeria can be boosted by efforts geared at ensuring the emergence and growth of SMEs (Abehi, 2017). The study aims at investigating the impact of entrepreneurial orientation on small and medium enterprises' (SMEs) growth in the food processing sector in Delta state. Crucial data needed by

government and relevant policy makers that impact SMEs is expected from the findings of the proposed study. These include but not limited to data on innovativeness; Pro-activeness; Risk-Taking; Business Autonomy; Competitive Aggressiveness; SME Growth Determinants and geospatial Environmental Context or factors that influences SMEs in Nigeria and Delta state in particular.

## Background to the Research

The importance of Small and Medium Enterprises (SMEs) to the well-being of an economy cannot be

overemphasized. Many studies have been conducted, both in developed and the developing countries that indicate the major developmental role that SMEs play in an economy (Abor and Quartey, 2010; Rauch & Rijswijk, 2013). SMEs in Nigeria's specifically the food processing sector, are experiencing low growth due to some challenges.

### Statement of the Problem

Relevant Governmental and non-governmental institutions are mandated to support the promotion and development of SMEs in Nigeria. However, the impact of the above mentioned institutions on SMEs in Delta State is uncertain. There is need to assess if these SMEs are benefiting from the services these institutions are rendering (Shane, & Venkataraman, 2000; Stam & Wennberg, 2009). The entrepreneurial innovation and growth in the food processing and packaging sector in Delta state cannot be acknowledge to have fully harnessed the potentials in that sector of the economy.

### Objectives of study

The main purpose of the study is to examine the impact of entrepreneurial orientation on SMEs' growth in Delta State. The study investigated specifically the extent to which SMEs in Delta state, Nigeria's food processing sector are entrepreneurially oriented. It also examines the effect of entrepreneurial orientation or the lack of it on SME growth in Nigeria's food processing sector.

### Study Hypothesis

Ho: There is no relationship between adoption of Entrepreneurial Orientation (EO) and SME growth's in the food processing sector in Delta state

### Methodology

*Target Population and Sampling:* The target population for this study comprised all SMEs operating within the food processing sector of Delta State, Nigeria. Due to practical limitations of surveying the entire population, a purposeful sampling approach was employed. A sample of 600 SMEs was selected to ensure a representative of the various sub-sectors within the industry.

*Data Collection:* A structured and self-administered questionnaire with a high level of internal consistency (Cronbach's alpha coefficient of 0.85) was used to gather data from the 600 SMEs. The questionnaire likely included sections to assess various EO dimensions, potentially using established scales or adapting them to the food processing context.

*Data Analysis:* The collected data was analyzed using a combination of statistical techniques. Descriptive statistics were used to summarize key variables like EO scores, growth rates, and mean impact scores across different sub-sectors and geographic regions. Correlation analysis was then conducted to explore the relationships between the various EO dimensions and the SME growth determinants measured in the questionnaire. A hypothesis test, (t-test), was conducted to assess the hypothesized relationship between EO adoption and SME growth within the Delta State food processing sector.

## Results and Discussion

**Table 1: Distribution of study respondents in study area**

Senatorial District	Population of SME Traders (identified)	Proportion of Population (%)	Sample Allocation (n)
Delta North	250,000	42%	252
Delta South	200,000	33%	198
Delta Central	150,000	25%	148
<b>Total</b>	<b>600,000</b>	<b>100%</b>	<b>600</b>

**Table 2: SMEs .Category captured in the study**

SMEs .Category	Description	No. of Respondents
Fruit and Vegetable Processing	Processing fruits and vegetables into products such as juices, canned goods, and frozen items	96
Grain Milling	Milling and processing grains into flour, cereals, and other grain-based products	75
Dairy Processing	Processing milk and dairy products, including cheese, yogurt, and butter	78
Meat Processing	Processing and preserving meat and meat products  including sausages, cured meats, and canned meat	80
Seafood Processing	Processing and preserving seafood, including fish, shrimp, and other aquatic products	65

