**Financial Performance of Wood Marketing and Family Agroforest Business in Delta State, Nigeria**

**Abstract**

The Nigerian forestry sector plays a significant role in rural development. This study focused on evaluating the financial performance of wood marketing and its effect on the survival of family agroforest business in Delta State. Both multistage and purposive sampling techniques were used to draw samples from the different wood markets in the State capital with the aid of structured questionnaires. Mean age of wood marketers was 51 years, majority were males (90%), with an average household size of 7 persons and only 30 per cent had a tertiary education. Budgetary analysis showed that wood marketing is profitable, with an annual net profit of ₦879,026.80, a Rate of Return on Investment, RORI of 42.9 per cent and a current ratio of 2.9, indicating liquidity. The R2 of 0.537 (54%) shows that the financial performance indicators were able to predict the survival of family wood business by 54% with rate of return on investment (β = 0.610; p<0.01) and net profit (β = 0.822; p<0.01) positive and statistically significant at 1% probability level. The study revealed that the cost of energy and power was the most serious constraint faced by wood marketers in the study area. Wood marketing in the study area was profitable, and the key financial performance indicators that impacted survival were the rate of return on investment and net profit. This translates to a positive impact on the livelihood of families engaged in the business.

**Key Words: Financial performance, Family Business, Wood Marketing, Agroforest, Survival**

**1.0 Introduction**

In Nigeria, the forestry sector offers employment opportunities for many individuals. Additionally, it plays a variety of vital roles in rural development through provision of food and fodder, medicine, fuel wood, timber, game and wildlife and raw materials for industries (Idumah et al., 2020). As a fundamental forest product, wood has a variety of uses including paper, lumber, fuel and construction materials, (Agbugba et al, 2013). Nigeria has therefore profited greatly from forests and forest products, concerning trading in wood and wood products and this has contributed immensely to the Nigerian economy both in exports and also domestically as a source of raw materials to wood-based industries like furniture, match, pulp and paper, and the saw-milling industries etc. (Idumah and Awe, 2017).

The wood industry ranks among the highest revenue and employment generating sectors in Nigeria and has contributed significantly to its socio–economic development, (Idumah et al., 2020). It has also been a major contributor to the national gross domestic product (GDP) (Ofoegbu, 2014). Kalu and Okojie (2009) observed that the forestry sector contributes at least two-thirds of the GDP in addition to employing thousands of Nigerians in the 1970s, while Bichi (2011) affirmed that wood trade is profitable and thus a formidable tool for poverty alleviation. The export value earnings from wood are obtained from products like log, sawn wood, veneer and pulpwood (Kalu and Okojie, 2009). Sawn wood is used for numerous purposes throughout the country, Out of the semi processed and processed wood categories, sawn-wood has the highest production and demand and it is the most widely distributed in Nigeria, making its price a fundamental pre–requisite for socio-economic development in the country, (Aiyeloja, et al., 2013). The demand for sawn wood in Nigeria is estimated at 200,000 m3 per annum (Oladele et al., 2017).

The abundant nature of wood has made it a valuable material in every stage of human development such as building construction, marine and sea applications, railway, domestic appliances and musical instruments (Aiyeloja, et al., 2013). Wood marketing like every other marketing enterprise involves the exchange between a buyer and a seller at a given price (Fuwape, 2005). The price is such that the seller meets the total cost as well as profit margin hence, it is the sum total of all business actions involved in the movement of commodities from point of production until the commodities are received by the ultimate consumer (Olukosi, and Isitor, 1990).

In Nigeria, the forest output markets, as with her other African neighboring countries are characterized by poor transport networks, inadequate capital, high handling costs, inadequate market information systems, weak bargaining power of farmers as well as underdeveloped industrial sectors as observed by Delorme et al., (2012). Most forest products in Nigeria are faced the challenge of poor information concerning market conduct, structure and performance and Delta State is no exception. As a result, there has been a decrease in revenue from wood marketing. Given these mounting constraints, one is left to wonder if can sustain the livelihood of families that are engaged in the business. This study therefore, focused on the evaluation of the financial performance of wood marketing together with its effect on the survival of family agroforest business in Oshimili South Local Government Area, Delta State. This will provide potential investors and stakeholders with proper knowledge of the wood market business. It will also add to the existing body of knowledge on wood marketing.

