

Performance Efficiency Of Fresh Tomato Marketing in Nnewi North Local Government Area in Anambra State, Nigeria.

Nkamigbo, Darlington Chineze*, Chiekezie, Njideka Rita¹ and Ozor, Mourice Uche²

*1Department of Agric Tech, School of Agriculture and Related Discipline, Anambra State Polytechnic Mgbakwu, Anambra State, Nigeria.

²Holyghost Novitiate, Awomama, Imo State, Nigeria.

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Abstract – The study examined the performance of fresh tomato marketing in Nnewi LGA, Anambra State, Nigeria. Specifically, it ascertained socio-economic characteristics of tomato marketers, market conduct of tomato marketers, profitability of tomato marketers and constraints to tomato marketing in the study area. Purposive and simple random sampling procedure were used to select 120 marketers for the study and data collection was only on primary source using structured questionnaire and were analyzed by means of descriptive statistics, budgetary method, Shepherd-Futrel technique and a 4-Likert technique. From the result, the socio-economic characteristics of the marketers showed that the marketers were relatively young and energetic. The result revealed that women involvement in marketing of tomato is targeted in improving the poor economic conditions of their household. It could be seen from the profitability analysis that out of the total cost of N 11176315.00 spent by the marketers, purchases constituted 88.3% while the least expense was miscellaneous (recharge card and nylon bag) (0.2%) whereas the venture generated a gross margin of N10104730. 00. The result indicated a good level of inefficiency of 53.44% among the traders. The study revealed that tomato marketing in the study area is a profitable venture. The tomato traders should form a cooperative so as to purchase cooling vans, built storage facilities and secure soft loans and grants from government were recommended.

Keywords: Performance, Efficiency, Profitability , Tomato

Introduction

The agricultural sector is an engine room for sustaining growth of Nigeria economy and still remains the mainstay of the economy of most African State, Nkamigbo (2018). Chiekezie, Omokore, Akpoko and Chikarie (2012) stated that agriculture plays vital roles in the economies of all countries of the world especially developing economies like Nigeria. It provides employment and income to about 70% of the population, food for the people, raw materials for industries and foreign exchange for the country.

Among the wide range of agricultural crops, vegetables occupy an important place because of their economic potential, vitamins, minerals and chemical compounds that are essential for human health Shehu and Mohammed (2017). They further stated that vegetables refers to those plants and plants parts that are edible, especially leafy or fleshy parts that are usually eaten with staples as main courses or supplementary foods in cooked or raw forms. FAO (2006) recommended a minimum level of consumption of 400kg per head per day as World health organization describe low intake of vegetable as the sixth among its twenty risk factors of global human mortality, just behind better known killers such as tobacco use and high cholesterol. Although the consumption of vegetables in Nigeria is as low as 179g behind recommended rate.

Boatng, Amfo, Abubakai and Yeboah (2016) refers indigenous vegetables as plant whose leaves, fruits and/or roots are used as vegetables by rural and urban communities through custom, habit and tradition over a long time. It contributes positively to economy, helps to resolve the problem of poverty, hunger and malnutrition and generates high profit and employment to farmers.

Tomato (*Lycopersicon esculenta*) is a major vegetable crop that has achieved tremendous popularity over the century and aside from being tasty, it promotes healthy nutritional balance as it is a good source of vitamin A and C. The economic importance of tomato cannot be overemphasized as it is an excellent source of lycopene (a very powerful antioxidant) that help to fight many forms of cancer development. It is one of the most important crops both in scale of production and level of consumption. It has high economic value and high nutritional potentials in our diet. Shehu and Mohammed (2017) referred tomato as a principal crop due to its demand within and

without Nigeria as it has great potentials for poverty alleviation capacity, employs large number of people and stimulates consumption of outputs which are essential elements of economic development.

