ECONOMICS OF DATE PALM FRUIT (*Phoenix dactylifera* L.) MARKETING IN SELECTED CITIES OF SOUTHWEST NIGERIA

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Abstract
The study evaluated the economics of date palm fruit (Phoenix dactylifera L.) marketing in selected cities of Southwestern Nigeria, including Abeokuta, Akure, and Ado-Ekiti. Data were collected through the administration of a semi-structured questionnaire and interviews with 95 date palm fruit marketers in the study area. The data collected were analyzed using descriptive statistics, gross margin analysis, and multiple regression analysis. The majority (58.00%) of the respondents were below 30 years of age, and 82.00% were male, with 94.00% being married. Most marketers (75.00%) had no formal education, and the Hausa ethnic group dominated the trade, accounting for 67.00% of the respondents. The use of date palm fruit as a sweetener indicates that it is primarily (100%) used for Tiger nut drinks. The study revealed that the marketing of date palm fruit involved wholesalers, retailers and multiple middlemen, which negatively impacted profitability. The average gross margin per annum per marketer was ₦246,560.22 with a gross margin ratio of 0.62, indicating a profitable venture despite the challenges. Socio-economic factors influencing marketers' income included age and gender, which were statistically significant ($p<0.1$). Transportation cost was identified as the major challenge, followed by preservation issues and the monopolistic control of the market by Hausa marketers. The study concluded that date palm fruit marketing has significant economic potential in Southwestern Nigeria; however, market expansion and profitability are hindered by the current marketing structure. Recommendations include establishing central wholesale markets to improve market access and encourage broader market participation across all tribes.

Keywords: Date Palm, Marketing, Profitability

Introduction

Non-timber forest products (NTFPs) are forest-derived resources other than timber, playing a crucial role in the livelihoods of many households in Nigeria (Ogunwusi, 2012). In rural communities, people rely heavily on the collection and marketing of NTFPs for income generation, economic sustenance, improved nutrition, and overall livelihood sustainability (Onyekwelu and Stimm, 2006). Beyond their economic

value, NTFPs also serve as essential sources of food and medicine for rural populations.

One such important NTFP is *Phoenix dactylifera*, commonly known as the date palm, which belongs to the Arecaceae (palm family) and is one of the oldest cultivated fruit-bearing trees. Historical records trace its cultivation back thousands of years, particularly in the arid regions of West Africa, North Africa, the Middle East, and parts of South Asia (Zohary and Hopf, 2000). The tree thrives in arid environments due to its ability to withstand extreme heat and drought. Its deep root system enables it to access groundwater, making it well-suited for desert conditions (Chao and Krueger, 2007). In Nigeria, date palm is predominantly cultivated in the northern region, particularly in states such as Kaduna, Katsina, Kano, and Jigawa, where the climate supports its growth (Terasaki *et al.,* 2023). Its resilience to harsh conditions makes it crucial for food security and sustainability. The date palm is highly valued for its nutritious fruit, which is a staple food in many regions and holds significant economic and cultural importance.

Date palm fruit is a highly nutritious and economically valuable fruit that continues to be an important part of diets worldwide. Nutritionally, date palm fruit is an excellent source of energy, primarily due to its high carbohydrate content, consisting of natural sugars like glucose, fructose, and sucrose. It is also rich in dietary fiber, which aids digestion and promotes gut health (Al-Alawi *et al.,* 2017). Additionally, dates contain essential vitamins and minerals, including potassium, magnesium, iron, and vitamin B6, along with antioxidants that help protect the body from oxidative stress. They are known for boosting energy levels, supporting heart health, improving digestion, and strengthening the immune system (Al-Farsi *et al.,* 2007). Due to their natural sweetness, they are often used as a healthier alternative to refined sugar in baking and cooking. Date palm fruit is highly versatile and can be consumed fresh, dried, or processed into various products such as date syrup, date paste, jams, and confectionery. It is a staple ingredient in many traditional dishes and is also used in beverages, smoothies, and desserts.

In addition to its nutritional and culinary significance, the economic value of date palm fruit is substantial. It is a major commercial commodity in many countries, supporting the livelihoods of millions, with leading producers including Egypt, Saudi Arabia, Iran, Algeria, and Iraq (FAO, 2022). The global demand for dates continues to grow due to its increasing popularity as a superfood and their diverse applications in the food and health industries.

However, its marketing and economics remain unresearched in southwestern

Nigeria, where the market is primarily dominated by the Hausa ethnic group. Despite its profitability in the north, a preliminary survey in the study area showed that its market presence in southwestern Nigeria remains low. This limits wider participation and market expansion, creating the need for further research to explore its marketing potential, profitability, and the factors influencing its trade in southwestern Nigeria.