**2.0 Methodology**

**2.1 Study Area**

The research was conducted in Oshimili South Local Government Area of Delta State, Nigeria. It covers an area of 5,776 km with a population of 149,603 people (NPC, 2006). It lies between latitude 6°12N of the equator and longitude 6°43E and is located in the North of the State, with annual rainfall of about 206.5 cm and 190.5 cm in the coastal area. The temperature ranges between 28°C and 34°C but 31°C on average. Main occupation of the people are farming, fishing and hunting (Delta Association of Chamber of Commerce, Industry, Mines and Agriculture, 2018). The local government is made up three communities, namely; Asaba, Okwe and Oko.

**2.2 Sampling Technique**

A multi-stage sampling was adopted for the study. The three (3) main communities that make up the local government under study were purposively selected in the first stage for equitable representation. In the second stage, one major wood market was purposively selected from each of the three communities giving rise to three wood markets in total. In the third stage, 20 wood marketers were randomly drawn from each of the three wood markets, giving rise to 60 respondents. Well-structured questionnaire was used to collect primary data, which was evaluated using budgetary analysis for objective (i), ordinary least square regression for objective (ii) and a 4-point Likert type scale for objective (iii).

**2.3 Model Specification**

1. **Financial Performance**

The various financial performance indicators as used by Babatunde (2019); Aditya and Ashok (2016); Aiyeloja, (2013); Odum, Ugwuja and Ikenga (2024) were adopted for this study. The financial performance indicators are;

1. Current Ratio (CR) = $\frac{Current assets}{Current liabilities}$……………………………………………… (1)
2. Rate of Return on Investment (RORI) = $\frac{Total Revenue-Total Cost}{Total Cost} x \frac{100}{1}………. (2)$
3. Net Profit (NP) = Total Revenue - Total Cost
4. **Ordinary Least Square (OLS) regression**

This is implicitly specified as;

Y= f(X1, X2, X3)………………………….(3)

The model is explicitly presented and tested in four functional models:

1. Linear model

 Y = b0 +b1 X1 +b2 X2 +b3 X3 + e

2. Semilog

 Y= logb0 +b1 logX1 +b2 logX2 +b3 logX3 + e

3. Double log

 Log Y = logb0 +b1 logx1 +b2 logX2 +b3 logX3 + e

4. Exponential

 Logy = b0 +b1 X1 +b2 X2 +b3 X3 +b3 X3 + e

Where Y= survival (years)

X1 = Current Ratio

X2 = Rate of Return on Investment

X3 = Net Profit

bo = constant

b1 – b3 = coefficients

e = error term

**3.0 Results and Discussion**

**3.1** **Demographic Features of Wood Marketers**

The results of the demographic characteristics of the wood marketers is presented in Table 1.

Age distribution: A larger proportion (53.2%) of wood marketers were between the age of 31 to 50 years, the active age group with 51 years as the mean age. This indicates that relatively older people are involved in the wood marketing business than younger people in the study area. This also has positive implications for the laborious nature of the wood marketing business. Result is in agreement with Olugbire et al. (2016) and Gbigbi et al (2024).

Gender distribution: 90.0 per cent of the wood marketers were males and 10.0 per cent were females, indicating that wood marketing in the area is male-dominated. This is in agreement with a prori expectation and Aremu et al., (2015).

Educational Level: Education is a characteristic that is supposed to have a positive impact on financial performance as well as survival of wood marketing business. It is expected that higher educational level contributes to better management of resources and market information utilization. 25.0 per cent had primary education, 26.7per cent had secondary school education, 18.3 per cent had no formal education and 30.0 per cent had tertiary education, showing that 56.7% of wood marketers attained secondary education and tertiary education.