Tomato marketing in Nigeria from all indications is very poorly developed and characterized with problems of seasonality and perishability, price variations, post-harvest losses and lack of standard weights measurements among others and all these tend to increase the cost and marketing efficiency. Agricultural marketing is the performance of all business activities involved in the flow of goods and services from the point of initial agricultural production until they are in the hands of the final consumers. According to Business Dictionary.com (2012), market conduct entails the firms' pattern of behaviour in executing its pricing and promoting strategy and its response to the realities of the market it serves.

Government has so much concentrated in production of these vegetables but not much attention is paid to marketing and these have resulted in glut in peak season production and scarcity in lean production season. Great losses and damages are so much encountered due to lack of storage facilities and other associated problems, thus this study describes socio-economic characteristics of the marketers, profitability, market conduct and constraints to tomato marketing.

Materials and methods

The study was conducted in Nnewi North local Government Area, Anambra State. Nnewi is a metropolitan city that is made up of four autonomous community namely Otolo, Uruagu, Umudim and Nnewichi. It has a population of 391,227 and land square of 2789Km², latitude 6 000, 60,000N and longitude 60 54, 59.990E NPC (2006). Nnewi is the second largest city in Anambra State and it is referred to as Japan of Africa due to the presence of several Large and small scale industries, automobile production company, automobile and other markets. It is widely circulated that Nnewi metropolis houses over 2 million people and this has boost the economic and marketing activities of several agricultural produce especially tomatoes. Data for the study were collected using a well-structured questionnaire as the targeted population was tomato marketers. Four daily markets were purposively selected and these were Eke-Amaobi, Afor-Uruagu, Ori-Agbor and Afia – Okponoegbu. Thirty marketers were randomly selected from each of the markets totaling 120 marketers for the study.

Method of Data Analysis

The objectives of this study were analyzed using budgetary method, Sherpherd-Futrell technique and a 4-Likerk analysis.

Model Specification

The budgetary technique was used to determine the profitability of tomato marketing

The budgetary technique is expressed as:

Where:

$NMI // Profit = Net\ Returns / Profit$

$\sum = \text{sum}$

$P_{yj}Y_j = \text{Unit price} \times \text{quality of } j\text{th respondent's sales} = \text{Total revenue (TR) for } j\text{th respondent.}$

$P_{xij}X_{ij} = \text{Prices} \times \text{qualities of } j\text{th respondent's variable's inputs} = \text{total variable cost (TVC) for } j\text{th respondent.}$

$F_{ij} = \text{Depreciation values of equipment, annual rent for store, interest on loan, for } j\text{th respondent} = \text{Total fixed cost (TFC) for } j\text{th respondent.}$

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

The marketing efficiency of tomato was determined using Sherpherd-Futrell technique which is considered as an accurate marketing efficiency. Coefficient of marketing efficiency is the total cost of marketing to total revenue expressed in percentage term. It is specified as:

$ME = TC / TR \times 100$

Where:

ME = Coefficient of marketing efficiency,

TC = Total marketing cost incurred.

TR = Total value of product sold.

A 4-point Likert type scale was used to collect data on constraints to tomato marketing in Nnewi. Responses from the respondents were scored as follows; very serious = 4, serious = 3, moderately serious = 2, and not serious = 1. Determination of cut-off point was done as: $X = \sum f/n = (4+3+2+1)/4 = 10/4 = 2.50$.

To make inferential statement, the mean score was compared with the critical mean (2.50). If the calculated mean of a problem was greater than the standard critical value then that problem was regarded as very serious.

Result and Discussion

Socio-economic characteristics of the marketers

The socio-economic characteristics of the marketers in Table 1 indicate that majority of the marketers were within the age bracket of 30 and 50 years implying that the markers are young and active. This agrees with Nkamigbo and Isibor (2019) who stated that watermelon marketers in Anambra State are relatively young, energetic and are able to face the hustle of marketing. The Table reveals that more women (81.7%) are in tomato marketing in the area. This agrees with Nkamigbo, Nwoye, Makwudo and Gbughemobi (2018) that women involvement in production is targeted in improving the poor economic conditions of their household. The result is at variance with Haruna, Sani, Danwanka and Adejo (2012) that tomato marketing in Bauchi is dominated by male. Majority of the marketers are married (65%) with household size of (1-6) at 77.5%. This agrees with Agbugba, Nweze, Achike and Obi (2013) that the marketers are of child bearing age. The result of educational level reveals that the marketers are literate. This agrees with (Nkamigbo, 2018; Nkamigbo and Isibor, 2019) who stated that educated people are more enlightened, well conversant with efficient marketing of their marketable surplus and are able to reduce marketable loss. The marketing experience reveals that the marketers were not new entrants and mostly source their finance from personal savings.

