



CONSTRAINTS TO SWEET ORANGE (*Citrus sinensis*) MARKETING IN UYO METROPOLIS AKWA IBOM STATE, NIGERIA

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ABSTRACT

The study examined the constraints to sweet orange marketing in Uyo metropolis in Akwa Ibom State. The data used for this study was mainly primary data collected through a well-structured questionnaire and analyzed using descriptive statistics, Cost and Returns analysis, means and ranking. A Two – stage sampling technique was used to select these marketers. The first stage involved the selection of three major markets in Uyo metropolis (Udua Itam, Akpan Andem and Udua Afagha) where most of the fruit marketers trade daily. The second stage involved a random selection of thirty (30) sweet orange marketers in Akpan Andem market, twenty-five (25) each from Udua Itam and and Udua Afagha markets respectively, giving a sample size of 80 marketers. The study reveals that sweet orange marketing is a significant economic activity in the area, revealing a total cost of ₦3,775,100, while the total revenue is ₦4,680,400. This results in a net income of ₦905,300, representing a profit margin of 19.34%. Additionally, the return on investment (ROI) is 24.00%, indicating that for every ₦1 invested, the venture generates ₦1.24 in return indicating that the market is profitable. The market is dominated by female marketers (78.75%), aged 21-40 (51.20%), most of the marketers are married (55.00%), with senior secondary school education (51.20%), and household size of 1-5 (77.50%). Retailers (71.25%) dominate the market, with most marketers having 5-8 years of experience (43.80%). However, the market is constrained by price fluctuation (mean = 1.83), seasonality (1.38), and competition among marketers (1.31). The study's findings provide insights into the socio-economic characteristics of sweet orange marketers, marketing channels, cost and returns, and constraints, which can inform policy decisions, marketing strategies, and interventions to enhance the sweet orange industry in Uyo Metropolis.

Keywords: Marketing, Constraints, Cost and Returns, Marketing

INTRODUCTION

Fruits provide an abundant and cheap source of fiber and several vitamins and minerals. In general they have the highest nutritional value when eaten fresh, although an exception may be in fermented foods, in which the process of fermentation can increase the content of B vitamins. Fruits play a number of important roles in human health. They provide antioxidants such as vitamin A that are important in neutralizing free radicals (oxidants), known to cause cancer, cataracts, heart disease, hypertension, stroke and diabetes (Mintesnot, 2016). Diets high in fruits are widely recommended for their health promoting properties. The major fruits produced in Nigeria include mango, pineapple, plantain/banana, citrus, guava and pawpaw (Tijjani *et al*, 2019). The sweet orange, scientifically known as *Citrus sinensis*, belongs to the Rutaceae family. There are various species within the *Citrus* genus, we have the pomelo (*Citrus maxima*), the mandarin (*Citrus reticulata*), the lemon (*Citrus limon*) and the sour orange (*Citrus aurantium*), but the sweet orange is a hybrid between the pomelo (*Citrus maxima*) and the mandarin (*Citrus reticulata*). There are numerous cultivars and varieties of sweet oranges, but the primary species is *Citrus sinensis*.

Approximately 70 million tonnes of oranges are produced per year world-wide with about one third of the total produced is processed, while the rest being consumed as fresh fruits. In most cases, producers prefer to sell oranges to the fresh fruits market as their price is normally higher than those sold for processing into various juices. *Citrus sinensis* is a seasonal horticultural fruit crop which are available throughout the year (peak time-winter) and grow on evergreen trees which are about 30 feet high and 20 feet wide. The flowers of the orange are white and blossom in spring, however the fruits appear only by winter. (Girei *et al*, 2020). Sweet orange originated from south East Asia, but is



consumed all over the world as an excellent source of vitamin C, a powerful natural antioxidant that builds the body immune system. Important phytochemicals like limonoids, synephrine, hesperidin flavonoid, polyphenols, pectin, and sufficient amount of folacin, calcium, potassium, thiamine, niacin and magnesium are also present. These biologically active compounds prevent arteriosclerosis, cancer, kidney stones, stomach ulcers and reduction in cholesterol level and high blood which promote human health (Etebu and Nwauzoma 2014).