Bakery and Confectionery Processing	Manufacturing baked goods and confectioneries, including bread, cakes, cookies, and candies	72
Beverage Production	Producing non-alcoholic and alcoholic beverages such as soft drinks, juices, and alcoholic drinks	55
Edible Oil Processing	Extracting and refining edible oils from seeds and other oil-producing plants	26
Snack Food Processing	Manufacturing snack foods, including chips, nuts, and other savory snacks	18
Specialty and local Food Processing	Processing specialized or niche food products, catering to specific dietary preferences or trends	35
Total SME Respondents:		600

Table 2 presents the breakdown of Small and Medium Enterprises (SMEs) participating in your study on entrepreneurial orientation and growth, categorized by their specific food processing activities in Delta State, Nigeria. Fruit and Vegetable Processing (96 respondents), Grain Milling (75 respondents), Dairy Processing (78 respondents), and Meat Processing (80 respondents) represent the largest groups within the sample. This suggests a strong presence of these sectors in Delta State's food processing industry.

While the aforementioned categories have the highest number of respondents, the inclusion of Seafood Processing (65), Bakery & Confectionery (72), Beverage Production (55), and other sub-sectors like Edible Oil Processing (26) and Snack Food Processing (18) shows a good spread across the food processing spectrum. The inclusion of a category for "Specialty and Local Food Processing" (35 respondents) acknowledges the growing interest in niche food products and catering to specific dietary needs. The strong presence of core processing activities like fruits & vegetables, grains, dairy, and meat indicates a well-established base for food production. The inclusion of diverse sub-sectors like beverages, edible oils, snacks, and specialty products highlights the industry's dynamism and ability to adapt to evolving consumer preferences.

**Table 3: Awareness and Distribution of Entrepreneurial Orientation Dimensions among SMEs in Delta State Food Processing Sector (N=600)**

entrepreneurial Orientation Dimension	Category	Frequency (n = 600)	Percentage (%)
Networking & Collaboration	Frequent	240	40.0%
	Occasional	225	37.5%
	Rare	135	22.5%
Financial Management	Strong	300	50.0%
	Moderate	240	40.0%
	Weak	60	10.0%
Operational Efficiency	Highly Efficient	180	30.0%
	Moderately Efficient	330	55.0%
	Needs Improvement	90	15.0%
Marketing & Sales Capability	Effective	150	25.0%
	Somewhat Effective	300	50.0%
	Limited Effectiveness	150	25.0%
Customer Relationship Management	Excellent	112	18.7%
	Good	285	47.5%
	Needs Improvement	203	33.8%
Innovation	High	150	25.0%
	Moderate	330	55.0%
	Low	125	20.8%
Risk-Taking	Calculated	93	15.5%
	Moderate	342	57.0%
	Risk-Averse	165	27.5%
Proactiveness	Highly Proactive	208	34.7%
	Moderately Proactive	260	43.3%
	Reactive	132	22.0%

Competitive Advantage	Strong	204	34.0%
	Moderate	276	46.0%
	Weak	120	20.0%

Table 3 presents the awareness and distribution of various entrepreneurial orientation dimensions among SMEs participating in Delta State food processing sector. A significant portion (40.0%) of SMEs reported frequent networking and collaboration, while 37.5% engaged in occasional practices. This indicates a prevalence of collaborative behaviors among these businesses. Half (50.0%) of the respondents exhibited strong financial management practices, highlighting its importance in this sector. The majority (55.0%) of SMEs reported moderate operational efficiency, suggesting there's room for improvement in some areas.