Estimated monthly profitability of tomato marketing

The enterprise budgeting analysis was used to estimate the monthly profitability of fresh tomato marketing in Nnewi metropolis as shown in Table 2. Result of the analysis, indicating total cost (TC), total revenue (TR), total variable cost (TVC), total fixed cost (TFC), gross margin (GM), net marketing income (NMI), mean net marketing income (MNMI) and net return on investment (NROI), is presented in Table 2. It could be seen from the table that out of the total cost of N 11176315.00 spent by the marketers, purchases constituted 88.3% while the least expense was miscellaneous (recharge card and nylon bag) (0.2%). By this result, cost of purchasing of marketing stock is the most important cost of the business while miscellaneous cost is the least. This result is in tandem with Ozor (2016) and Nkamigbo and Isibor (2019) who reported that cost of stock/purchases constituted 94.2% and 89.61% of the total cost of marketing dry maize and watermelon respectively, to become the most important cost to consider in starting the marketing business.

On enterprise profitability, the marketers realized N 21700000.00 after spending a total variable cost of N 11176315.00 and total cost of N 11595270.00. This transaction generated a gross margin of N10104730.00, net marketing income of N 9685775.00 and net return on investment of 0.83. The implication of the net return on investment figures is that the marketers return 17 kobo for every 1Naira invested in the business. Overall, the profitability indicators (gross margin, net marketing income, mean net marketing income and net return on investment values) showed that tomato marketing was profitable in the study area. Ojo, Mustapha and Ojo (2016) and Shehu and Mohammed (2017) attested to the profitability of marketing by wholesalers and retailers in Abuja Municipal and Ibadan, Oyo State respectively.

Marketing efficiency of tomato

The Shepherd-Futrel method was used to determine the co-efficient of marketing efficiency. The method expresses marketing efficiency as the ratio of total cost to total revenue expressed as percentage. The lower percentage, the better the marketing efficiency, since less proportion of the revenue will be expended on total cost of marketing.

The model is slated as:

$$ME = \frac{TC}{TR} \times 100$$

$$ME = \frac{11595270}{21700000} \times 100 = 53.44\%$$

Where:

ME = Marketing efficiency

TC= Total cost

TR= Total revenue

The result of the analyses revealed that the marketers didn't attained efficiency of 100% in the marketing of tomato implying the existence of good level of inefficiency. However the result is in agreement with Ojo et al. (2016) who reported marketing efficiency of tomato marketing as low as 24.87% and 10.07% in Abuja Municipal.

Analysis of market conduct of tomato marketers

The analysis of market conduct of fresh tomato marketers is shown in Table 3. From the result, majority of the marketers (50%) revealed that size of the basket is a determinant for purchase of tomatoes from the suppliers. The analysis of who set the price revealed that the prices of fresh tomato were determined after consideration of purchases price and other expenses incurred in the course of marketing. This is in agreement with Ojo et al. (2016) that stated that there is no fixed/regulatory pricing by the government or any marketing cooperative for tomato rather prices were fixed mostly by price bargaining power in the study area. Also the result revealed that arranging well ripped tomatoes in a neat painter is a criterion for attracting customers in the study area. This will enable the intending buyers to see the produce appealing from a far. This method is highly exhibited by good marketers who are mindful of genuine profit and seller-buyer relationship.

Constraints to Tomato Marketing

The constraints associated with tomato marketing in the study area were shown in Table 4. The findings showed that breakage on transit was the most serious problems encountered in the marketing of the produce. This is in line with the findings of Nkamigbo (2018) who stated that breakage during loading and off-loading was the major problem encountered by watermelon marketers in the study area. High fee by government agency, inadequate capital and perishability of the produce were also perceived as serious in the marketing of the produce in the study area.