This study, therefore, evaluated the economics of date palm fruit marketing in selected cities in Southwestern Nigeria by determining and analyzing the distribution channels, examining the socio-economic factors influencing its marketing, and evaluating its profitability. Exploring the marketing and economics of date palm fruit in the study area will contribute to expanding market diversification while promoting date palm fruit as a viable income source.

Methodology Study Area

This study was carried out in Abeokuta, Akure and Ado-Ekiti metropolises in Southwestern Nigeria. The region lies within the tropical rainforest zone, characterized by dense vegetation and abundant biodiversity. The area has a tropical climate with distinct wet and dry seasons. The wet season spans from April to October, while the dry season lasts from November to March, with mean annual rainfall ranging from 1,000 to 3,000 mm. The mean annual temperature ranges between 21°C and 31°C, and relative humidity varies from 35% to 80%.

Abeokuta, Akure, and Ado-Ekiti, the capitals of Ogun, Ondo, and Ekiti States, respectively, were selected for this study due to their cultural, administrative, and economic significance in the region. Abeokuta lies between latitude 7° 9' N and longitude 3° 21' E, approximately 77 km north of Lagos. It has a population of about 700,000 people (NPC, 2022 projected) and a total land area of 879 km². Akure, located on latitude 7° 15' N and longitude 5° 11' E, lies about 250 meters above sea level. The city has a population of approximately 803,062 (NPC, 2022 projected) and serves as an agricultural and administrative center in Ondo State. Ado-Ekiti is situated between latitude 7° 37' N and longitude 5° 13' E, with a population of about 578,749 and a total landmass of approximately 884 km² (NPC, 2022 projected). The city is recognized for its hilly terrain and serene environment.

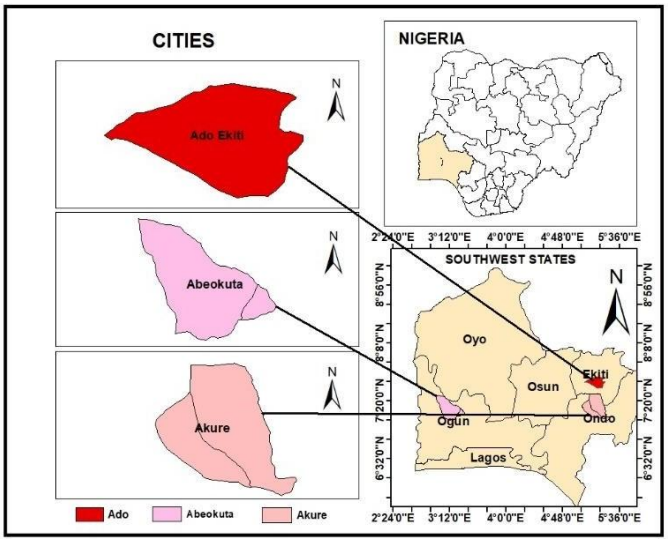

Figure 1: Map of Abeokuta, Akure, and Ado-Ekiti, Nigeria showing the study area.

Sampling Technique

A multi-stage sampling procedure was employed to obtain the sample studied. The first stage involved the convenience sampling of Abeokuta, Akure and Ado-Ekiti metropolises in Southwestern Nigeria. The selection process was based on the availability and easy access to the date palm fruit marketers. The second stage entailed the purposive selection of two major markets in each city, chosen for the relative abundance of the date palm fruit sellers. The third stage involved the use of snowball method to select the respondents, such that a marketer introduced another marketer within the market. In Abeokuta, a total of 42 date palm fruit marketers were studied, while 34 and 19 were studied in Akure and Ado-Ekiti respectively. Thus, a total of 95 date palm fruit marketers were sampled and studied. This sampling procedure was adopted in order to obtain a good representative of date palm fruit marketers. The sampling layout is presented in table 1.

Table 1: Sampling layout

Sampled cities	Markets	No of Respondents
Abeokuta	Lafenwa	24
	Kuto	18
Akure	Isinkan	14
	Shasha	20
Ado-Ekiti	Atikankan	07
	Shasha	12
Total		**95**

Data Collection and Analysis

Data were collected through the use of semi-structured questionnaire and interviews. Data were collected on respondents' background information such as age, gender, level of education, tribe and marital status; marketing information such as sources of date palm fruit sold, quantity sold, cost of purchase and selling price, sources of investment fund; and on problems militating the marketing of date palm fruit.

Data Analysis

The data collected were analyzed using descriptive statistics, including frequency distribution tables and bar charts.