In an economy, production and marketing must go hand in hand. Marketing plays an important role to stimulate production, consumption and accelerates the pace of economic development of a country, (Girie *et al.*, 2020). Marketing is a form of communication between a business house and its customers with the goal of selling its products or services to them. Goods are not complete products until they are in the hands of customers. Marketing is that management process through which goods and services move from concept to the customer. Marketing has less to do with getting customers to pay for a product as it does with developing a demand for that product and fulfilling the customer's needs (Rotler, 2018). According to the American Marketing Association (AMA) Board of Directors, marketing is the activity, set of institutions, and processes for creating, communicating, delivering, and exchanging offerings that have value for customers, clients, partners, and society at large. Dr. Philip Kotler defines marketing as "the science and art of exploring, creating and delivering value to satisfy the needs of a target market at a profit. Marketing identifies unfulfilled needs and desires. It defines, measures and quantifies the size of the identified market and the profit potential. Thus, marketing refers to all the activities involved in the creation of place, time, possession and awareness utilities and beyond (Rotler, 2018)

The marketing of orange is very complex because of its perishable nature, seasonality and bulkiness. Cultivation of orange is more profitable than any other seasonal crops (Girei *et al.*, 2020). Sweet orange marketing must have a marketing channel through which the product flow from the producer to the consumer. This marketing channels is the sequence of intermediaries or middlemen and market through which produce pass from producers to final consumer (Isitor, 2016). Heavy fruit losses usually occur while the citrus is being transported along marketing chain. At the market place the seller also face the problem of spoilage, as the fruits are generally perishable in nature, which is also caused by poor storage/shelf life of the fruits. Aside from these, orange marketers' inherent socio-economic factors in the marketing chain, also plays prominent role. All these factors as well as the frequent price fluctuations of orange due to its perishable and seasonal nature discourage prospective investors from venturing into orange marketing thereby reducing the market profitability (Girei *et al.*, 2018).

Marketing of sweet orange is important in order to derive the benefits of the business. High prices are often blamed on middlemen who are accused of exploiting both fruit growers and consumers in fruit markets like that of Maiduguri. Such accusations tend to gain support whenever the marketing margin is high (Tijjani *et al.*, 2019). However, such accusation may not be justified unless the costs and returns in marketing involved and other market characteristics are fully understood and properly estimated in Uyo metropolis. The objectives of this study was to:

- i. Identify the Socioeconomic Characteristics of sweet orange marketers in the study area
- ii. Identify the roles played by marketers in the sweet orange market
- iii. Determine the profitability of sweet orange marketing in the study area
- iv. Identify the constraints faced by sweet orange marketers in the study area.

RESEARCH METHODOLOGY

Study Area

The study was conducted in Uyo metropolis, which is one of the Local Government Areas in Akwa Ibom State, Nigeria. Uyo is the capital city of Akwa Ibom in South-South Nigeria. The study Area is bounded in the north by Ikono, Itu and Ibiono Ibom Local Government Areas (LGA). In the East, it shares boundary with Uruan LGA, in the west we have Abak LGA while in the south it is bounded by Ibesikpo Asutan and Nsit Ibom Local Government.



Sampling Procedure

Primary data was used for this study. A two-stage sampling procedure was used to select respondents for this study. The first stage was cluster sampling, in which 3 market were selected in the study area. The three markets were *Udua itam*, *Akpanadem* and *Udua Afaha*. The second stage then involves a simple random sampling (SRS) of thirty, twenty-five, and twenty-five respectively which gave a total of eighty (80) respondent for this study.

Method of Data Analysis

Frequency and percentage were used to identify the socioeconomic characteristics, marketing channel. Furthermore, the constraints faced by the marketers was ascertained using marketing constraints index (MCI) and ranks. Cost and returns technique was used to determine the cost and profit associated with the marketing of sweet orange using the following formulae;

$$\text{Profit}(\pi) = \text{TR} - \text{TC}$$

$$\text{Total Revenue (TR)} = P \times Q$$

$$\text{Total Cost (TC)} = \text{TFC} + \text{TVC}$$

Where π = profit, TR = Total Revenue, TC = Total Cost, TFC = Total Fixed Cost, TVC = Total Variable Cost, P = Unit output price, Q = Quantity of Output

RESULTS AND. DISCUSSION

Socio - economic Characteristics of Sweet Orange Marketers in Uyo Metropolis

The results in Table 1 shows that there were more women (78.75%) than men (21.25%) in the study area. This agreed with Akinyemi *et al.*, (2017) that most of the respondent were women. The results indicated that more than half (51.20%) of the respondents were between the age bracket of 21-40 years with majority (55.00%) of them married and others single and widowed (22.50%), this corroborates with the reports of Tijjani *et al.*, (2019) that most of the respondent were married. Majority of them (62) having relatively household sizes of between 1 to 5 persons. It could also be observed from the result that most of the respondents (41) in the study area had attained secondary education as their highest level of education attained. This is an indication that the marketers households had basic education. Furthermore, it was observed that most of the marketers were traders (78) with a relatively household income of between 10,0001 to 20,000(naira). The table above further revealed that most of the marketers (43.80%) in the study area had an experience in marketing of sweet orange (5-8years) and few marketers (6.20%) had more years of experience (13-16years).