Summary and conclusion

The study examined the performance of fresh tomato marketing in Nnewi North LGA, Anambra State, Nigeria. The socio-economic characteristic reveals that the marketers are within the active age, relatively young, educated and are able to reduce marketable loss. The profitability indicators (gross margin, net marketing income, mean net marketing income and net return on investment values) showed that tomato marketing was profitable in the study area as the marketers return 17 Kobo for every 100 kobo spent. The result of marketing efficiency reveals that there is good level of inefficiency in tomato marketing in Nnewi metropolis. The analysis of market conduct indicated that the prices of fresh tomato are determined after consideration of purchases price and other expenses incurred in the course of marketing. Government should of necessity repair and maintain our high ways and also review the marketing fees being collected in the study area. The tomato traders should form a cooperative so as to purchase cooling vans, built storage facilities and secure soft loans and grants from government were recommended.

Table 1: Socio – economic Characteristics of tomato marketers

Variables	Frequency (F)	Percentage (%)
Age		
30 – 39	47	39.2

40 – 49	39	32.5
> 50	19	15.8
Total	120	100
Gender		
Male	22	18.3
Female	98	81.7
Total	120	100
Marital status		
Single	32	26.7
Married	78	65.0
Widow/Divorced	10	8.3
Total	120	100
Household		
1- 6	93	77.5
7 – 12	27	22.5
Above 13	-	-
Total	120	100
Educational Status		
0-6	18	15.0
7 – 12	68	56.7
13-18	34	28.3
Total	120	100
Marketing experience		
1 – 5	39	32.5
6-10	61	50.8
Above 11	20	16.7
Total	120	100
Source of Finance		
Personal savings	85	70.8
Friends & relations	21	17.5
Corporative/Isusu	14	11.7
Microfinance/Banks	-	-
Commercial Bank	-	-
Bank of Agric	-	-
Total	120	-

Source: Field survey, 2019

Table 2: Estimated monthly profitability of tomato marketing

Variables	Frequency	Percentage
Total Revenue TR	21700000	
Variable Cost (VC)		
Purchases	9865200	88.3
Transportation	396815	3.6
Loading	46200	0.4
Off-loading	845000	7.7
Miscellaneous cost (Recharge	23100	0.2

card, nylon bag)		
Total Variable Cost (TVC)	11176315	
Monthly shop rent	406280	96.9
Depreciation on equipment (wheel barrow, painter, basket bucket, table and chair)	8650	2.1
Interest on Loan	4025	0.9
Total Fixed Cost (TFC)	418955	
Total Cost (TC)= TVC+TFC	11595270	
Gross Margin= TR-TVC	10104730	
Net Marketing Income	9685775	
NMI=GM-TFC		
NMI mean= NMI/n	80714.79	
Return to investment	1.87	
NMI/TC	0.83	
Gross Ratio	0.53	
M.E.= TC/TR x 100/1	53%	

Source: Field survey, 2019.

Table 3: Market conduct of tomato marketers

Criteria for purchase	F	%
Size of the basket	60	50.0
Volume of broken ones	29	24.2
Volume of ripped ones	31	25.8
Total	120	100
Strategies of fixing selling prices		
Fix prices as you like (Arbitrary)	28	23.3
Fix prices after consideration of purchases price and other expenses incurred	89	74.2
Fix prices through bargaining with wholesalers, retailers and consumers (demand and supply push)	3	2.5
Fix price by tomato association	-	-
Total	120	100
Purchases strategy from supplier		
Types of baskets of tomato	120	100
Buckets of tomato	-	-
Total	120	100
Selling strategy to buyers		
Arrange the tomato well in painters	80	66.7
Separating the broken one	30	25.0
	10	8.3

Total	120	100
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Note: Multiple responses recorded Source: Field survey: 2019

Table 4: Constraints to tomato marketing

Variable	Mean Score	Rank
Breakage on Transit	3.7	1 st
Rioting	2.4	5 th
Perishability	2.5	4 th
High fee by the government Agency	3.1	2 nd
Inadequate capital	2.9	3 rd
Transportation	2.3	6 th

Source: Field survey, 2019.

