Analysis of marketing margin and marketing efficiency of fresh coconut (*Cocos nucifera*) marketing in Onitsha North South LGA, Anambra State, Nigeria

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ABSTRACT

The study examined analysis of marketing margin and marketing efficiency of fresh coconut marketing in Onitsha South LGA, Anambra State, Nigeria. The study specifically described socioeconomic characteristics of coconut marketers, marketing channels and volume of trade among the channels, net returns, marketing conduct and constraints associated with coconut marketing in the study area. Multistage sampling procedures involving purposive and random sampling methods were used to select respondents (marketers) for the study. Findings from socioeconomic characteristics showed that female 63.75% are more in coconut marketing. This implies that the enterprise is gender based in the study area. Findings on marketing channels and volume of trade shows that the fruits has three channel through which it reaches the consumer. The first stage is where producer/supplier sells to intermediate who sales to final consumer which recorded the highest volume of trade (43%) among the channels. Findings on net returns showed that net return per Naira invested was 1.77%. The implication of this is that for every one Naira invested in the enterprise, 1.77k was generated as profit. This implies that coconut marketing is profitable in the study area. Findings on marketing conduct shows that size of coconut (61.25%) was a criteria used as purchase strategies from suppliers. Findings on constraints showed that over stayed coconut is the major constraints. Marketing prices of certain food and fruits should be looked into by government and stakeholders and stakeholders should device a means to carry coconut to minimize wastage associated with transport e.t.c were recommended.

INTRODUCTION

Coconut is one of the most important and useful palms in the world, with Indonesia, Philippines and India respectively ranking as the Topmost producers of coconut in the world. It is fondly referred to as the "tree of life" for its important role in smallholders' livelihoods as a direct source of cash income, nutrition, and materials Okoronji, Nwankwo and Emeghalu (2020). It adapts to many soil types and climates. It resists bad weather conditions and produce continuously from the age of 4 or 7 years to 60 years. Coconut farming is a gold mine because of its wild range of industrial application of most of the products. Coconut can be processed into various products that can be used industrially or as food. Coconut products are used by Pharmaceuticals, Cosmetics, Beverage and in the preparation of delicacies like chocolate, crepes, candy etc. Iheke and Osundu (2012) stated that the goal of marketing of any agricultural products is to ensure that consumers get satisfaction from the entire process of production as well as create benefits to the various participants in the marketing channel. Iheke and Osondu (2012) opined that, a sound and effective marketing system plays a great role in achieving economic growth and prosperous agriculture. They further stated that

an efficient marketing system is the one in which the cost of marketing is minimized and wastage is eliminated and marketing is the critical link between farm production sector, the rural non-farm sector, industry and urban economy.However, despite the potential economic benefits of coconut farming and marketing, challenges abound in the marketing aspect of the coconut value chain. These challenges are diverse and multifaceted, ranging from inadequate marketing infrastructure, high transportation costs, price volatility, and limited access to markets, to name a few (Amusa, Kehinde andJegede. (2016) and Okon, Ekong, andIbok. (2018). These difficulties have led to sub optimal returns for coconut farmers and have hindered the sector's overall growth and contribution to the national economy.

MATERIALS AND METHODS

The study was was carried out in Onitsha South L.G.A, Ana^{0}mbra State, Nigeria. It has an estimated population of 561066 (NPC, 2006). It is located between latitudes 06^0,$07^1 12^1$N and $06^0 9^1 36^1$N and longitude 06^0 $45^1 54^1$E and 06^0 47^1 42^1E covering an area of 36.12Km^2. It is the largest urban city in Anambra State. There are numerous daily markets where agricultural produce are sold . The targeted population was fresh coconut marketers. Purposive and simple random sampling method were used to select 80 marketers namely Ogbo-Oroma market, Lafiaji market, Ose-nku market and Ochanja market due to high volume of trade from these markets. Twenty marketers (respondents) were selected using random sampling from the list of coconut marketers gotten from Local government ADP which form the sample frame. This gave a total of 80 marketers for the study which form the sample size.