Table 1: Socio - economic Characteristics of Sweet Orange Marketers in Uyo Metropolis

Socio economic characteristics	Frequency n=80	Percentage (%)
Sex		
Male	17	21.25.
Female	63	78.75
Age		
1-20	3	3.80
21-40	41	51.20
41-60	36	45.00
Marital status		
Single	18	22.50
Married	44	55.00
Widowed	18	22.50
Household size		
1-5	62	77.50
6-10	17	21.30
11-15	1	1.20
Education		
No formal education	4	5.00
Primary education	8	10.00
Junior secondary	22	27.50
Senior secondary	41	51.20
Tertiary education	5	6.30
Occupation		
Farmer	2	2.50
Trader	78	97.50
Household monthly income		
1-10,000	4	5.00
10,001-20,000	50	62.50
20,001-30,000	18	22.50
30,001- 40,000	8	10.00
Years of marketing experience (in years)		
1-4	34	42.50
5-8	35	43.80
9-12.	6	7.50
13-16	5	6.20

Source: Field survey, 2024

Identification of the Marketing Channel in the Study Area

The results presented in Table 2 highlight the roles of different marketing channels in the study area. Three main channels were identified: producers (2.50%), wholesalers (26.25%), and retailers (71.25%). Notably, only 2.50% of farmers sell their produce directly to wholesalers. The majority of marketers (57) are retailers who purchase from wholesalers (21), indicating potential added costs in the commodity exchange process. Table 3 shows that all marketers transport their products to the point of sale. Additionally, 8.75% of marketers further process sweet oranges into other forms, such as orange juice. According to Table 4, most marketers (71.3%) purchase products by counting, while others (28.7%) buy in bags.



Table 2: Roles along the Marketing Channels

Roles along the marketing channel	Frequency	Percentage (%)
Producer	2	2.50
Wholesaler	21	26.25
Retailer	57	71.25

Source: Field survey, 2024

Marketing Channel in the Study Area

Producer	Wholesaler	Retailer	Consumer
(2.50%)	(26.25%)	(71.25%)	

Table 3: Functions along the Marketing Channels

Functions	Frequency [Yes (%)]	Frequency [No(%)]
Transport sweet oranges	80(100)	(0.0)
Processing sweet oranges	7(8.75)	73(91.25)

Source: Field survey, 2024

Table 4: Mode of purchasing sweet orange

S/N	Mode of purchase	Frequency	Percentage (%)
1.	Buying in bags	23	28.7
2.	Counting	57	71.3

Source; Field survey, 2024

Costs and Returns of Sweet Orange Marketing in Uyo Metropolis

The results shown in table 5 indicate the cost and return of the sweet orange marketing venture. The analysis revealed that the total fixed cost for the venture was ₦2,096,500, representing 55.5% of the total cost. The fixed costs were comprised of various expenses indicating their cost per unit and percentages, these includes rent (₦2000, 4.56%), ticket (₦200, 0.82%), table (₦7000, 34.73%), chair (₦2500, 8.53%), umbrella (₦19500, 44.05%), knife (₦700, 2.47%), and tray (₦1500, 4.75%). Notably, the umbrella and table expenses accounted for a significant portion of the fixed costs, at 44.05% and 34.73%, respectively. On the other hand, the total variable cost was ₦1,678,550, representing 44.5% of the total cost. The variable costs consisted of transportation (₦700, 3.88%), nylon (₦600, 2.23%), and cost of buying (₦19,000, 93.89%). The cost of buying dominated the variable costs, accounting for 93.89% of the total variable costs. The total cost for the venture was ₦3,775,100, while the total revenue was ₦4,680,400. This results indicated a net income of ₦905,300, representing a profit margin of 19.34%. Additionally, the return on investment (ROI) was 24.00%, indicating that for every ₦1 invested, the venture generates ₦1.24 in return. Overall, the financial analysis indicated that the venture was profitable, with a significant profit margin and Return on investment. The venture was profitable due to its ability to generate significant revenue (₦4,680,400) while maintaining relatively low total costs (₦3,775,100), resulting in a net income of ₦905,300. The high profit margin of 19.34% and return on investment (ROI) of 24.00% indicated a successful business operation. Additionally, the venture's ability to sell oranges at a unit price of ₦58,000, and a positive Return On Investment (ROI). However, there were opportunities to optimize costs, particularly the high fixed costs associated with umbrella and table expenses. Furthermore,



