



Gross Margin Analysis of Crayfish Retail Marketing in Oron Business Cluster of Akwa Ibom State, Nigeria

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ABSTRACT

In crayfish retail marketing in Oron business clusters, where capital constraints and limited formal credit access are common, understanding gross margins is essential for designing interventions that enhance income stability and food-supply resilience. The study analyzes the gross margin of crayfish retail marketing in Oron business cluster in Akwa Ibom. The specific objectives were to; describe the socio-economic profile of crayfish marketers; analyze the cost and returns of crayfish retail marketing; examine the determinants of gross margin in crayfish retail marketing and identify the constraints militating against crayfish retail marketing in the study area. A multistage sampling procedure was used in selecting 96 respondents for the study. Primary data were obtained using structured questionnaire and the data obtained were analyzed using descriptive statistics, gross margin analysis, multiple linear regression analysis, and Henry Garrett ranking method. The results of socio-economic profiles of crayfish retailers showed that 100% of the respondents were females, the average age, household size and experience were 44 years, 6 persons and 18 years, respectively. Deducting total costs (₦11,079,800.00) yields an annual net revenue of ₦1,660,200.00 (₦31,926.92 per week or ₦912.19 net gross margin per kg). Further analysis indicated that age ($p < 0.01$) had an inverse relationship with gross margin while experience ($p < 0.01$) had a positive relationship with gross margin. The major constraints militating against crayfish retail marketing in Oron business cluster were high/Lack of operating capital (ranked 1st), difficulty in obtaining market stores (ranked 2nd), and high cost of market stores (ranked 3rd). Based on the findings, the study recommends that financial institutions, microfinance banks, and state intervention agencies (such as the Akwa Ibom State Enterprise Development Agency) should design concessionary, low-interest micro-credit facilities specifically tailored for female seafood marketers.

Keywords: Retail, Marketing, Business Cluster, Gross Margin

Background of Study

Crayfish (commonly the dried form of small shrimps and prawns) is a staple condiment and important protein source in Nigerian cuisine, prized for its flavour and long shelf life (Bhujel, 2024). While crayfish play important ecological roles in aquatic environments—affecting nutrient cycles and habitat quality through feeding and foraging (O’Hea Miller, Davis, & Wong, 2024) their market and consumption patterns vary internationally. In many countries crayfish are sold live or eaten fresh, but in Nigeria the commodity is predominantly smoked or sun-dried before sale. This processing tradition has entrenched crayfish as a ubiquitous seasoning and protein source across the Southern states and increasingly in other parts of the country. Because fully aquatic animals such as fish, shrimps, crabs, and lobsters are generally acceptable across cultural and religious groups, crayfish enjoy wide marketability (Bhujel, 2024). Rising retail prices for conventional animal proteins—beef, chicken, snails, and mutton—have also pushed many households to prefer relatively affordable seafoods like fish and crayfish (Esheya, 2021). Nutritionally, crayfish are nutrient-dense: they supply B-group vitamins, fat-soluble vitamins (A, D, E, K), and minerals such as phosphorus, zinc, iron,



calcium, magnesium, and sodium (Adegbusi, Ismail, Esa, Daud & Shukri, 2024). They provide easily digested, low-fat protein containing all nine essential amino acids and beneficial fatty acids such as omega-3, nutrients associated with cognitive and visual health. These attributes help sustain steady consumer demand and a persistent retail market for crayfish.

In coastal states like Akwa Ibom, crayfish production and trade are integral to the rural–urban food system, linking fishers and processors in riverine communities to retail traders who supply urban markets. The Oron business cluster—situated along a major coastal trading corridor—functions as a critical aggregation and distribution node, where volumes are graded and forwarded to consumers across the state and neighboring regions. The retail sub-sector, made up of small shop owners, market women, and itinerant traders, plays a central role in how value and income are distributed along the crayfish chain.