 Marital status: Majority of the respondents were married (65%). This implies stability and responsibility to meet with livelihood demands of family members.

Household size: The mean household size was 7 persons, a relatively large household size. This result supports the opinion of Olukosi and Erhabor (2004) who stated that marketing activities are labour-intensive and large households can provide labour at least or no cost.

Nature of business: Wood marketers operated as wholesalers (30%), retailers (50%) and both (20.0%).

Year of establishment: Result shows that most wood businesses (46.6%) were established between 9-10 years ago, 38.3% were set-up between 7 – 9 years ago while 10.0% and 5.0% were set up between 4 – 6 years and 1 – 3 years ago respectively. Ten years and above indicates experience which is a necessary ingredient for valuable decision-making. This confirms the study of Babatunde (2019) who stated that majority of wood marketers have been in the business for more than 9 years.

**Table 1. Demographic characteristics of wood marketers**

|  |  |  |  |
| --- | --- | --- | --- |
| Variable  | Frequency  | Percent (%) | Mean  |
| Age  |  |  |  |
| 19 – 30 | 10 | 16.8 | 51 years |
| 31 – 50 | 32 | 53.2 |  |
| 51 and above | 18 | 30.0 |  |
| Gender |  |  |  |
| Male | 54 | 90.0 |  |
| Female | 6 | 10.0 |  |
| Marital Status |  |  |  |
| Single | 12 | 20.0 |  |
| Married | 39 | 65.0 |  |
| Widowed | 4 | 6.7 |  |
| Divorced | 5 | 8.3 |  |
| Education |  |  |  |
| No Formal Education | 11 | 18.3 |  |
| Primary | 15 | 25.0 |  |
| Secondary | 16 | 26.7 |  |
| Tertiary | 18 | 30.0 |  |
| Household size |  |  |  |
| 2 – 5 persons | 22 | 36.7 | 7 persons |
| 6 – 10 persons | 28 | 46.6 |  |
| 10 and above | 10 | 16.7 |  |
| Year of establishment |  |  |  |
| 1 – 3 years | 3 | 5.0 | 8 years |
| 4 – 6 years | 6 | 10.0 |  |
| 7 – 9 years | 23 | 38.3 |  |
| 10 years and above | 28 | 46.6 |  |
| Nature of business |  |  |  |
| Wholesale | 18 | 30.0 |  |
| Retail | 30 | 50.0 |  |
| Both wholesale and retail | 12 | 20.0 |  |

**3.2 Average annual financial performance of family wood marketing**

The result of the average annual financial performance of family wood marketing in the area is shown in Table 2. The various cost variables examined in the study were unprocessed logs, transportation, labour, taxes, processing cost, fuel and power, maintenance and membership dues. While the fixed cost variables were the saw machine, diesel engine, depreciation on the saw machine, depreciation on generating set and rent. The estimation showed that the average total variable cost was ₦**1,382,001.3**; the fixed cost total was ₦**668,605,** which summed up to ₦2,050,606.30 as total cost. The average annual revenue was ₦2,929,633.10 while the net profit was ₦879,026.80. The result further showed that the average annual current ratio was 2.9, meaning that the wood business can pay its current debts or obligations since it is greater than 1. The rate of return on investment, (RORI) was 42.9% which indicates profitability as the business can generate 42.9% its total cost annually. This result agrees with the report of Babatunde *et al.,* (2007) who reported that wood marketing is profitable with great economic efficiency. This result also confirms Aiyeloja et al., (2013), who stated that the wood business is a profitable venture.