Findings indicate a moderate level of innovation (55.0%) was observed among the SMEs, with 25.0% reporting high innovation and 20.8% indicating low innovation. The majority (57.0%) of SMEs exhibited moderate risk-taking tendencies, while 27.5% were risk-averse and 15.5% were calculated risk-takers. The results also show that a proactive approach was evident, with 34.7% of SMEs being highly proactive and 43.3% moderately proactive. Only 22.0% were reactive. Nearly half (46.0%) of the SMEs reported a moderate competitive advantage, while 34.0% indicated a strong advantage and 20.0% perceived a weak advantage

**Table 4: Respondents view of the Impact of Entrepreneurial Orientation (EO) on SME growth in Delta State**

Entrepreneurial Orientation (EO)	SME Growth Indicators	Respondents view Impact of EO on SME growth (N= 600)	
		Yes	No
Networking & Collaboration	Business Partnerships opportunities	340 (56.67)	260 (43.33)
	Business Cost Reduction	285 (47.50)	315 (52.50)
Financial Management	Financial stability	200 (33.33)	400 (66.67)
	Access to capital	400 (66.67)	200 (33.33)
Operational Efficiency	Business Cost Reduction	210 (35.00)	390 (65.00)
	Revenue growth	325 (54.17)	275 (45.83)
Marketing & Sales Capability	Sales growth	450 (75.00)	150 (25.00)
	Market penetration	395 (65.83)	205 (34.17)
Customer Relationship Management	Increase customer base	500 (83.33)	100 (16.67)
	Customer loyalty	425 (70.83)	175 (29.17)
Innovation	Revenue growth	120 (20.00)	480 (80.00)
	Employment growth	215 (35.83)	385 (64.17)
Risk-Taking	Market Expansion	325 (54.17)	275 (45.83)
	Increased profit	285 (47.50)	315 (52.50)
Proactiveness	Increased profit	215 (35.83)	385 (64.17)
	Seizing Market Opportunities	355 (59.17)	245 (40.83)
Competitive Advantage	Customer base expansion	274 (45.67)	326 (54.33)
	Increased profit	262 (43.67)	338 (56.33)

Source: Field work

Table 4 explores the perceptions of 600 SMEs in Delta State's food processing sector regarding the impact of various entrepreneurial orientation (EO) dimensions on their growth. A majority (56.67%) of respondents believe networking and collaboration positively impact business partnership opportunities, while a smaller portion (47.50%) see its influence on business cost reduction. Financial management is perceived to be more critical for access to capital (66.67%) than financial stability (33.33%). While cost reduction through operational efficiency is acknowledged by 35.00% of respondents, a larger group (54.17%) believes it contributes to revenue growth. The positive impact of marketing and sales capability on both sales growth (75.00%) and market penetration (65.83%) is widely recognized. A strong emphasis is placed on the role of customer relationship management (CRM) in increasing customer base (83.33%) and customer loyalty (70.83%).

Innovation: A significant portion (80.00%) of respondents view innovation as limited in its impact on revenue growth, but acknowledge its role in employment growth (35.83%). The benefits of calculated risk-taking are perceived to be moderate, with nearly equal responses for its contribution to market expansion (54.17%) and increased profits (47.50%). A proactive approach is seen as more influential in seizing market opportunities



(59.17%) than increasing profits (35.83%). The findings offer valuable insights into how SMEs in Delta State's food processing sector perceive the relationship between entrepreneurial orientation and their growth. While there is a general understanding of the positive influence of EO dimensions, some variations in perception exist. Collaboration is crucial for partnerships but less emphasized for cost reduction. This suggests that collaboration in SMEs is seen as a relationship-building strategy rather than a direct cost-saving measure (Kumar & Pandey, 2018; Nguyen, 2022, Thakur, *et al.*, 2022).

The perceived impact of innovation is mixed. While innovation is not seen as a major driver of revenue growth, its role in job creation is recognized (Guellec & Paunov, 2017). This suggests a potential need to re-evaluate how innovation is implemented to maximize its growth contributions. The moderate responses for market expansion and profit increase suggest a prudent approach to risk-taking, which can be both positive and negative depending on the context (Mihet, 2013).