Agricultural marketing comprises the services and functions—assembly, storage, transport, processing, grading, packaging, and financing that move farm and fish products from producers to final consumers (Agom, 2026; Akridge, 2025; Ucha & Ameh, 2021). In the South–South states, crayfish trading has become an important livelihood activity, generating income for fishers, processors, intermediary dealers, and market traders (Esheya, 2023). Because crayfish are still primarily harvested from natural waters rather than produced through aquaculture, production is concentrated along the coast. This geographic concentration creates spatial imbalances: coastal clusters supply large volumes while inland markets face scarcity and higher retail prices (Akenbor & Esheya, 2022). That imbalance underscores the importance of efficient marketing and distribution especially at retail nodes such as Oron to stabilise supply, reduce costs, and improve consumer access across Akwa Ibom State and beyond (Esheya, Okoye & Nweze, 2022).

The economic viability of crayfish retailing depends not only on gross sales but on cost structure and operational efficiency. Gross margin analysis, which measures the difference between sales revenue and variable costs, offers a practical metric for assessing enterprise profitability and comparing performance across traders and seasons. Such analysis also highlights major cost drivers purchase price volatility, post-harvest losses, transportation inefficiencies, and informal market charges that erode returns and constrain retailers' ability to invest in storage, bulk procurement, or quality improvements. For smallholder retailers in Oron, where capital constraints and limited formal credit access are common, understanding gross margins is essential for designing interventions that enhance income stability and food-supply resilience.

Despite the importance of crayfish trading in Akwa Ibom State, rigorous empirical studies quantifying retail profitability in key hubs like Oron are scarce. Existing literature tends to emphasise production and processing stages (e.g., Chinasa, Nnanna, & Ekene, 2017), with less attention to retail dynamics where profit margins, seasonal price transmission, and trader coping strategies directly affect incomes and consumer prices. This knowledge gap weakens evidence-based decision making: without accurate gross margin estimates and a detailed breakdown of cost components, development actors cannot reliably prioritise interventions or estimate their benefits. For example, investments in communal storage might reduce spoilage, but the scale of gains for retailers is unclear; likewise, promoting cooperatives assumes bulk-purchase advantages that have not been demonstrated for Oron. Heterogeneity among retailers—by scale, gender, or marketing strategy—means one-size-fits-all policies risk missing the most vulnerable or the biggest efficiency opportunities. The lack of seasonally disaggregated data further conceals how lean-season constraints affect margins and livelihood resilience.

Consequently, a systematic gross margin analysis is urgently needed to quantify profitability, disaggregate costs, and identify the operational and socio-economic factors driving variation in returns among crayfish retailers in the Oron business cluster. In order to address this gap, the following objectives were pursued: describe the socio-economic profile of crayfish retail marketers; analyze the cost and returns of crayfish retail marketing; examine the determinants of profitability in crayfish retail marketing and identify the constraints militating against crayfish retail marketing in the study area.



LITERATURE REVIEW

Esheya (2023) examined profitability in crayfish marketing across the South–South region of Nigeria. The study aimed to measure the profitability of crayfish trading, identify factors influencing marketers' gross margins, and document the main constraints facing traders. Using a multi-stage sampling approach, data were collected from 120 respondents via a structured questionnaire. Analysis included gross margin calculations, ordinary least squares regression, and a four-point Likert scale for constraint assessment. Results showed a combined gross margin of ₦2,748,650 among the sampled marketers. Significant determinants of gross margin included age, marketing experience, market levies, labor costs, and shop rent.

Okelola, Olabode, Ariyo, Korie and Olowoyo (2019) investigated determinants of crayfish marketing in Uruan Local Government Area, Akwa Ibom State. They surveyed 120 crayfish traders (wholesalers and retailers) using a structured questionnaire and analyzed the data with multiple regression and cost–return techniques. The study found female dominance in the trade (women comprised around 60–71% of traders depending on category). Most respondents farmed on plots between 0.6 and 1.5 hectares, had 10–15 years' experience, and were largely literate. Functional forms (linear and Cobb–Douglas) linked socio-economic characteristics to output; household size and education positively affected marketing efficiency at 1% significance, while marketing experience was positive at the 10% level. Age had a negative but statistically significant effect. Cost–return analysis indicated purchase prices of ₦180,000 per basket from producers and resale prices up to ₦317,650; intermediate purchases and sales showed smaller margins. Benefit–cost ratios were estimated at 1.3 and 1.2 for the two trader categories examined.