negotiating better prices for the cost of buying could enhanced profitability. By monitoring and adjusting pricing strategies, the venture can maintain its profitability.

Table 5: Cost and Returns to Sweet Orange Marketing in Uyo Metropolis

Item	Total cost of production period (₦)	Average cost (₦)	Percentage (%)
Fixed cost			
Rent	97,550.00	1,219.37	4.65
Ticket	17,250.00	215.62	0.82
Table	728,000.00	9,100.00	34.73
Chair	178,800.00	2,235.00	8.53
Umbrella	923,500.00	11,543.75	44.05
Knife	51,800.00	647.50	2.47
Tray	99,650.00	1,245.62	4.75
Total Fixed Cost	2,096,550.00	26,206.86	100
Variable Cost			
Transportation	65,050.00	813.12	3.88
Nylon	37,500.00	468.75	2.23
Cost of buying	1,576,000.00	19,700.00	93.89
Total Variable Cost		20,981.87	100
Total Cost (TFC+TVC)	3,775,100.00	47,188.73	
Total Revenue			
Sales of oranges	4,680,400.00	58,505.00	
Net Market Income			
NMI=TR - (TFC+TVC)	905,300.00	11,316.27	

Source: Field survey, 2024

Constraints to Sweet Orange Marketing in the Study Area

Table 6 shows the results on the constraints to marketing of sweet orange faced by respondents in the study. Results indicate that Price fluctuation (1.83), seasonality (1.38) competition among marketers (1.31) and perishability nature (1.19) were the major constraints to marketing of sweet orange faced by the respondent in the study area. However, the result is in contrast to findings of Girei *et al.*, (2020) who found out that the major constraints to orange marketing in Lafia were inadequate storage facilities, incidence of pest and disease, poor transportation network, poor marketing outlet and inadequate capital .The least constraint faced by the marketers as seen in table 6 above is limited market access (0.14) as this did not significantly impede their engagement in the marketing of sweet orange in the study area.

Table 6: Constraints To Sweet Orange Marketing in Uyo metropolis

Constraints	Not a constraint	Minor constraint	Major constraint	Mean	Rank
Storage and transportation cost	52*(65.0)**	23*(28.8)**	5*(6.3)**	0.41	9
Perishability nature	3(3.8)	59(73.8)	18(22.5)	1.19	4
Access to credit	21(26.2)	43(53.8)	16(20.0)	0.94	7
Seasonality	—	50(62.5)	30(37.5)	1.38	2
Price fluctuation	—	14(17.5)	66(82.5)	1.83	1
Limited shelf life	2(2.5)	69(86.3)	9(11.3)	1.09	5
Consumer preference	4(5.0)	74(92.0)	2(2.5)	0.98	6
Quality control	9(11.3)	68(85.0)	3(3.8)	0.93	8
Limited market access	69(86.3)	11(13.8)	—	0.14	10
Competition among Marketers	5(6.3)	45(56.3)	30(37.5)	1.31	3

Source; Field survey, 2024

Note; * and ** represent frequency and percentage.



CONCLUSION AND RECOMMENDATION

The study concluded that the major constraints to sweet orange marketing were price fluctuation, seasonality, competition among marketers and perishability nature. Despite the challenges faced by marketers, the marketing of sweet oranges in Uyo is a profitable venture. Therefore, addressing these challenges, sweet orange marketers should be encouraged to form market cooperative groups among themselves where they could take decisions bothering on quantities of products to be sold per time and schedules for sales. By controlling the quantities offered for sale, price fluctuations could be controlled to a marked extent. These sweet orange marketers are also advised to consider other activities in addition to marketing such as value addition to sweet orange. By so doing, they can produce fruit juices from sweet oranges which has a longer shelf life and can be marketed for a much longer period. Furthermore, these juices can be stored and sold during off-seasons to consumers.

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