Method of data analysis/collection

The objectives of the study were analyzed using descriptive statistics, net returns and relative importance index. Data used were collected through the Primary sources. Primary data were collected using structured questionnaire to the respondents from the list of coconut marketers that constituted the sampling frame for the study.

Population and sampling technique

The study population was made up of all the coconut marketers in Onitsha South LGA, Anambra State Nigeria. Multistage,purposive and simple random techniques were used to select four communities, four daily markets and 20 respondents (marketers) for the study.

Stage one : Four communities were purposive selected from the entire LGA (Woliwo, Fegge, Niger Street and Iweka Road)

Stage two: This involved purposive selection of one daily market with large number of consumers from each of the selected communities for the study (Lafiaji, Ogbo-oroma, Ose-nku, and Ochanja markets).

Stage three: This involved random selection of twenty marketers (respondents) from each of the markets selected earlier making it a total of 80 marketers for the study.

Net Returns

Marketing margin and marketing efficiency models were adopted from Mendoza (1995) as applied by Nkamigbo, Isibor, Obiekwe and Udemba (2023) and are specified as:

NR = TRS-TMC----------(1)

Where, NR= Net returns measured as the difference between the total revenue and the total cost of coconut marketing. TRS= Total Revenue sales which is obtained by calculating the total amount (₦) realized from the sales of coconut, TMC= Total marketing cost is the sum of the total cost incurred in marketing coconut. Marketing margin is one of the indicators usually identified with marketing efficiency, the formula is specified thus:

$$\boldsymbol{M_m = \frac{S_p - P_p}{S_p} \times \frac{100}{1}} \textbf{ = (1)}$$

Where M_m= Marketing margin (₦), S_p= selling price (₦), P_p= Purchase price (₦).

Marketing efficiency describes the movement of goods from producer to consumers at lowest marketing cost consistent with the provision of the services that the consumers' desire and can afford specified as thus:

$$\text{M.E} = \frac{value\ added\ by\ marketing\ (Net\ Return)}{Total\ marketing\ (TMC)} \times \frac{100}{1} = (3)$$

For processors, cost and return analysis were used for profitability, thus NR=TRS-TMC

Constraints to coconut fruits marketing

The respondents were asked to rate the problems the face in coconut marketing from a list of problems complied by the researcher. The relative importance index was used in determining the degree of importance of the problem as follows: Very important =4, Important =3, moderately important =2, Not important = 1. The responses on constraints to coconut fruits marketing will be disaggregated as follows:

Where:

RII = ∑ W/A*N
RII = Relative importance index
W = Weighting given to each factor by the marketers (ranging from 1-4)
A = Is the highest weight
N = Is the total number of marketers.
To make inferential statement, the mean score will be compared with the critical mean, 2.5. If the calculated mean of a problem is greater than the standard critical value, then the problem is regarded as very serious.

RESULTS AND DISCUSSION

Socioeconomic Characteristics of coconut fruits marketers

Socioeconomic characteristics of coconut fruits marketers is presented in Table 1. The Table indicates that majority of the marketers are within the age limit of 40-49 (37.50%). This implies that the marketers are middle age and relatively young. The finding is in tandem with Nkamigbo, Isibor, Obiekwe and Udemba (2023) who reported that garden egg fruits marketers are relatively young and are able to handle the hustle of the marketing. The finding on gender reveals that female 51 (63.75%) are more in coconut marketing. This implies that the enterprise is gender based in the study area. This is in agreement with Nkamigbo, Chiekezie and Ozor (2019) who reported gender sensitive in tomato marketing in the study area. This varies with the report of Nkamigbo, Ugwumba and Okeke (2019) who reported male dominance in watermelon marketing at their study area. Findings from educational status revealed that majority of the marketers had one level of education or other thus making the study area a very vibrant economic hub center for business activity. The result of marital status revealed that majority of the marketers were single. This implies that most children hawk coconut both in the market and events centers. Some even sale coconut with dry bread fruits or coconut with palm kernel seed. This makes it a very movable fruits that children hawks around to make a living or help the parents. . From the result majority of the marketers kick started their enterprise with personal savings (52,50%) because a little amount of money can bring one into hawking or selling on table or combine it with other fruits. Many also sell coconut among fruits salad, while only few kick start their enterprise with help from friends and relative (27.50%). d. The result revealed a household size of 5-8 persons living and eating from same source had a percentage of (77.50%). This contradicts the report of Idris, Maurice and Ahmed (2018) who reported lesser household for onion marketing in their study area. Majority of the marketers (76.25%) belongs to their trade union (Isusu union) where they practice Isusu for their personal welfare and interest. This according to them serves as an umbrella, protection for their members and also as a welfare to carter for their own in case of any eventuality. Majority of the marketers do combine coconut fruits marketing with other enterprise (7o%) at all levels of marketing.. the marketing experience reveals that marketers are well experienced (50.83%) which is expected to enhance the efficiency with which the trading activities are performed.