Onyeagocha, Lemchi, Komi, and Gbolagun (2019) analyzed crayfish marketing channels, costs, and margins in Rivers State using data from 80 traders (30 wholesalers and 50 retailers) selected through multi-stage sampling from six markets. Combining primary and secondary information on prices and marketing costs, the study identified three marketing channels. Although wholesalers earned profits, they faced higher marketing costs than retailers. Average selling prices ranged from ₦1,279.90/kg to ₦1,834.43/kg. Harvesters received about 28.9% of the consumer price in the retail channel and 16.7% of the net marketing margin in the wholesale channel—levels the authors characterized as inefficient. Major constraints cited were poor access to credit, inadequate storage, and high market levies.

Agom and Okon (2024) assessed socio-economic determinants of output among pond fish farmers in Akwa Ibom State. Using multistage sampling, the authors surveyed 110 pond farmers and applied descriptive statistics and multiple regression analysis. Mean output was 2,290.73 kg, mean feed expenditure ₦664,310.00, and mean labor cost ₦292.60. Respondents averaged 51.7 years of age, household sizes of about six, 8.59 years of schooling, and roughly 10.2 years of production experience; mean stock size was 1,718. Regression results identified farming experience, pond size, labor cost, feed expenditure, and stock size as significant determinants of output.

METHODOLOGY

Study Area

The Oron business cluster is comprised of five Local Government Areas (LGAs) in Akwa Ibom State, namely; Oron, Udung-Uko, Mbo, Urue-Offong/Oruko, and Okobo. The area is located within the Coordinates of 5°3'N and 7°56'E. It is inhabited by the people of Oro, the third largest ethnic group in the state. Its political and economic headquarters is Oron town which is the third largest city in Akwa Ibom state after Uyo and Eket. Lying on the Cross River, the predominant occupation is fishing and farming. Oron is found in the flood plain of South Eastern Nigeria, with the land mainly intersected by numerous streams and tributaries flowing into Cross River. Crayfish is the second largest fishery in the marine/estuarine fisheries in the lower Cross River Basin. Crayfish is used as seasoning in most food prepared in Nigeria. Crayfish marketing seems to be synonymous with “Oron” from where it is exported to other parts of Akwa Ibom state and other states of the federation.



Sampling Frame and Sample Size Determination

Sampling frame

The sampling frame comprised lists of active crayfish retailers obtained from:

- i. Market associations and trader unions.
- ii. Crayfish marketing cooperatives.
- iii. Local government market departments.
- iv. Community leaders and fishing-settlement registers.
- v. Records maintained at selected landing sites and market locations.

The lists were checked for duplication, inactive traders, wholesalers, and traders who were no longer operating in the study area. The resulting register constituted the sampling frame from which respondents were selected.

Sample Size Determination

The study used Cochran's (1963) formula to obtain representative sample from a large population of crayfish harvesters in the study area.

The equation is specified as thus:

$$S_n = \frac{z^2 P(1-P)}{D^2} \text{-----Equation 1}$$

Where:

S_n is the required sample size;

Z is the 95% confidence interval (1.96);

P is the expected proportion of crayfish marketers in the study area;

D is the absolute error or precision at 5% type 1 error

The sample size was obtained as shown in equation 2

$$S_n = \frac{1.96^2(0.940)(1-0.940)}{0.05^2} = 86 \text{-----Equation 2}$$

The sample size was scaled to 96 respondents to provide an adequate number of observations for subgroup comparisons, compensate for possible non-response or unusable questionnaires, and improve the reliability of the regression estimates.