Gross Margin Ratio (GMR)

The marketing margin of date palm fruit was calculated using Gross Margin Ratio (GMR). GMR is the ratio of gross profit to marketing cost to its revenue. It is a marketing profitability ratio measuring what proportion of market revenue is converted into gross profit. It shows gross profit as a percentage of revenue, indicating production efficiency. Higher gross margin means better cost control or low production cost relative to revenue. (Nelson, 2008). The formula for GMR is as expressed below:

$GMR = TR - TVC/TR$ ..... *(i)*

$TR = P * Q$

$TVC = P * X1 + P * X2 + \ldots . P * Xn$

$GMR = P * Q - \frac{(P * X1 + P * X2 + \ldots . . P * Xn)}{P * Q}$

Where: GMR = Gross margin ratio TR = Total revenue

TVC = Total variable cost P = Price

Q = Quantity sold;

X = Marketing inputs (such as labour, transportation and storage)

Percentage mention as used by Arowosoge (2015) was used to rank the problems militating against the marketing of date palm fruit in the study areas.

% mention is as stated below:

$\frac{NTVM}{NIC} X \frac{100}{1}$ ..... *(ii)* Where: NTVM = No of times a variable was mentioned NIC = No of interviews conducted

Regression Analysis

Multiple Regression was used to determine the socio-economic factors influencing respondents' income in the study area. The model is as stated below

$Y=\beta_0 + \beta_1X_1 + \beta_2X_2 + \ldots\ldots\ldots \beta_8X_8 + \varepsilon$ *(iii)*

Where;

Where Y = Dependent variable (Income in Naira);

β_0 = Intercept

B_1-B_n = Regression coefficients

X = Independent variables (Socio-economic characteristics of the respondents in the study area)

The independent variables are:

X_1 = Gender of the farmers (Dummy variable: Male = 1, Female = 0) X_2 = Age of the farmers (in years)

X_3 = Marital Status (Dummy variable: Married = 1, others = 0)

X_4 = Level of Education (Dummy variable: Educated = 1, uneducated = 0) X_5 = Household size (number of members in the house)

X_6 = Marketing experience (in years)

Option Ranking of Constraints Militating the Marketing of Date Palm Fruit.

The problems militating against the marketing of date palm fruit were identified using ordinal ranking. For each constraint, the number of respondents selecting a particular rank was multiplied by the assigned weight, and the result was expressed as a percentage of the maximum possible score. For the six constraint options, respondents were required to assign scores between 1 and 6 in increasing order of importance, while a score of zero was assigned where a constraint was not applicable.

The analysis involved summing the product of the number of respondents for each constraint and the corresponding weight. This total was then expressed as a percentage of the maximum score point. The maximum score point is obtained by multiplying the total number of respondents by the highest point any constraint could receive. A constraint with the highest percentage score is considered the major problem, while those with lower percentage scores are ranked accordingly.

This procedure, as used by Arowosoge and Tee (2010), was adapted from Popoola and Galaudu (2000), and is expressed as follows:

Option ranking =

$$\sum_{k=0}^{n} \frac{FSi}{nSM} \frac{100}{1} \quad \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots \text{(iv)}$$

Where F = Frequency of respondents with the same score for a benefit Si = Respondents' score for a constraint, and it ranges from 1 to 6

nSM = Product of the number of respondents interviewed and the maximum score point of a benefit.

n = Number of respondents interviewed

Results and Discussion Results

Socio-economic characteristics of the Date palm fruit marketers in the study area

The socio-economic characteristics of the respondents are presented in Table 2. The highest percentage (58.00%) of the respondents were below 30 years of age, followed by those between 31-40 years with (30.00%), while the least (1.00%) were 50 years and above. The results showed that majority (82.00%) of the marketers were male, while (18%) were female; (94%) were married and (6.00%) were single. The study also revealed that, majority (75.00%) of the respondent had no formal education, followed by marketers that had primary education with (16 %) those with secondary education were (9.00%) (Figure 2). The Hausa tribe dominated the marketing with (67.00%) followed by Fulani (16.00%) and Igbo (13.00%) while the least (4.00%) was Yoruba (Figure 3).

For experience in date palm fruit marketing, the majority (85%) of the marketers had less than five years of marketing experience, 11% had between six and ten years of experience, while the least proportion (4%) had more than ten years of experience. Furthermore, in the study area, most of the marketers (68%) had household sizes ranging from six to ten persons, followed by those with household sizes of one to five (30%), while only 2% had household sizes between eleven and fifteen persons.