**Table 2. Average annual financial performance of family wood marketing**

|  |  |  |  |
| --- | --- | --- | --- |
| Items  | Quantity  | Unit price (₦) | Amount (₦) |
| Unprocessed wood logs | 128 | 4,962.7 | 635,221 |
| Transportation |  |  | 152,946 |
| Labour | 3 | 26,246.8 | 78,740.5 |
| Taxes |  |  | 31,094.7 |
| Processing cost |  |  | 213,498.1 |
| Fuel and power |  |  | 201,843 |
| Maintenance |  |  | 62,118 |
| Membership due |  |  | 6,540 |
| Total variable cost |  |  | **1,382,001.3** |
| Saw machine | 2 | 105,000 | 210,000 |
| Diesel engine | 1 | 176,430 | 176,430 |
| Depreciation on saw machine |  |  | 21,000 |
| Depreciation on generating set |  |  | 17,430 |
| Rent |  |  | 243,745 |
| Total fixed cost | **12 months** |  **55,717.1**  | **668,605** |
| Total cost | **12 months** |  **170,883.9**  | **2,050,606.3** |
| Total revenue | 12 months |  244,136.1  | 2,929,633.1 |
| Net profit | 12 months |  73,252.2  | 879,026.8 |
| \*Current ratio |  |  | 2.9 |
| Rate of return on investment |  |  | 42.9% |

**\*Assets and Liabilities**

**Current Assets**

Unprocessed log 635,221

Accounts receivables (credit sales) 82,350

**Total Current Assets 717,571**

**Current Liabilities**

Taxes 31,094.7

Membership Due 6,540

Accounts Payable (Processing cost) 213,132.8

**Total Current Liabilities 251,132.8**

**3.3 Effect of financial performance on survival of family wood business**

Table 3 presents the result on the effect of financial performance on survival of family wood marketing in the study area. Data was fitted into four (4) different functional forms. Based on the normal econometric and statistical criteria, the double log model gave the coefficient of multiple determination of 0.537 and was selected as the lead equation and used for presenting the result. Current ratio (X1): This liquidity measure was not statistically significant in any of the models, suggesting that liquidity, by itself, does not have a meaningful impact on the survival of family wood businesses in this context. The t-value (1.180) for the current ratio is well below the critical threshold for statistical significance, and its coefficient was relatively small, further supporting this conclusion. This result does not, by any chance, take away the importance of the current ratio as a very important financial indicator of liquidity and the capacity of a business (with a healthy current ratio), to pay its immediate financial obligations.

Rate of Return on Investment, RoRI, (X2): This variable was a statistically significant predictor of family wood business survival, with t-values of 4.195 and highly significant at 1% level (p < 0.01), implying that increase in return on investment has a positive correlation with survival of family wood business.

Net Profit, (X3): This variable was equally statistically significant at 1% level (p < 0.01), with a t-value of 7.125, even more significant than the RoRI, suggesting that it is positively correlated with an extended survival of the family wood business. Specifically, a 1% increase in net profit is associated with a 0.82% increase in wood marketing business survival.

These findings underscore the importance of profitability and return on investment in ensuring the long-term success of family businesses in the wood marketing sector.

The R2 of 0.537 (54%) shows that the financial performance indicators were able to predict the survival of the family wood business by 54%. The adjusted R2 of 0.461 indicated that 46% of the variance in the survival of the family wood business was accounted for by the financial performance indicators of the business.

This result is in line with that of Aiyeloja *et al.* (2013), who reported that the survival of wood marketing is positively correlated with its financial performance.

**Table 3. Effect of financial performance on the survival of the family wood business**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Variable |  | Linear  | Double log  | Exponential | Semi-log |
| Constant | Beta Coeff | 5.114 | 0.043 | 0.000 | 0.545 |
|  | t-value | 6.946\*\*\* | 6.447\*\*\* | 6.346\*\*\* | 3.898\*\*\* |
| Current ratio (X1) | Beta Coeff | 1.995 | 0.136 | 0.038 | 0.700 |
|  | t-value | 0.462 | 1.180 | 0.879 | 1.221 |
| RORI (X2) | Beta Coeff | 6.403 | 0.610 | 0.003 | 8.425 |
|  | t-value | 1.662 | 4.195\*\*\* | 1.275 | 1.599 |
| Net profit (X3) | Beta Coeff | 0.535 | 0.822 | 0.036 | 1.871 |
|  | t-value | 1.105 | 7.125\*\*\* | 1.442 | 1.770 |
| R2 |  | 0.441 | 0.537 | 0.318 | 0.319 |
| Adjusted R2 |  | 0.382 | 0.461 | 0.265 | 0.274 |
| F-ratio |  | 6.113\*\*\* | 8.895\*\*\* | 6.632\*\*\* | 6.782\*\*\* |