References

1. Adeoye, I.B. & Odeleye, O. M.O. (2009). Economic Analysis of tomato losses in Ibadan, Oyo, State. Nigeria. African Journal of Basic and Applied Science, 1(5-6), 86-92.
2. Agbugba, I.K., Nweze, N.J., Achike, A.I. and Obi, A. (2013).Market structure, conduct, channel and margin of dry season okra vegetable in South-Eastern Nigeria. International Conference on Food and Agricultural Sciences IPCBEE, 55(14), 73-78.
3. Boateng, V. F., Amfo, B., Abubakari, A. H. and Yeboal,O. B. (2016). Do marketing margin determine local lesfy vegetables marketing in the Tamale metropolis? Academic Journal, 10(5), 98-108.
4. Bussines Dictionary, com (2012), Market conduct entails the firms pattern of behaviour executing its pricing and promotion strategy and its response to the retailer of the market.
5. Chikezie, N.P., Omokore, D.F., Akpoko, J.G. & Chikaire, J. (2012). Factors influencing rural youth adoption of cassava recommended production practices in Onu-Imo Local Government Area of Imo State, Nigeria. Greener Journal Of Agricultural Science,2(6),259-268.
6. Food and Agriculture Organization (2006). The world vegetables centre Newsletter www,avrdc.org.
7. Haruna, U., Sani, M. H, Danwanka, H. A. & Adejo, E. (2012). Economic analysis of fresh tomato marketing in Bauchi metropolis of Bauchi State, Nigeria. Journal of Agric, Food and environmental, 8(30), 1-8.
8. Isibor, A.C. and Nkamigbo, D.C (2019). Economic determinants of loan repayment to Large
9. and Small Scale Farmer-beneficiaries of Bank of Agriculture Loans from 2010-2016in Anambra State, Nigeria. Int'l J. Agric. Pol Research. 7(4), 108-115.
10. Nkamigbo, D. C. (2018). Economics of watermelon marketing in Anambra State, Nigeria. Unpublished Ph. D Thesis Department of Agricultural Economics and Extention, Chukwuemeka Odumegwu Ojukwu University, Igbariam Campus. Anambra State.
11. Nkamigbo. D.C., Nwoye,D. C., Makwudo, E.O. & Gbughemobi, B .O.(2015). Economics of Maize Production in Oyi LGA, Anambra State, Nigeria. Inter J. Agric. Biosci, 7(2), 60-64.
12. Nkamigbo, D.C., Ugwumba, C.O.A and Okeke, Uche (2019).Market Structure, Conduct and Volume of Trade among Channels of Watermelon Marketing in Anambra State. Inter. J. Biosci, 8(2), 112-116.
13. Nkamigbo, D.C and Isibor, A.C. (2019). Inter-Market Price Spread and Determinants of Net Farm Income in Watermelon Marketing in Anambra State. International journal of Agriculture Policy and Research. 7(4), 100-107.
14. National Population Commission (2006). Population Census Report National Population Commission of Nigeria, Abuja.

15. Ojo, A.O., Mustapha, A. and Ojo, M. A. (2016). Analysis of marketing efficiency of tomato fruits in Abuja Municipal Area Council, Nigeria. *Journal of Scientific Research*, 15(2), 377-384.
16. Ozor, M. U. (2016). Economic analysis of dry maize in the South East States of Nigeria. Unpublished Ph. D Thesis Department of Agricultural Economics and Extension, Chukwuemeka Odumegwu Ojukwu University, Igbariam Campus. Anambra State.
17. Shehu, A .S, and Mohammed A. S. (2013). Economic analysis of tomato marketing in Ilorin metropolis Kwara State, Nigeria. *Journal of Agricultural Science*, 62(2), 179-