Table 2: Socio-economic characteristics of date palm fruit marketers in the study area

Variable	Frequency n = 95	Percentage %
1. Age (years)		

≤ 30	55	58.00
31 – 40	29	30.00
41 – 50	10	11.00
≥ 50	1	1.00
2. Gender		
Male	53	82.00
Female	12	18.00
3. Marital Status		
Single	6	6.00
Married	89	94.00
4. Years of Experience		
≤ 5	81	85.00
6-10	10	11.00
≥ 10	4	4.00
5. Household Size		
≤ 5	28	30.00
6 – 10	65	68.00
≥ 15	2	2.00

Source: Field survey, 2024.

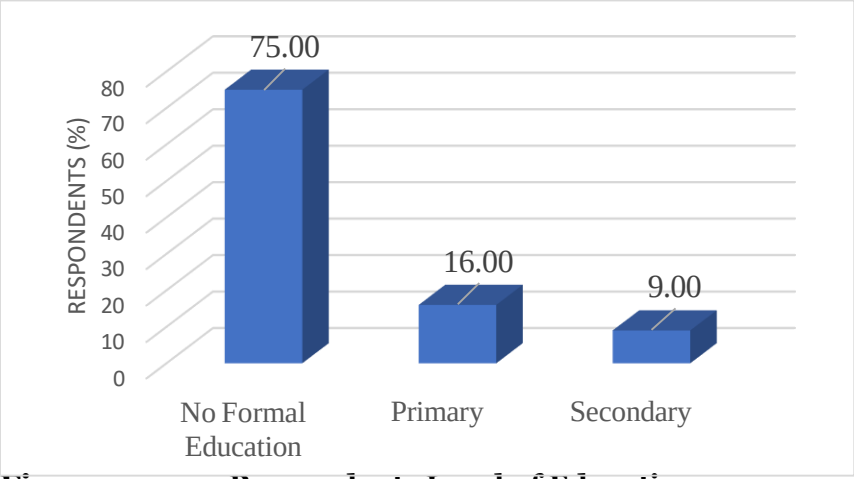

Figure 2: Respondents Level of Education

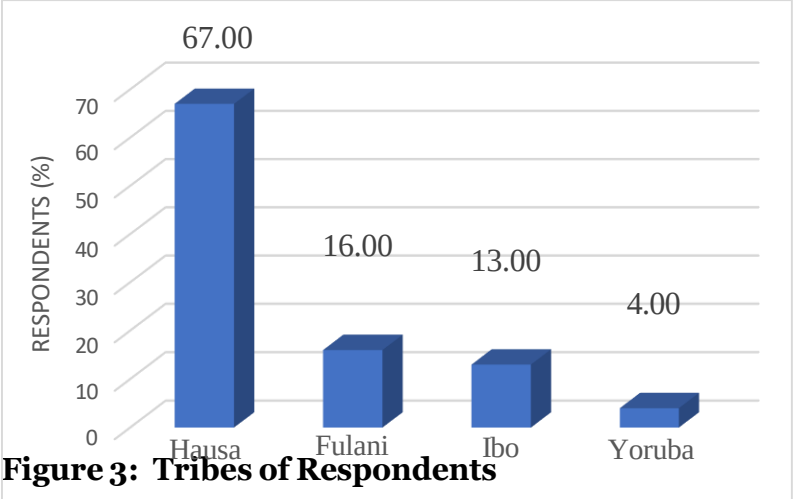

Figure 3: Tribes of Respondents

Stages of involvement in Date palm fruit and other businesses that respondents are engaged in by marketers

The stages at which the respondents were involved in date palm fruit marketing are presented in Table 3. In the study area, the marketing of date palm fruit as retailers ranked first with 100% of all respondents, while marketing as wholesalers ranked second with 9.50%, and the least involvement (2.10%) was in gathering and collection. Other Businesses engaged in by the respondents in the study area showed that general trading ranked 1st with 100%, while farming ranked 2nd with 2.10% and cobbling ranked 3rd with 1.10%

Table 3: Stage of Involvement in date palm fruit marketing and other businesses engaged in by marketers

Variable/ Categories	No of Time Mentioned	% Mention	Rank
1. Stage of Involvement			
Marketing as wholesalers	9(95)	9.50	2nd
Marketing as retailers	95(95)	100.00	1st
Gathering, collection	2(95)	2.10	3rd
2.Other Business			
General Trading (Tiger nut, zobo, sorghum, millet etc)	95(95)	100.00	1st
Farming	2(95)	2.10	2nd
Cobbling	1(95)	1.10	3rd

Note: Figures in brackets are the number of people interviewed
Source: Field survey, 2024.

The utilization of date palm fruit as a sweetener in the study area

The uses of date palm fruit as a sweetener show that it was mostly used for tiger nut drink with (100%), followed by zobo drink (24.20%), while pap food ranked 3rd with (35.80%) as shown in Table 4.

