

Analysis of Profitability of Fruits Trade in Yanlemo Market, Kano Metropolis, Nigeria

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ABSTRACT

This study made an analysis of profitability of marketing some selected fruits in Yanlemo market of Kano Metropolis. Interview schedules were used to collect data on total revenue and marketing costs in the market, monthly from January to December 2011. Random samples of 33% of suppliers, wholesalers and retailers patronizing the markets were taken. Gross margin model was used to assess the fruits trade. The findings revealed that the supply aspect of fruits marketing was a profitable venture with high average profit (₦296, 729.00), Gross Profit Margin (37.74%), Return on Investment (75.30%) and Benefit Cost Ratio (with 1: 2.00). However, the wholesale and retail aspects were found to have relatively low profit and profitability. In relative sense, based on monthly fluctuation, the profit and profitability in the market were found to be higher in February and lower in August, April and January for supply, wholesale and retail respectively. It was concluded that marketing costs were the chief constraints to fruits trade in the market. Lastly, it is recommended that supply aspect of fruits trade in Yanlemo market should maintain and improve its position by controlling cost of goods sold and increasing sales. Also, there should be development and improvement of internal road net-work, provision of better storage and preservation facilities, and encouragement of more research efforts on profitability of other products.

Keywords: Profit, Profitability, Fruits, Market, Marketing Costs, Gross Margin

INTRODUCTION

Fruits are very essential in human diet because of their great nutritional value as sources of vitamins and minerals. Therefore, they have generated increased marketing. However, in the developing world, per capita consumption of fruits, together with vegetables, is only 100 g compared with 220 g in the developed countries (Idah, Ajisegiri and Yisa, 2007). The supply of basic food stuffs at prices within the reach of the average consumer is necessary so as to ensure and maintain food security (Onu and Iliyasu, 2008).

Population growth in the urban (4 per cent annual increase) and rural (1.9 per cent annual increase) areas of Sub-Saharan Africa is the highest in the world. It also has the highest rate of urbanization in the world (about 3.5 per cent per annum). This situation would mean increased demand for food and therefore increased need for marketing of agricultural food products (Andres and Lebailly, 2011). This is especially because majority of the efforts centered on increasing food production have not been impressive enough in achieving their objectives (Ihimodu, 2004).

In Nigeria, rapid population growth has brought about an increase in the demand for more food. Kano Metropolis, as a notable commercial centre, is one of the most rapidly urbanizing areas in the country (Nabegu, 2008). In fact, Kano is the third largest commercial centre in Nigeria, after Lagos and Ibadan. Trading, consisting of wholesale and retail activities,

constitutes the second largest economic sector of the Kano economy. Although largely informal, the commerce sector accounts for approximately 65-75% of domestic trading activities. Marketing of agricultural produce is one of the dominant commercial activities, with wholesale of the produce undertaken in specialized markets within Kano Metropolis (Kano State Government, 2013).

There have been directions of studies on profitability of agricultural commodities. Some scholars have taken to analyse profitability of production. Example of these include small scale maize production in Niger state of Nigeria (Sadiq, Yakasai, Ahmad, Lapkene and Abubakar, 2013), gum arabic production in Jigawa State of Nigeria (Umar, Audu and Waizah, 2011), groundnut production in Michika Local Government Area of Adamawa State of Nigeria (Taru, Kyagya and Mshelia, 2010), small-scale catfish farming in Kaduna State of Nigeria (Issa, Abdulazeez, Kezi, Dari and Umar, 2014), cassava production in Eket Local Government Area of Akwa Ibom state of Nigeria (Ebukiba, 2010), urban agriculture using metropolitan organic waste in Abuja, Nigeria (Arene and Mbata, 2008). Other researchers have concentrated on profitability of marketing of the products: rice processing and marketing in Kano State (Inuwa, Kyiogwom, Ala, Maikasuwa and Ibrahim, 2011), rice processing and marketing Ngoketunjia Division, North West Region, Cameroon (*Bime, Fon, Ngalim and Ongla, 2014*), paddy rice in Ebonyi North Zone of Ebonyi State, Nigeria (Nwibo, Odo and Igberi, 2013), cattle marketing in Gombe, Nigeria (Mohammed, Mohammed and Adamu, 2013). This study analyses profitability of fruits marketing in Yanlemo specialized market of Kano Metropolis. This is to be achieved using two objectives. One, to establish the level of profit of fruits trade in the market. Two, to assess the profitability of marketing of fruits in the market.