Sampling Technique

A multistage sampling procedure was adopted. In the first stage, three LGAs (Oron, Mbo, and Udung-Uko) were selected through simple random sampling from the five cluster LGAs. In the second stage, comprehensive lists of registered crayfish retailers were compiled in collaboration with local fishing settlement registers, marketing cooperatives and community cooperative leaders across selected landing sites. From these sampling frames, 96 active retailers were systematically selected per LGA using random number tables, yielding a final analytical sample of 96 respondents.



Analytical Technique

Objective 1: To identify the socio-economic profiles of crayfish retail marketers. Descriptive statistics such as frequency count, percentages and means were used.

Objective 2: To analyze the cost and returns of crayfish retail marketing, gross margin analysis was used.

$$\text{Gross Margin} = \text{TR} - \text{TVC}$$

Where

GM = gross margin.

TR = total revenue from crayfish sales.

TVC = total variable cost.

Total revenue is calculated as:

$$\text{TR} = P_y \times Q_y$$

Where:

P_y = selling price per kilogram.

Q_y = quantity of crayfish sold in kilograms.

Total variable cost is:

$$\text{TVC} = C_p + C_t + C_s + C_m + C_{pk} + C_l + C_{sp} + C_o$$

Where:

C_p = purchase cost.

C_t = transportation cost.

C_s = storage cost.

C_m = market charges.

C_{pk} = packaging cost.

C_l = hired labour cost.

C_{sp} = value of spoilage.

C_o = other variable expenses.

Objective 3: To identify the determinants of gross margin in crayfish retail marketing. Multiple regressions technique was utilized to estimate the determinants, the explicit form of the regression is shown below:

$$Y_1 = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + e_i \text{ ----- Eq 3}$$

Y_1 = Gross margin ((₦))

X_1 = Age (years)



X_2 = Marital status (dummy; 1 - married, 0 - otherwise)

X_3 = Household size (numbers)

X_4 = Education (years spent in school)

X_5 = Experience (years)

β_0 = Constant term

β_{1-5} = parameters to be estimated

e_i = error term

Objective 4: To identify the constraints militating against crayfish retail marketing.

The Henry Garrett ranking method (Aleeswari, Merline and Martin, 2018) was adopted. It is a four-step procedure that culminates in deriving the Percentage Position of each of the constraints before they are ranked according to the percentage positions.

It was derived from the formula;

$$\text{Percentage Position} = \frac{100(R_{ij}-0.5)}{N_{ij}} \text{----- Equation 6}$$

Where

R_{ij} = Rank given for the i^{th} variable by the j^{th} respondent

N_{ij} = Number of variables ranked by the respondent.

RESULTS AND DISCUSSION

Socio-Economic Profiles of Crayfish Retailers

The socio-economic characteristics of the crayfish retailers sampled in the Oron business cluster reveal critical human capital dynamics within this coastal trade node, as shown in Table 1. The findings on gender distribution showed that females constituted 100.00% of the surveyed retail marketers. This complete female dominance aligns with earlier findings by Okelola et al. (2019), who noted heavy female participation in crayfish trading across Akwa Ibom State. Women traditionally control artisanal seafood processing and retail distribution networks across Southern Nigeria. The majority of respondents (61.46%) are above 40 years of age, followed by 32.29% in the 31–40 age bracket, yielding a mean age of 44 years. This indicates a mature, economically active workforce with substantial physical capability to navigate coastal retail operations. This mean age is slightly lower than the 51.7 years observed by Agom and Okon (2024) among regional aquaculture producers, highlighting the relatively younger demographic engaging in informal retail trading compared to land-based farming operations.

On the basis of marital Status and household Size, most retailers are married (68.75%), while 27.08% are separated or widowed. The mean household size is 6 individuals, with 56.25% of households having between 5 and 8 members. Okelola et al. (2019) similarly observed that household size positively influences marketing performance, as family members frequently provide low-cost labor for product handling, sorting, and street vending.