Table 4: Utilization of date palm fruit as a sweetener in the study area

Uses	No of Time Mentioned	% Mention	Rank
Tiger nut drink	95 (95)	100.00	1st
Zobo drink	23(95)	24.20	2nd
Pap food	34(95)	35.80	3rd

Note: Numbers in the brackets are the number of respondents interviewed
Source: Field survey, 2024.

Marketing channels and Categories of marketers for date palm fruit in the study area.

There are five main stages in the marketing of date palm fruit from the source to the final consumer, and the categories of date palm fruit marketers can be grouped into farmers, village merchants/middlemen, wholesalers, and retailers (Figure 4). The village merchants/middlemen serve as intermediaries between the farmers and the wholesalers. These categories of marketers, however, sell at different levels and to different types of buyers.

The first stage involves the farmers in the northern states of Nigeria, such as Katsina, Sokoto, and Jigawa, who gather date palm fruit and sell it mainly to

middlemen and other buyers (wholesalers, retailers, and consumers). There were also cases where farmers leased standing date palm trees to village merchants/middlemen for an agreed period and at a fixed cost. In such arrangements, the village merchants were responsible for harvesting and selling the fruit. These merchants also moved from village to village to purchase date palm fruit and stored it for sale.

The second stage involved the middlemen who sell date palm fruit seed to the wholesalers within and outside the State, and other buyers (retailers and consumers). At the third stage, the wholesalers in the north sell in bulk to wholesalers from the study area. The fourth stage involved the retailers who buy from wholesalers and sell in small quantities to consumers. The consumers formed the fifth and last stage in the marketing channel.

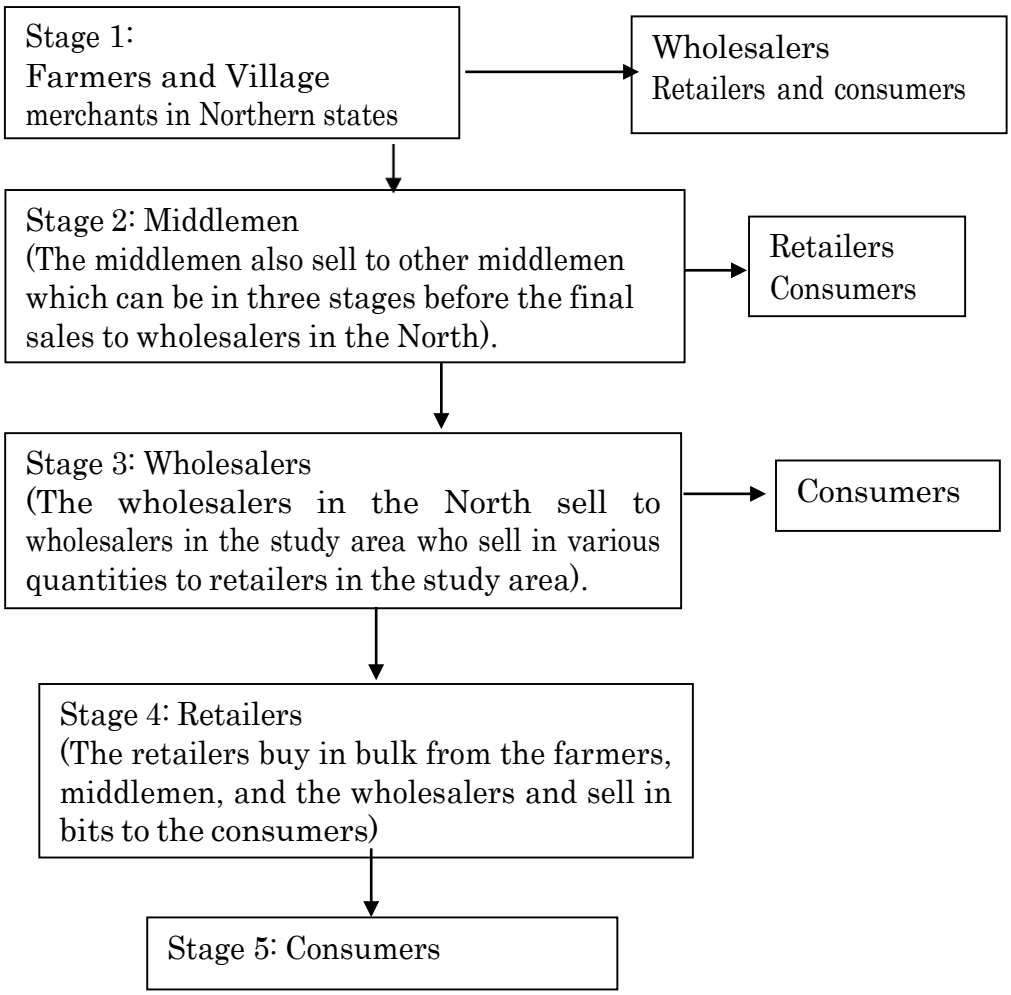

Figure 4: Marketing channel for date palm fruit in the study area Cost and Revenue Estimation from the Marketing of date palm fruit in the Study Area.