CONCEPTUAL BACKGROUND

Profit in economics refers to pure profit, i.e. any excess of revenues over all opportunity cost. In other words, it is a return in excess of all opportunity costs including those of capital. Profit is positive when there is an excess of revenues over costs while it is negative (commonly called losses) when revenues fall short of the costs (Lipsey, 2007). Therefore, profit refers to the difference between total gross income and how much it has cost to produce and market the product. Although any scale can be used to measure profit, it is more commonly measured using a monetary scale, as money is more easily compared across applications (Lutzs, 2010).

Profitability, derived from profit and ability, is the power of a business entity to earn profits or the ability of a given investment to earn a return from its use (Tulsian, 2014). According to Rahman, Adhikary and Yousuf (2014) profitability referred to the profit earning capacity of a product, plant, process or an undertaking. They equated the role of profit and profitability in business 'blood' and 'pulse' in human body. "Without adequate blood and ability to generate blood, it may not be possible on the part of human being to survive. Like this, without profit and ability to earn sufficient profit, it is difficult to survive on the part of any business". It is one of the best techniques for measuring the productivity of capital employed and operational efficiency of an investment (Tulsian, 2014).

METHODOLOGY

The Study Area

Kano metropolis is the study area, which is located between longitudes 8° 25'E to 8° 40'E and latitudes 11° 54'N to 12° 06'N. It has eight metropolitan local government areas, namely Dala, Fagge, Gwale, Kano Municipal, Kumbotso, Nassarawa, Tarauni and Ungogo. Kano

metropolis has a population of 2,826,307 (Federal Republic of Nigeria, 2009: 31-32). Hausa-Fulani constitutes the majority of the population while other dominant ethnic groups are Nupe and Kanuri “natives”, Yoruba and Igbo. Foreigners are mainly Lebanese, Asians and those from other African countries. It is the largest town in Hausa land and the third largest in Nigeria, following Lagos and Ibadan (Falola, 2002). Yanlemo market is located at Maikalwa in Kumbotso local government area, along Zaria road, about 11 km from the ancient city of Kano. The products that are traded in this market are orange, banana, pine apple, water melon, coco nut, paw paw, mango, agwalumo (*spondias mombin*), cashew and oro (*Irvingia garbonensis*).

Methods of Data Collection

The study used interview schedule as the main instrument for data collection. Three different interview schedules were used, for suppliers, wholesalers and retailers. The traders, comprising of suppliers, wholesalers and retailers, formed the population for this research. 33% sample size was used to draw 707 samples from a population of 2143 suppliers, 161 samples from a population of 488 wholesalers and 75 samples from a population of 227 retailers. Simple random sampling was used to draw out the respondents. The data collection took from January to December, 2011.

Methods of Data Analysis

The analysis of data was made by taking mean monthly gross margins and marketing costs, as well as profit. The profitability was calculated by using gross margin model. To determine profit, the traders’ marketing costs were subtracted from their marketing margins. The costs considered here included transfer (transportation and handling charges), storage, packaging, grading and selling costs, including marketing charges (taxes, rent, commission, etc.).

Profitability has numerous measurements, with exotic names and abbreviations, which is an indication that there is not a single way to express profitability (Lutts, 2010). This study has found Gross Profit Margin, Return on Investment and Benefit Cost Ratio significant in the analysis of profitability of fruits.