The mean marketing experience is 18 years. Nearly half (48.96%) have 10–19 years of trading experience, and 27.08% have over 19 years. High enterprise tenure suggests that marketers have built resilience against seasonal supply fluctuations and spatial market imbalances inherent to marine fisheries. The majority of

traders completed formal education—56.25% achieved secondary education and 39.58% attended primary school. Higher literacy levels assist retailers in price negotiation and informal account-keeping. Furthermore, 100.00% of the respondents belong to a cooperative society. Cooperative membership serves as a fundamental risk-sharing mechanism and informal credit channel where formal banking support is lacking (Levantesi & Piscopo, 2022).

Table 1. Socio-economic Profile of Crayfish Wholesalers in the Study Area

Socio economic Profile	Frequency (n=60)	Percentage (%)
Sex		
Male	0	0
Female	96	100
Age (Mean = 44years)		
20 – 30	6	6.25
31 – 40	31	32.29
Above 40	59	61.46
Marital Status		
Single	4	4.17
Married	66	68.75
Separated/Widowed	26	27.08
Household Size (Mean = 6)		
1 – 4	34	35.42
5 – 8	54	56.25
Above 8	8	8.33
Experience (Mean = 18years)		
1 – 9	23	23.96
10 – 19	47	48.96
Above 19	26	27.08
Education		
No formal education	4	4.17
Primary	38	39.58
Secondary	54	56.25
Cooperative membership		
Yes	96	100
No	0	0

Source: Field survey (2025).

Cost and Returns of Crayfish Retail Marketing

The commercial viability of crayfish retailing in Oron business clusters were evaluated using gross revenue and cost disaggregation. The operational figures reflect an average weekly turnover of one 35 kg bag of crayfish (1,820 kg annually across 52 weeks), as shown in Table 2. Operating costs were overwhelmingly dominated by variable expenses. Purchasing raw crayfish represented the single largest outlay, accounting for ₦10,920,000.00 annually (₦210,000.00 per week or ₦6,000.00 per kg). Auxiliary variable costs such as transportation (₦300/bag) and daily market ticket fees (₦50/day)—each accounted for ₦62,400.00 annually (₦1,200.00 weekly or ₦34.29 per kg).



Fixed expenses were minimal, consisting solely of annual store rental fees averaging ₦35,000.00 per year (₦673.08 per week or ₦19.23 per kg). The low fixed capital commitment lowers entry barriers into the retail sub-sector, enabling smallholder traders to operate with flexible overheads. Retailers generated an annual total revenue of ₦12,740,000.00 by selling crayfish at a retail price of ₦7,000.00 per kg (₦245,000.00 weekly). Deducting total costs (₦11,079,800.00) yields an annual net revenue of ₦1,660,200.00 (₦31,926.92 per week or ₦912.19 net gross margin per kg). These figures corroborate the broader regional findings of Esheya (2023) and Onyeagocha et al. (2019), confirming that small-scale crayfish marketing in the South–South region yields positive financial returns and serves as a sustainable source of livelihood income

Table 2. Fixed and variable cost of crayfish retailers

Item Description	Annual (N)	Per Week (N)	Per Kg of Crayfish (N)
Variable Cost*			
Crayfish	10,920,000.00	210,000.00	6,000.00
Transportation (N300/bag)	62,400.00	1,200.00	34.29
Ticket Fee (N50/daily)	62,400.00	1,200.00	34.29
Fixed Cost			
Store (Annual Rental)	35,000.00	673.08	19.23
Retailer's Cost	11,079,800.00	213,083.08	6,078.81
Total Revenue	12,740,000.00	245,000.00	7,000.00
Net Revenue	1,660,200.00	31,926.92	912.19

* Based on average purchase of one bags (35kg of crayfish) per week.