**3.4 Constraints to family wood marketing**

The various constraints connected with wood marketing is shown in Table 4. Constraints were analyzed by matching the calculated mean scores of the variables with the critical mean of 2.50 obtained using a 4-point Likert type scale. Three (3) of the four (4) constraints examined in the study were found to be serious constraints. These constraints include; high cost of energy and power (mean = 3.0), inadequate credit facilities (mean = 2.9) and high transportation cost (mean = 2.6). Among the serious constraints examined in the study, high cost of energy and power was found to be the most serious limitation in the study area. This is due to inconsistency in the supply of power, estimated electricity tariff and the high cost of buying diesel and petrol to run their machines. In line with this study, Akanni and Adetayo (2011) stated that access to credit facilities and high cost of energy affected the sawmilling timber industries in Nigeria.

**Table 4. Constraints to family wood marketing**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Constraints  | VS (4) | S (3) | FS (2) | NS (1) | Score  | Mean  | Remark  |
| Inadequate facilities in market | 9 (15.0) | 12 (20.0) | 4 (6.7) | 35 (58.3) | 115 | 1.9 | Disagree |
| High cost of energy and power  | 26 (43.3) | 14 (23.3) | 11 (18.3) | 9 (15.0) | 177 | 3.0 | Agree |
| Inadequate credit facilities | 17 (28.3) | 26 (43.3) | 13 (21.7) | 4 (6.7) | 176 | 2.9 | Agree |
| High transportation cost | 13 (21.7) | 22 (36.7) | 15 (25.0) | 10 (16.7) | 158 | 2.6 | Agree |

Note: VS = Very Serious, S = Serious, FS = Fairly Serious, NS = Not Serious

Mean ≥ 2.5 = Serious; < 2.5 = Not Serious

**4.1 Conclusion**

This study examined the impact of financial performance indicators, namely: current ratio, rate of return on investment (RORI), and net profit, on the survival of family wood business in Delta State, Nigeria. Using four functional regression models, the Double-log model emerged the most robust, explaining over half (54%) of the variation in wood business survival. The findings indicate that net profit and rate of return on investment are statistically significant predictors of business longevity, whereas the current ratio (which is a measure of liquidity) does not significantly influence survival. These results highlight the importance of profitability and efficient investment strategies in ensuring the sustainability of family-owned wood business. It suggests that, while liquidity is essential for short-term operations, long-term survival depends more on the ability to generate and reinvest profits effectively.

Socioeconomic variables showed that wood marketing is a business for adults and is male-dominated. The majority were married with a mean household size of 7 persons, the majority had secondary and tertiary education and have been in business for upwards of 10 years, operating both as wholesalers and retailers.

This study has shown that wood marketing has great prospects for sustaining livelihoods by serving as an alternative source of employment in a developing economy such as Nigeria that is saddled with high unemployment rate. The viability of this sector is not in doubt as shown in this study. Results on financial indicators point out the potential the sector has to increase marketers’ income and consequently, livelihood.

**4.2 Recommendations**

Recommendations were made based on the findings and conclusions drawn from this study.

1. The market equilibrium price and supply levels of the wood business in the study area can be improved on by increase the supply of energy for production processes.
2. Wood marketers should be encouraged to form cooperative societies as a way of access to credit facilities so that they can mobilize sufficient working capital for new businesses.
3. Local government authorities and other stakeholders should engage the marketers with training and workshops that are aimed at producing maximum return at minimal cost, i.e. improved marketing efficiency.
4. The government should invest in tree planting and the regeneration of forests to ensure the sustainability of wood businesses in general.

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