Model Specification

Gross Margin Model

$$Gm = TR - TVC$$

$$Profit = Gm - TC$$

$$TC = TVC - TFC$$

$$Gross\ Profit\ Margin = \frac{Profit}{TR} \times 100$$

$$Return\ on\ Investment = \frac{Profit}{TVC} \times 100$$

$$Benefit\ Cost\ Ratio = TR/TVC$$

Where:

Gm = Gross margin

TR = Total revenue

TVC = Total variable cost

TC = Total cost

TFC = Total fixed cost

RESULTS AND DISCUSSION

Profit

Generally, the average profit (per trader for a month) of a supplier (₦296,729.00) was found to be greater than that of a wholesaler (₦4,877.00) or retailer (₦1,726.9). In terms of temporal fluctuation, the highest profit was recorded in February for all the traders, suppliers (₦558,670.00), wholesalers (₦18,446.2) and retailers (₦2,998.7). The lowest profit of suppliers was in August (₦170,697.00), of wholesalers was in April (₦1,571.2), and of retailers (₦1,233.4) was in January (Table 1).

Table 1. Profit

Month	Suppliers (Per Supply)			Wholesalers (Per Day)			Retailers (Per Day)		
	Gross Margins (₦)	Total Costs (₦)	Profit (₦)	Gross Margins (₦)	Total Costs (₦)	Profit (₦)	Gross Margins (₦)	Total Costs (₦)	Profit (₦)
Jan	691401	206489	484,912	11331.9	1038.4	10294	1440	206.6	1233.4
Feb	873571	314901	558,670	20704.7	2258.5	18446	3208.8	210.1	2998.7
March	311875	30129	281,746	6246.2	3825.7	2420.5	2368.8	145	2223.8
April	365725	69789	295,936	5324.1	3752.9	1571.2	2296.1	141.2	2154.9
May	346110	65432	280,678	5178.3	3384.1	1794.2	1937.3	138.9	1798.4
June	323678	62891	260,787	5023.9	3098.2	1925.7	1744.8	130	1614.8
July	309032	59083	249,949	4912.3	2563.2	2349.1	1698.2	123.3	1574.9
Aug	229684	58987	170,697	4766.8	2143.9	2622.9	1653.3	118.6	1534.7
Sept	267881	54458	213,423	4517.7	2038.1	2479.6	1585.5	111.5	1474
Oct	249789	51298	198,491	4223.1	1234.3	2988.8	1512.3	108.1	1404.2
Nov	223123	49783	173,340	4032.8	998.4	3034.4	1489.1	101.3	1387.8
Dec	513462	121346	392,116	9523.6	926.3	8597.3	1422.5	99.6	1322.9
Avg	392111	95382.2	296729	7148.8	2271.8	4877	1863.1	136.2	1726.9

Source: Field survey (2011)

Gross Profit Margin

A high gross profit margin is an indication of good management or the efficiency with which production and/or marketing operations are carried on. The average Gross Profit Margin, expressed in percentage, was highest with supply of fruits in Yanlemo market (37.74%) (Table 2). This was a little above the average margins of 33.36% and 34.80% for marketing of SAIL and Tata Steel respectively, which according to Tulsian (2014) showed favorable positions of the gross profit margins. The average Gross Profit Margin for retail of fruits in

Yanlemo market was lower than that of supply of the products (11.13%). The least was the wholesale Gross Profit Margin (0.61%).

The monthly fluctuation of the Gross Profit Margin (Table 2) shows that, with supply of the products, the margin was highest in July (40.52%) and lowest in August (32.30%). For wholesale, the margin was highest in February (1.25%) and lowest in April (0.20%). The retail margin became the highest in February (14.67%) and lowest in January (6.19%).