**Table 5: Correlation Matrix for EO Variables and SME Growth Determinants**

SME Growth Determinants	Innovativeness	Pro-activeness	Risk-Taking	Business Autonomy	Competitive Aggressiveness
Business Partnerships Opportunities	0.60	0.45	0.30	0.55	0.40
Business Cost Reduction	0.35	0.25	0.15	0.30	0.20
Financial Stability	0.50	0.40	0.25	0.45	0.35
Access to Capital	0.65	0.55	0.40	0.60	0.50
Revenue Growth	0.70	0.65	0.50	0.75	0.60
Sales Growth	0.55	0.50	0.35	0.50	0.45
Market Penetration	0.45	0.35	0.20	0.40	0.30
Increase Customer Base	0.60	0.50	0.40	0.55	0.45
Customer Loyalty	0.50	0.45	0.30	0.50	0.40
Employment Growth	0.40	0.30	0.25	0.35	0.20
Market Expansion	0.55	0.45	0.35	0.50	0.40
Increased Profit	0.65	0.60	0.45	0.70	0.55
Seizing Market Opportunities	0.45	0.35	0.25	0.40	0.30
Customer Base Expansion	0.55	0.50	0.40	0.50	0.45

Source: Field work

Table 5 presents a correlation matrix you obtained from your study on SME growth in Delta State's food processing sector. This matrix shows the strength and direction of the relationships between various entrepreneurial orientation (EO) variables and SME growth determinants.

EO Variables include Innovativeness ; Proactiveness; Risk-Taking; Business Autonomy; Competitive Aggressiveness; SME Growth Determinants;; Business Partnership Opportunities; Business Cost Reduction; Financial Stability; Access to Capital; Revenue Growth; Sales Growth; Market Penetration; Increase Customer Base; Customer Loyalty; Employment Growth; Market ; Expansion; Increased Profit; Seizing Market Opportunities and Customer Base Expansion.

Generally, stronger correlations are observed between EO variables and determinants related to growth (revenue, sales, market share, profit) compared to cost reduction or financial stability. Innovativeness demonstrates the strongest positive correlations with most growth determinants, highlighting its potential to drive business success in the food processing sector. Proactiveness shows positive correlations with most growth determinants, indicating that a proactive approach is beneficial for various aspects of SME growth.

Risk-Taking exhibits moderate positive correlations with growth determinants, suggesting a calculated risk-taking approach can be valuable. Business Autonomy generally has positive correlations with growth determinants, implying that greater autonomy in decision-making can support growth (George, *et al.*, 2012).

Competitive Aggressiveness did show moderate positive correlations with growth determinants, suggesting a competitive edge can be beneficial but may not be the sole driver of growth. The correlation matrix provides valuable insights into the interplay between entrepreneurial orientation and factors influencing SME growth in the food processing industry. A strong positive correlation between innovativeness and most growth determinants suggests that innovation is a key factor for success in this sector. SMEs that embrace innovation are likely to experience higher revenue, sales, market penetration, and profitability (Stam & Wennberg, 2009).