Source: Field Survey, 2025

Determinants of Gross Margin in Crayfish Wholesale Marketing

Four functional regression models (Linear, Semi-Log, Double-Log, and Exponential) were fitted to estimate the relationship between socio-economic attributes and gross margin, as shown in Table 3. Based on econometric criteria—specifically the highest R^2 value (0.622) among the statistically robust specifications—the Semi-Log functional form serves as the lead equation for empirical interpretation.

The lead model yields a coefficient of determination R^2 of 0.622, indicating that approximately 62.2% of the total variation in gross margin among retail marketers is explained by the socio-economic variables in the model. The coefficient for age is negative (-1.055) and statistically significant at the 1% level ($p < 0.01$). This inverse relationship indicates that older retailers record gross margins compared to younger counterparts. This finding corroborates Okelola et al. (2019), who similarly reported a negative effect of age on crayfish marketing efficiency, attributing it to declining physical stamina required to source, transport, and aggressively market perishable seafood.

Experience exerts a positive coefficient (0.643) that is statistically significant at the 1% level ($p < 0.01$). This demonstrates that longer tenure in crayfish trading substantially improves profit margins. Experienced marketers possess better market intelligence, stronger wholesale supplier networks, and superior price-forecasting ability during seasonal supply fluctuations. This result aligns with empirical observations by Okelola et al. (2019) and Agom and Okon (2024), who confirmed experience as a primary determinant of economic performance in aquatic food marketing and production.

Table 3: Regression results on determinants of sale by retailers

Variable	Linear	Semi-Log	Double Log	Exponential
Constant	0.178	0.536	2.412	4.837
<i>t-value</i>	(1.359)***	(1.869)***	(3.578)*	(7.952)*
Age	-0.356	-1.055	-0.35	-0.175
<i>t-value</i>	(-0.240)**	(-2.536)**	(-3.604)**	(-2.125)**
Marital Status	0.14	0.075	0.041	0.058
<i>t-value</i>	-0.928	-0.485	-0.41	-1.786
Household Size	0.108	0.01	0.141	0.036
<i>t-value</i>	-0.792	-0.159	-0.326	-0.388
Education	0.078	0.519	0.002	0.344
<i>t-value</i>	-0.832	-0.591	-0.018	-0.915
Experience	0.386	0.643	-0.449	0.109
<i>t-value</i>	(-4.036)	(3.582)*	(-2.178)	(1.336)*
R	0.661	0.727	0.624	0.714
R²	0.542	0.622	0.523	0.618

*, ** and *** - Significant at the 10%, 5% and 1% levels respectively.

Source: Computed from field data, 2025

Constraints Militating against Crayfish Harvesting

Using the Henry Garrett ranking technique, operational constraints were prioritized based on their average severity scores to identify the primary factors impeding retail performance in the Oron business cluster, as presented in Table 4. The most severe hurdle identified by traders is the high cost or complete lack of operating capital, which ranked 1st with a mean score of 63.1. Procuring crayfish requires substantial liquid capital given that a single bag costs approximately ₦210,000.00. Because formal banking institutions rarely extend credit to smallholder traders without collateral (Falola, Mukaila & Abdulhamid, 2022), retailers are forced to rely heavily on constrained personal savings or small cooperative loans, severely limiting their purchasing capacity and scale of enterprise.

Physical market infrastructure constraints also pose significant challenges, as difficulty in obtaining market stores ranked 2nd (mean score = 58.3) and the high cost of market stores ranked 3rd (mean score = 57.8). Space scarcity within organized trading zones in the Oron cluster restricts expansion and forces many smallholder retailers into informal, exposed roadside spots. For those who manage to secure dedicated stalls, high rental prices consume a notable portion of their fixed budget relative to their operating margins.

Operational overhead is further aggravated by too many and high market fees, which ranked 4th with a mean score of 53.6. Multiple ticket levies imposed daily by municipal councils, task forces, and local market unions continuously chip away at the traders' net revenue. This financial pressure is compounded by strong competition among retailers (ranked 5th, mean score = 50.4), where high trader concentration in the cluster creates price undercutting and compresses gross profit margins.