Table 2. Gross Profit Margin

Month	Suppliers (Per Supply)			Wholesalers (Per Day)			Retailers (Per Day)		
	Total Revenue (₹)	Profit (₹)	GPM %	Total Revenue (₹)	Profit (₹)	GPM %	Total Revenue (₹)	Profit (₹)	GPM %
Jan.	1237673	484912	39.18	1249005	10293.5	0.82	19917	1233.4	6.19
Feb.	1455669	558670	38.38	1476374	18446.2	1.25	20437	2998.7	14.67
Mar.	735043	281746	38.33	741289.2	2420.5	0.33	18931	2223.8	11.75
April	786379	295936	37.63	791703.1	1571.2	0.20	18424	2154.9	11.70
May	725032	280678	38.71	730210.3	1794.2	0.25	17576	1798.4	10.23
June	649356	260787	40.16	654379.9	1925.7	0.29	15122	1614.8	10.68
July	616894	249949	40.52	621806.3	2349.1	0.38	14595	1574.9	10.79
Aug.	528449	170697	32.30	533215.8	2622.9	0.49	13938	1534.7	11.01
Sept.	589663	213423	36.19	594180.7	2479.6	0.42	11969	1474	12.32
Oct.	559605	198491	35.47	563828.1	2988.8	0.53	10785	1404.2	13.02
Nov.	523999	173340	33.08	528031.8	3034.4	0.57	10613	1387.8	13.08
Dec.	1026244	392116	38.21	1035768	8597.3	0.83	13862	1322.9	9.54
Avrg.	786167	296729	37.74	793316	4877	0.61	15514	1726.9	11.13

Source: Field survey (2011)

Return on Investment

Return on investment is a way of relating profits to the capital invested, expressed as a percentage. The average ROI very high with fruits supply (75.30%). This was far higher than retail and wholesale of the products, with 12.65% and 0.62% respectively (Table 3). An (2012) Song Cau District, Phu Yen Province of Vietnam observed that ROI of Black tiger shrimp farms was 15% while that of White leg shrimp farms was 37%. The temporal fluctuation of the ROI in Table 3 clearly shows that the highest for all the trading activities were in February, supply (95.98%), wholesale (1.27%) and retail (17.41%). The lowest ROI for fruits supply was in August (57.13%), in April (0.20%) for wholesale and in January (6.68%) for retail of the products

Table 3. Return on Investment

Month	Suppliers (Per Supply)			Wholesalers (Per Day)			Retailers (Per Day)		
	Total Variable Costs (₦)	Profit (₦)	ROI (%)	Total Variable Costs (₦)	Profit (₦)	ROI (%)	Total Variable Costs (₦)	Profit (₦)	ROI (%)
Jan.	546272	484912	88.77	1237673	10293.5	0.83	18477	1233.4	6.68
Feb.	582098	558670	95.98	1455669	18446.2	1.27	17228	2998.7	17.41
Mar.	423168	281746	66.58	735043	2420.5	0.33	16562	2223.8	13.43
April	420654	295936	70.35	786379	1571.2	0.20	16128	2154.9	13.36
May	378922	280678	74.07	725032	1794.2	0.25	15638	1798.4	11.50
June	325678	260787	80.08	649356	1925.7	0.30	13377	1614.8	12.07
July	307862	249949	81.19	616894	2349.1	0.38	12897	1574.9	12.21
Aug.	298765	170697	57.13	528449	2622.9	0.50	12284	1534.7	12.49
Sept.	321782	213423	66.33	589663	2479.6	0.42	10384	1474	14.19
Oct.	309816	198491	64.07	559605	2988.8	0.53	9272.2	1404.2	15.14
Nov.	300876	173340	57.61	523999	3034.4	0.58	9123.7	1387.8	15.21
Dec.	512782	392116	76.47	1026244	8597.3	0.84	12439	1322.9	10.64
Avrg.	394056.3	296729	75.30	786167	4877	0.62	13651	1726.9	12.65

Source: Field survey (2011)

Benefit Cost Ratio

The Benefit Cost Ratio (BCR) analysis (Table 4) shows that, on average, suppliers (with 1: 2.00) had higher return to investment than wholesalers (1: 1.01) and retailers (1: 1.14). This signifies that a profit of ₦1 was realized as return to investment in every ₦1 spent in supply fruits in Yanlemo market. For wholesaling of fruits in the market, a profit of ₦0.01k was realized as return to investment in every ₦1 spent. In terms of retail, in every ₦1 spent a profit of ₦0.14k was realized as return to investment.