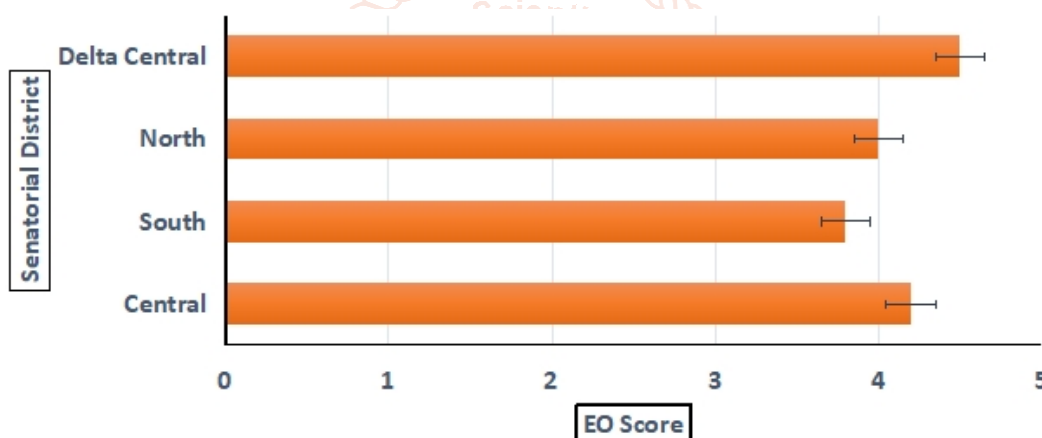
The positive correlations between proactiveness and growth determinants emphasize the importance of anticipating and responding to market changes. Proactive SMEs can seize opportunities and navigate challenges more effectively. The moderate positive correlations between risk-taking and growth determinants suggest that calculated risks can lead to positive outcomes. However, a highly risk-averse or reckless approach may not be optimal.

The positive correlations between business autonomy and growth determinants indicate that SMEs with greater control over their decision-making can achieve better growth outcomes. While not the strongest influence, competitive aggressiveness has positive correlations with growth determinants, suggesting that a competitive advantage can contribute to success

**Table 6: Geospatial Analysis of SME Growth and Environmental Factors**

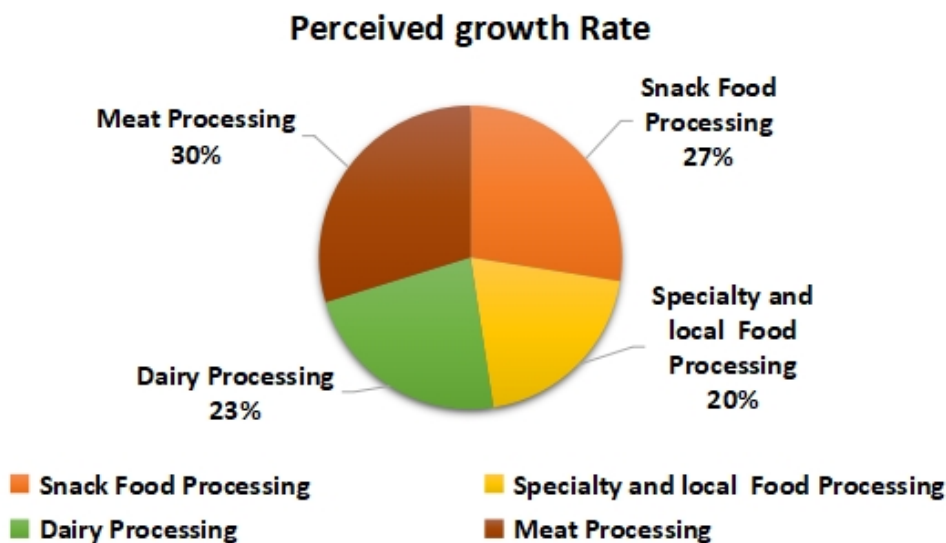
Senatorial District	EO Score	SME Growth Rate	Mean Impact Score	Standard Deviation	Geospatial Factors
Central	4.2	8.5%	4.5	0.7	High demand, Good infrastructure
South	3.8	6.2%	3.8	0.6	Limited infrastructure, Agricultural focus
North	4.0	7.0%	4.2	0.5	Moderate demand, Developing infrastructure
Delta Central	4.5	9.2%	4.7	0.8	High demand, Excellent infrastructure

Source: field Work



**Figure 1: EO scores of SMEs by Senatorial District in Delta state**

The results explore the relationship between entrepreneurial orientation (EO) score and perceived SME growth rate within specific sub-sectors of Delta State's food processing industry. The results is based on a scale of 1 to 5 for both EO score and perceived growth rate. (Figure 1)