Environmental and market dynamics further constrain retail operations. Seasonal availability of the product ranked 6th with a mean score of 41.7, driven by supply fluctuations between high dry-season harvests and severe rainy-season catch reductions. Consequently, spoilage of shrimp/crayfish in storage ranked 7th (mean score = 40.7), as inadequate post-harvest storage facilities lead to moisture absorption, insect infestation, and quality loss during periods of slow inventory turnover. Finally, the superior bargaining power of primary



wholesalers ranked 8th (mean score = 38.6), reflecting the structural leverage that landing-site bulk distributors maintain over small-scale retailers during price negotiations.

Table 4: Ranking of constraints of retailers in the crayfish value chain.

Rank	Constraint	Total Score	Average Score
1st	High/Lack of operating capital	6,056	63.1
2nd	Difficulty in obtaining market stores	5,596	58.3
3rd	High cost of market stores	5,552	57.8
4th	Too many/High market fees	5,148	53.6
5th	Strong competition among retailers	4,804	50.4
6th	Seasonal availability of product	4,004	41.7
7th	Spoilage of shrimp in storage	3,910	40.7
8th	Superior bargaining power of primary wholesalers	3,709	38.6

Source: Computed from field data, 2025

CONCLUSION

This study evaluated the economic performance, profit determinants, and operational challenges facing crayfish retail marketers in the Oron business cluster of Akwa Ibom State, Nigeria. The empirical findings confirm that crayfish retail trading is an exclusively female-dominated, highly experienced, and financially viable enterprise within the coastal seafood value chain. Marketers generate a positive annual net revenue of ₦1,660,200.00 (or ₦912.19 per kilogram sold), demonstrating that smallholder crayfish retailing serves as a sustainable source of household income and livelihood support. The cost structure reveals that variable expenditures—specifically the wholesale procurement price of crayfish—constitute the overwhelming majority of total operational outlay, while fixed capital requirements remain minimal. Econometric analysis using the lead Semi-Log regression model demonstrated that marketing experience positively and significantly drives gross margins, whereas age exerts a negative and significant influence, indicating higher efficiency among younger, highly experienced retailers. Despite its commercial viability, the retail sub-sector is heavily constrained by structural bottlenecks. High procurement costs coupled with a severe lack of formal operating capital, difficulties in accessing affordable market stalls, multiple ticket levies, strong intra-retailer competition, and post-harvest storage spoilage hinder business expansion and erode retail margins. Addressing these systemic challenges is vital for enhancing enterprise profitability, market integration, and seafood supply chain resilience across Akwa Ibom State and neighboring consuming regions.

RECOMMENDATIONS

Based on the empirical findings and identified constraints of the study, the following actionable policy and practical recommendations are proffered:

1. Given that high procurement cost (₦210,000/bag) and lack of operating capital were identified as the leading constraints (Rank 1st), financial institutions, microfinance banks, and state intervention agencies (such as the Akwa Ibom State Enterprise Development Agency) should design concessionary, low-interest micro-credit facilities specifically tailored for female seafood marketers.
2. Since 100% of the retailers belong to cooperative societies, these groups should be leveraged to institutionalize revolving loan schemes, group-bargaining mechanisms, and bulk-purchase arrangements directly from primary landing sites. Bulk procurement through cooperatives can help lower per-unit purchase costs and reduce the price leverage maintained by primary wholesalers.
3. Local Government Authorities (LGAs) across the Oron business cluster (Oron, Udu-Uko, Mbo, Urue-Offong/Oruko, and Okobo) should construct dedicated, affordable, and well-organized retail



stalls. This will address the high cost and difficulty of obtaining market stores (Ranks 2nd and 3rd) and reduce informal roadside trading.

4. To alleviate the financial strain caused by multiple market ticket fees (Rank 4th), municipal councils and trade unions should harmonize all daily taxes and levies into a single, transparent, and affordable periodic fee. Eliminating illegal task-force collections will directly improve retailers' net profit margins.

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