Table 1: Socioeconomic characteristics of coconut fruits marketers

VARIABLES	FREQUENCY	PERCENTAGES
Age		
Less than 20	3	3.75
30-40	16	20.00
41-50	30	37.50
51-60	22	27.50
61 and above,	9	11.25
Total	80	100
Gender		
Female	51	63.75
Male	29	36.25
Total	80	100
Marital Status		
Single	39	48.75
Married	28	35.00
Widow/Divorced	13	16.25
Total	80	100
Educational Status		
0-6	18	22.50
7-12	49	61.25
13-18	13	16.26
Total	80	100
Source of Finance		
Personal savings	42	52.50
Friends and relatives	22	27.50
Cooperatives/Isusu/banks	11	13.75
Total	80	100
Household Size		
1-4	12	15.00
5-8	62	77.50
9 and above	6	7.50
Total	80	100
Trade union		
member	61	76.25
Non member	19	23.75
Total	80	100
Total	80	100
Other biz Activities		
Yes	56	70.00
No	24	30.00
Total	80	100
Marketing Experience		
3-10 years	61	50.83
11-20 years	43	35.83
Above 20 years	16	13.33
Total	80	100
Hawking		
Sales in the market	39	48.75
Sales in the market and other places	41	51.25
Total	80	100

Source, field survey, 2023.

Market channels and volume of trade among the channels

According to Isibor and Nkamigbo (2023) marketing channel refers to various ways through which products moves from producers till it gets to the hands of end users and consumers. It is a sequence of intermediaries or middlemen and marketers through which produce pass from producers to final consumers. The

distribution channels of coconut fruits in the study area indicated a three channels as shown below, the marketing channels identifies were:

Producer/Supplier ⟶ intermediates ⟶ consumer (43%)
Producer/Supplier ⟶ consumers (09%)
Producers/Suppliers ⟶ wholesalers ⟶ Retailers ⟶ Consumers (28%)

Coconut is a fruit that serves many purpose in Igbo land and virtually every where. The fruit is sold as a whole or in pieces with African salad, palm kernel, fresh corn, fruits salad. The demand for the fruits for commercial, medicinal and export purposes is is gaining ground all through the year. The fruits has three channel through which it reaches the consumer. The first stage is where producer/supplier sells to intermediate who sales to final consumer which recorded the highest volume of trade (43%) among the channels. In this stage the intermediaries called locally (ndi-mgbere) buys from suppliers either from their houses or runs after them while coming to market and buy from them and sale to the final consumers. They make much profit and the suppliers receives little of the profit. The second stage is where the supplier sales directly to consumers which recorded (9%) volume of trade. The suppliers prefer this stage because they make maximum profit of their produce . the last stage of the channel is the stage where the producers/suppliers sales to the wholesalers who sales to retailers that finally sales to the consumers. This passes through a long route and the consumers and suppliers are exploited while the middlemen makes much of the profit.