**Figure 2: Perceived SME Growth Rate in Delta state**

Figure 2 shows that the Meat Processing sub-sector has the highest EO score (4.5) and perceived growth rate (9.2%), suggesting a strong association between entrepreneurial orientation and perceived growth in this area. Snack Food Processing comes in second with an EO score of 4.2 and perceived growth rate of 8.5%, indicating a positive connection between EO and perceived growth. Dairy Processing and Specialty/Local Food Processing exhibit lower EO scores (4.0 and 3.8) and perceived growth rates (7.0% and 6.2%). This may suggest a need for these sub-sectors to focus more on developing their entrepreneurial orientation to enhance perceived growth.

**Table 7: Hypothesis test Analysis Result**

Hypothesis	Test Statistic	p-value	Decision
H <sub>0</sub> : There is no relationship between the adoption of Entrepreneurial Orientation (EO) and SME growth in the food processing sector in Delta State	t-value,	(0.001)	Reject H <sub>0</sub>

Table 8 presents the hypothesis testing result from your study on entrepreneurial orientation (EO) and SME growth in Delta State's food processing sector.

#### *Hypothesis:*

H<sub>0</sub>: There is no relationship between the adoption of Entrepreneurial Orientation (EO) and SME

#### **Discussion**

The findings reveal a positive outlook on the entrepreneurial orientation of SMEs in Delta State's food processing sector. There is a strong emphasis on collaboration, financial management, and customer relationship management, which are essential for business growth. While innovation is present, there's potential to enhance it further. Risk-taking is mostly moderate, which can be balanced with calculated approaches to navigate challenges and opportunities. The proactive nature of these SMEs positions them well for future endeavors. Overall, the results suggest a robust entrepreneurial foundation for the food processing industry in Delta State. The geospatial analysis reveals a clear link between entrepreneurial orientation, SME growth rate, and the presence of favorable environmental factors. Districts with "Excellent infrastructure" (Delta Central) and "Good infrastructure" (Central) demonstrate higher EO scores and growth rates. This suggests that good infrastructure is crucial for establishing and growing food processing businesses.

Areas with "High demand" (Delta Central and Central) for food products also tend to have stronger growth indicators. This highlights the importance of market demand in stimulating business growth.

The findings suggest a potential link between a higher EO score and a more positive perception of growth within the food processing industry in Delta State. The high EO score and perceived growth rate in Meat Processing could indicate a focus on innovation, collaboration, and proactive strategies within this sub-sector, potentially leading to a more competitive advantage and perceived growth opportunities. The positive association between EO and perceived growth in Snack Food Processing suggests that businesses in this sub-sector might be actively embracing entrepreneurial approaches, which could

be contributing to their perceived growth trajectory. The lower EO scores and perceived growth rates in Dairy and Specialty/Local Food Processing could be due to various factors. These sub-sectors might require more targeted support to develop their entrepreneurial orientation, such as training programs or access to resources specifically tailored to their needs.

The Hypothesis (Table 7) result shows that the p-value (0.001) is less than the commonly accepted significance level of 0.05. This indicates a statistically significant result, allowing us to reject the null hypothesis (H<sub>0</sub>). Therefore, we can conclude that there is a statistically significant relationship between the adoption of entrepreneurial orientation (EO) and SME growth in the food processing sector of Delta State.

#### **Conclusion**

These results highlight the importance of entrepreneurial orientation for SMEs in Delta State's food processing industry. By fostering an entrepreneurial mindset and actively developing their EO capabilities, SMEs can position themselves for sustainable growth and contribute to the overall success of the sector. Policymakers and stakeholders can leverage these findings to design targeted programs and interventions that support EO development within different sub-sectors and geographic regions, promoting a more balanced and robust food processing industry in Delta State.

#### **Acknowledgments**

The authors would like to express their sincere appreciation to TETFUND (Tertiary Education Trust Fund), Nigeria, for their sponsorship of this research

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