Cost components for the marketing of date palm fruit.

The cost components used in estimating the market gross margin ratio for the

marketing of date palm fruit were the variable costs. These include the cost of purchasing date palm fruits, transportation, storage, labour, packaging, and the depreciated value of tools such as wheelbarrows, tables, baskets, and containers, which are fixed costs (Table 5). The fixed costs were depreciated using the straight-line depreciation method to obtain the actual amount spent per year from the fixed cost item.

Table 5: Depreciation value of fixed cost items

Item	No	Total Cost (N)	Average expected life span (Years)	Annual Depreciation (N)
Wheel Barrow	76	520,000.00	8	65,000.00
Table	56	380,000.00	30	12,666.67
Fridge	6	604,312.00	4	151,078.00
Basket	265	134,225.00	1	134,225.00
Knife	115	147,258.00	2	73,629.00
Containers	Lumpsum	895,080.60	7	127,868.66
Total				**564,467.32**

Source: Field survey, 2024.

Estimated Revenue per annum

The revenue obtained from the quantity of date palm fruit marketed in the study area per annum was ₦37,616,790.00 (Table 6). The quantity of date palm fruit sold was 9,587.10kg, while the average selling price were ₦3,800.00, ₦3,950 and ₦4,100.00 per kilogram for Abeokuta, Ado Ekiti and Akure respectively

Table 6: Estimated Revenue for date palm fruit in the study area

Study Area	Quantity sold (kg)	Selling Price (₦)	Revenue
Abeokuta	3,822.40	3,800.00	14,525,120.00
Ado-Ekiti	3,624.00	3,950.00	14,314,800.00
Akure	2,140.70	4,100.00	8,776,870.00
Total	**9,587.10**		**37,616,790.00**

Source: Field survey, 2024.

Gross Margin (GM) per annum

The estimated GM that was used to determine the profitability of date palm fruit in the study area is presented in Table 7. The average gross margin per annum per trader was ₦246,560.22, while the calculated Gross Margin Ratio (GMR) for date palm fruit in the study area was 0.62

Table 7: Cost, Revenue and Gross Margin Ratio per annum

Variable	Amount (₦)
A. REVENUE (₦)	148,587.10
Quantity sold (Kg) Selling price	3,923.69
TOTAL REVENUE (TR)	37,616,808.40
B. COST (₦)	
Date palm fruits	3,968,050.00
Storage	841,055.00
Preservation	295,000.00
Transportation	1,525,000.00
Packaging	180,602.00
Labour	1,300,000.00
Tools depreciation value (Wheelbarrow, and containers, Knife, Basket etc.)	564,467.32
Tax	159,204.00
Sub-Total	8,833,378.32
1% Contingency	5,360,208.91
TOTAL COST (TC)	14,193,587.23
GROSS MARGIN (TR-TC)	23,423,221.17
AVERAGE GROSS MARGIN (GM/95)	246,560.22
GROSS MARGIN RATIO (GM/TR)	0.62

Source: Field survey, 2024

Factors affecting the price of date palm fruit

The factors affecting the price of date palm fruit are presented in Table 8. Transportation ranked first with 100%, season/availability ranked second with 93.70%, preservation ranked third with 84.20%, and demand ranked fourth with 57.90%.

Table 8: Factors affecting the price of date palm fruit

Variable	No of times mentioned	% Mention	Rank
Season/Availability	89(95)	93.70	2nd
Transportation	95(95)	100	1st
Preservation	80(95)	84.20	3rd
Demand	55(95)	57.90	4th

Source: Field survey, 2024.

Note: Figures in brackets are the number of people interviewed

Socio-economic factors influencing marketers of date palm fruit income in the study area and Hypothesis testing

The result on the socio-economic factors influencing marketers' income in the study area is presented in Table 9. The result showed that age and gender were significant ($p < 0.1$) with 0.097 and 0.084 values respectively. Therefore, there is a significant difference between socio economic characteristics of marketers and their income. The null hypothesis is therefore, rejected.