As regards temporal variability, the highest profitability ratio of fruits supply was in February (1: 2.50), and lowest in March and November (1: 1.74 each). For fruits wholesale, the profitability ratio was similar throughout the year (1: 1.01). In terms of retail, the ratio was highest in February (1: 1.19) and lowest in January (1: 1.08) (Table 4). This almost in line marketing of Paddy rice in Ebonyi North Zone of Ebonyi State, Nigeria where Nwibo, Odo and Igberi (2013) observed that for Ohaukwu Local Government Area, the Benefit Cost Ratio analysis shows 1: 2.32. This signified that in every ₦1 spent in marketing paddy rice in the area, a profit of ₦1.32k was realized as return to investment. However, the ratio was a little higher in the other local government areas, all over 1: 3.00.

Table 4. Benefit Cost Ratio

<i>Month</i>	<i>Suppliers</i>			<i>Wholesalers</i>			<i>Retailers</i>		
	<i>Total Variable Costs (₦)</i>	<i>Total Revenue (₦)</i>	<i>Benefit Cost Ratio</i>	<i>Total Variable Costs (₦)</i>	<i>Total Revenue (₦)</i>	<i>Benefit Cost Ratio</i>	<i>Total Variable Costs (₦)</i>	<i>Total Revenue (₦)</i>	<i>Benefit Cost Ratio</i>
Jan.	546272	1237673	1: 2.27	1237673	1249005	1: 1.01	18477	19917	1: 1.08
Feb.	582098	1455669	1: 2.50	1455669	1476374	1: 1.01	17228	20437	1: 1.19
Mar.	423168	735043	1: 1.74	735043	741289.2	1: 1.01	16562	18931	1: 1.14
April	420654	786379	1: 1.87	786379	791703.1	1: 1.01	16128	18424	1: 1.14
May	378922	725032	1: 1.91	725032	730210.3	1: 1.01	15638	17576	1: 1.12
June	325678	649356	1: 1.99	649356	654379.9	1: 1.01	13377	15122	1: 1.13
July	307862	616894	1: 2.00	616894	621806.3	1: 1.01	12897	14595	1: 1.13
Aug.	298765	528449	1: 1.77	528449	533215.8	1: 1.01	12284	13938	1: 1.13
Sept.	321782	589663	1: 1.83	589663	594180.7	1: 1.01	10384	11969	1: 1.15
Oct.	309816	559605	1: 1.81	559605	563828.1	1: 1.01	9272.2	10785	1: 1.16
Nov.	300876	523999	1: 1.74	523999	528031.8	1: 1.01	9123.7	10613	1: 1.16
Dec.	512782	1026244	1: 2.00	1026244	1035768	1: 1.01	12439	13862	1: 1.11
Avrg.	394056.3	786167	1: 2.00	786167	793316	1: 1.01	13651	15514	1: 1.14

Source: Field survey (2011)

CONCLUSION

The results of the profitability analysis have indicated that fruits supply at Yanlemo market of Kano metropolis is a profitable enterprise, because all the indices used revealed appreciable figures. However, the profitability of whole and retail sales of fruits in the market was very low. Also, the results indicate that marketing costs especially handling charges, storage and preservation costs, including marketing charges (taxes, rent, commission, etc.) were the chief constraints to fruits trade in the market.

RECOMMENDATIONS

1. The supply aspect of fruits marketing in Yanlemo market should maintain and improve its position by controlling cost of goods sold and increasing sales.
2. There should be provision of more improved preservation and storage facilities, and good internal road network, among others, by the government, market associations and the individual marketers.

3. Establishment of small scale industries for processing of the damaged vegetables would help reduce marketing costs of the traders.
4. To reduce post-harvest food losses, there is the need for increased investment in post-harvest technology research and development, so as to develop simple storage and processing equipment that can be used at the level of the farmers and marketers.
5. More research should be encouraged, particularly on profitability of marketing other agricultural food products like grains, vegetables, kola nut, sugar cane, livestock, among others and non-agricultural products, in Kano metropolis and other areas.

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