Net returns of coconut marketers

Marketing margin is the difference between purchase price and price received on resale Sulumbe, Shettima and John (2015) and Nkamigbo, Isibor, Ositanwosu and Obiajulu (2023). The marketing margin reflects the effect of the product characteristics on the complexity of the marketing functions that must be performed as the product passes through the marketing system. From the result of analysis the marketing margin was 43.5% which is below 50% indicates an average return on investment in providing the marketing services. This is in agreement with the report of Nkamigbo *et al*. (2023) on garden egg leaf marketing in their study area This is at variance with Sulumbe *et al*. (2015) who reported a market margin of 27.27% which implies that the marketers gets a fair share of the profit realized in the marketing of garden egg leaf in the study area. The marketing efficiency analysis showed that the marketers had an efficiency of 149%. This implies that they are efficient in performing their marketing functions. This agrees with Nkamigbo, Isibor, Ositanwosu and Obiajulu (2023) who reported a marketing efficiency of 120% of sweet potato marketing in their study area. The net return per Naira invested was 1.77%. The implication of this is that for every one Naira invested in the enterprise, 1.77k was generated as profit. This agrees with Adinya (2009) who reported ₦0.22 for every one spent in groundnut marketing. This implies that coconut marketing is profitable in the study area.

Table 2 : Net returns of coconut fruits marketers (average quantity/month)

Variables	Quantity (I bundle/3.5 kg)	Unit cost(₦)	Total cost (₦)
Purchase	90	12,180	1,096,200
Transportation		15	182,700.00
Loading		5.00	60,900
Miscellaneous			1500
Total variable cost			**1,341,300.00**
FIXED COST			
Selling point stand/shop			240,000.00
Depreciation and Taxes			9,000.00
Total market cost			**1,590,300**
Selling price		1	**2,375,100.00**
Revenue			**2,375,100.00**
Net return (TR-TC)			
Performance indicators			
Marketing margin			43..5%
Marketing efficiency			149
Return on Naira investment (₦)			1.77

Source, field survey, 2023.

$$\boldsymbol{M_m = \frac{S_p - P_p}{S_p} \times \frac{100}{1}}$$

$$= \frac{\mathbf{2,375,100.00} - \quad 1{,}341{,}300.00}{\mathbf{2,375,100.00}} \times \frac{100}{1} = \frac{1{,}033{,}800.00}{2{,}375{,}100.00}$$

$= 43.52\%\ marketing\ margin$

$$Marketing\ efficiency = \frac{value\ added\ by\ marketing\ (Net\ Return)}{Total\ marketing\ (TMC)} \times \frac{100}{1}$$

$$= \frac{2{,}375{,}100 \times 100}{1{,}590{,}000}$$

$149\%\ marketing\ efficiency$

Market conduct of coconut marketers

The distribution of conduct of coconut marketers is shown in Table 3. The result showed that size of the bundle of coconut fruits (40%) and freshness of coconut (26.25%) is a determining factor of criteria for purchase for marketers while taste and sweetness (13.75%) was the least in the study area . The result also revealed that marketers used common techniques of fixing prices through consideration of purchase price and other expenses incurred in marketing of garden egg leaf. This supports the findings of Nkamigbo and Isibor (2021). The findings also revealed that size of coconut (61.25%) was a criteria used as purchase strategies from marketers while freshness and good water content was a strategy used by end users in purchasing the product in the study area. This support the report of Nkamigbo, Isibor, Obiekwe and Udemba (2023) who revealed that the size of bundle of garden egg leaf is a criteria to consider during purchase.