Table 9. Socio-economic factors influencing marketers of date palm fruit income in the study area

Co-efficients[a]

Model	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	T	10% Sig.
(Constant)	52.462	2.123		24.706	.000
Age	-.085	.050	-.229	-1.684	.097 Sig.
Level of Education	-.789	1.367	-.073	-.578	.565 Ns
Gender	1.771	1.010	.212	1.753	.084 Sig.
Marital Status	1.730	1.255	.176	1.378	.172 Ns
Household size	-.270	.247	-.132	-1.092	.279 Ns
Marketing Experience	-.009	.034	-.035	-.251	.803 Ns

Source: Field Survey, 2024.
Ns = not significant Sig. = Significant

Sources of investment fund of date palm fruit marketers.

The sources of investment fund are represented in Table 10. The respondents whose sources of investment were from cooperative was 100%. This was followed by contract arrangement with the seller (83.20%) personal savings from previous business 73.70% is next followed by bank loan with 57.90% and borrowing from friend and relations with 43.20%.

Table 10: Sources of investment fund of date palm fruit marketers

Variable	No of time mentioned	% Mention	Rank
Personal savings from previous business	70(95)	73.7	3rd
Contract arrangement with the seller	79(95)	83.2	2nd
Cooperative	95(95)	100.0	1st
Borrowing from friends and relations	41(95)	43.2	5th
Bank Loan	55(95)	57.9	4th

Source: Field survey, 2024

The major problems militating the marketing of date palm fruit in the study area.

The major problems affecting the marketing of date palm fruit are presented in Table 11. Transportation ranked highest at 81.4% in the study area, followed by preservation at 63.7%. Non-availability ranked third, while low demand ranked fourth with 52.1%. Poor market structure ranked fifth with 37.4%, and price fluctuation was the least-ranked constraint at 36.3%.

Table 11: The major problems militating against the marketing of date palm

fruit in the study area.

Major problem	TS	NSM	RV%
Non availability	327	570(95)	57.4 (3rd)
Preservation	363	570(95)	63.7 (2nd)
Poor market structure	213	570(95)	37.4(5th)
Transportation	464	570(95)	81.4 (1st)
Price Fluctuation	207	570(95)	36.3(6th)
Low demand	297	570(95)	52.1(4th)

TS=Total score, NSM=Maximum score able point, RV=Rank value %
Source: Field survey, 2024.
Note: Figures in brackets are the number of people interviewed

Discussion

Socio-economic characteristics of Date palm fruit marketers in the study area

The socio-economic characteristics of the respondents in the study area revealed that the majority of date palm fruit marketers were young to middle-aged. This corroborates previous research showing that marketing activities are more common among middle-aged individuals (Shane, 2012). In terms of gender, the study showed a significant skew toward male marketers. This is not unexpected, given that date palm fruit is displayed by itinerant hawkers in the study area, which is a physically demanding activity (Obadimu and Obadimu, 2015).

In terms of education, the study showed that most marketers did not have formal education, which may limit their ability to adopt improved marketing strategies. Education is an important determinant of entrepreneurial activities (Jacob *et al.,* 2019), as educated marketers are better able to keep records and gather useful information. The marital distribution showed that most respondents were married, which aligns with the findings of Adedokun *et al.,* (2018) and Arowosoge (2017) that the marketing of most NTFPs is dominated by married individuals who depend on it to sustain their families.

Marketing Channel of date palm fruit in the study area

The marketing channel of date palm fruit revealed that several middlemen are involved between the farmers and wholesalers, while farmers, middlemen, and wholesalers sell at varying prices to consumers. The involvement of multiple middlemen creates an inefficient marketing channel, where wholesalers can still make a profit, but consumers bear the burden of higher prices. Wholesalers are often compelled to sell at elevated prices to cover transportation costs and the margins taken by middlemen. A

dynamic pricing strategy, in which each category of date palm fruit marketers sells to different buyers at varying prices, has also been reported (Mohammad *et al.*, 2020)

Adegeye and Dittoh, (1985) also reported this abnormal marketing channel and identified four classes of middlemen between producers and wholesalers in the marketing channel of goods in Nigeria, with some of them having overlapping functions. They are: farm-gate middlemen, commissioned agents, non-commissioned agents and cooperative marketing agencies.

The profitability of date palm fruit in the study area

The study showed that date palm fruit marketing was economically viable and efficient in the study area, with a relatively high proportion of revenue retained after variable costs. An average gross margin of ₦246,560.22 per marketer obtained in the study area indicates that, after covering all variable costs of marketing, the enterprise generated a net return of ₦246,560.22. This shows that the activity is profitable, as revenue exceeds variable costs by a substantial amount. Marketing of date palm fruit was economically efficient with a gross margin ratio of 0.62 which means that 62 kobo of every ₦1.00 of revenue remains after paying variable costs. In other words, variable costs account for 38% of total revenue, while 62% contributes to covering fixed costs and generating profit.

Conclusion and Recommendation

Date palm fruit marketing generated income for its marketers in Abeokuta, Akure and Ado-Ekiti, with the marketing being predominantly controlled by the Hausa tribe. The enterprise, which was gender-specific and predominantly dominated by males, provided livelihood supports mainly for young men. Several middlemen were involved in the marketing channels between the farmers and the consumers.

Based on the findings of this study, there is a need for all stakeholders to establish a central market for the wholesale of date palm fruit in the study area. This will enable people from different ethnic backgrounds to participate in the marketing date palm fruit, thereby promoting a more inclusive and profitable marketing channel while also creating employment opportunities.

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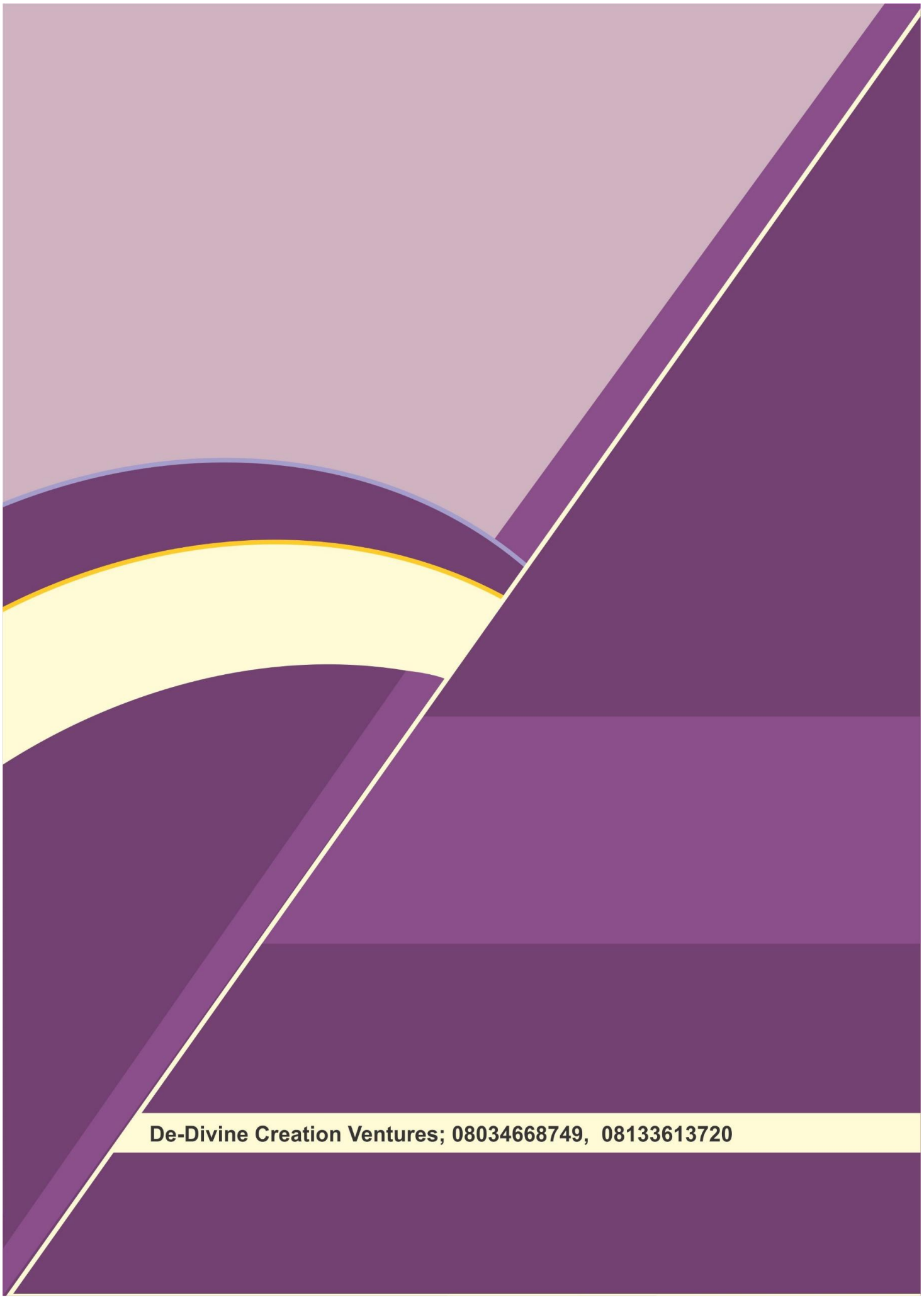
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