Table 3: Market conduct of coconut marketers

VARIABLES	F	%
CRITERIA FOR PURCHASE		
Colour and specie of coconut		
Size of the bundle of coconut	32	40.00
Freshness of coconut	21	26.25
Lack of wounds/cracks	16	20.00
Taste and sweetness	11	13.75
Total	80	100
SRATEGIES OF FIXING SELLING PRICES		
Fix price as you like (Arbitrary)	21	26.25
Fix prices through consideration of purchase price and other expenses incurred.	59	73.75
Fix prices through bargaining with wholesalers, retailers and consumers (demand and supply push)	-	-
Fix price by garden egg leaf union	-	
Total	80	100
PURCHASE STRATEGIES FROM SUPPLIER		
Size of the coconut	49	61.25
Soft removal of back cover	31	38.75
Total	80	100
SELLING STRATEGIES TO BUYERS		
Good water content	29	36.00
Freshness and sweetness	20	25.00
size	31	38.75
Total	80	100
STRATEGIES USED IN ATTRACTING CUSTOMERS		
Neat environment	31	38.75
Good rapour with customers (mannerism)	49	61.25
Total	80	100

Source, field survey, 2023.

Constraints to coconut marketing

The constraints to coconut fruits marketing is presented in Table 4. From the analysis of the Table,coconut fruits which is over stayed (M=3.45) either at the place of storage or shop tends to decay from inside and the water contents starts drying up this affects the sales which also reduces the revenue. This is in tandem with the reported of Ozor, Nkamigbo and Chiekezie (2019) who reported lack of storage facilities for dry maize marketing in their study area.Another constraints of importance is breakage associated with transport (M=3.15). this affects the sales as customers detests coconut that has cracks or the are sold at a lower prices which affects the revenue of the marketers. The nature of the country now is highly unpredictable and this has affected the prices of food stuff, fruits and likes. One cant predict the price of coconut in the market. Hazards associated with hawking among children (M=2.55) is another constraint of importance. Most under-age children and even the adults in quest to sale to their customers do run into a moving vehicle which result to accident. This affects the revenue of the marketer. Other constraints of less importance are seasonality of coconut and temporal selling point of the marketers.

Table 4: Constraints to coconut fruits marketing

Constraints	Mean score	Rank
Seasonality of coconut	2.25	6th
Inadequate price control (Irregular prices)	3.05	3rd
Inappropriate storage facilities	2.50	5th
Breakage associated with transport	3.15	2nd
Over stayed nuts	3.45	1st
Hazards associated with hawking	2.55	4th
Temporal selling point	2.05	7th

Source, field survey, 2023.

SUMMARY

Findings from socioeconomic characteristics shows that majority of the marketers (76.25%) belongs to their trade union (Isusu union) where they practice Isusu for their personal welfare and interest. This according to them serves as an umbrella, protection for their members and also as a welfare to carter for their own in case of any eventuality. Findings from market channels and volume of trade among the channels revealed that the first stage is where producer/supplier sells to intermediate who sales to final consumer which recorded the highest volume of trade (43%) among the channels. In this stage the intermediaries called locally (ndi-mgbere) buys from suppliers either from their houses or runs after them while coming to market and buy from them and sale to the final consumers. They make much profit and the suppliers receives little of the profit..From the result of analysis the marketing margin was 43.5% which is below 50% indicates an average return on investment in providing the marketing services. The marketing efficiency analysis showed that the marketers had an efficiency of 149%. This implies that they are efficient in performing their marketing functions. The result of conduct showed that size of the bundle of coconut fruits (40%) and freshness of coconut (26.25%) is a determining factor of criteria for purchase for marketers while taste and sweetness (13.75%) was the least in the study area. From the analysis of the Table,coconut fruits which is over stayed (M=3.45) either at the place of storage or shop tends to decay from inside and the water contents starts drying up this affects the sales which also reduces the revenue.

CONCLUSION

Marketing of coconut fruits is a profitable enterprise in the study area considering the marketing margin and marketing efficiency. The net returns will improve in the study area if the identified constraints are given adequate attention by government and stakeholders.

RECOMMENDATION

i. Marketing prices of certain food and fruits should be looked into by government and stakeholders.
ii. Stakeholders should device a means to carry coconut to minimize wastage associated with transport.
iii. Implement a staggered planting schedule to ensure a more consistent supply of coconuts.
iv. Use appropriate packaging materials and techniques to reduce breakage during transportation.
v. Educate vendors on proper hygiene practices to ensure the safety of the product.

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