

UDC 332; DOI 10.18551/rjoas.2022-01.14

**MARKETING CHANNELS AND MARKETING MARGIN ANALYSIS OF TOMATO
RETAILING IN TWO SELECTED MARKETS WITHIN KADUNA METROPOLIS,
KADUNA STATE, NIGERIA**

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ABSTRACT

The study examined the analysis of tomato retailing in two selected markets in Kaduna metropolis. Purposive and random sampling techniques were used to select the fifty marketers used for this study. Data were collected from marketers and respondents using structural questionnaires. The data collected were then analyzed using descriptive statistics and market margin analysis. The result indicated that about 56% of marketers are male and about 86% are between the ages of 21- 60 years. The market margin analysis values were 36.04% in both markets which show that tomato marketing is profitable in the study areas. The result also revealed that there are three channels of marketing of tomato in the study area. However, the marketers are faced with the problem of tomato spoilage. It is recommended that marketers should form co-operative society in other to put their resources together to enable them to purchase processing and preservation facilities in order to reduce the level of tomato spoilage.

KEY WORDS

Marketing channels, marketing margin, retailers, Kaduna.

Tomato (*Lycopersicon esculentum* Mill.) is one of the most cultivated vegetable in most regions of the world, ranking second in importance to potatoes in many countries (Ojo *et al.*, 2009). In Nigeria, an annual total area of one million hectares is reportedly used for its cultivation and it makes up about 18 percent of the average daily consumption of vegetables in Nigerian homes (Chidi, 2012). Nigeria is also ranked second largest producer of tomato in Africa and thirtieth largest in the world, producing 1.701 million tonnes of tomato annually at an average of 25-30 tonnes per hectare (F.A.O, 2010).

Most nutritionists are of the opinion that fresh fruits and vegetables are very important sources of vitamins and minerals that are essential for healthy human diet (Chidi, 2012). In human nutrition, vegetables are an essential protective food containing vitamins and minerals. Any balanced diet should include vegetables and fruits for this reason. The proportion of vegetables required in a balanced diet per capita per meal is of the order of 45% of the total volume of the food. Vegetables supply considerable quantities of vitamins A, B, C, D, E and K.. Vitamin A maintains health of the respiratory and the eye tissue; vitamin B is essential for development of the nervous system; vitamin C maintains health of blood cells and tissues; vitamin D maintains health of bones and teeth; vitamin E maintains health of the reproductive system; and vitamin K is essential for blood clotting. Iron, which is particularly plentiful in green vegetables, is part of haemoglobin which is found in the blood. The high fibre content of vegetables is essential to maintain the health of the bowels, and a diet which is low in fruit and vegetables frequently results in constipation. Tomato (*Lycopersicon esculenta*) is the second most important vegetable crop after potato in the world because it contains large amounts of vitamin C, providing 40 percent of the daily value (DV) (Bhowmik, *et al.*, 2012). Additionally, it also contains 15 percent DV of vitamin A, 8 percent DV of potassium, and 7 percent of the recommended dietary allowance (RDA) of iron for women

and 10 percent RDA for men. It can be grown in many areas of Nigeria and opportunities for increasing its production are considerable. Both wet and dry season cropping contributes immensely to the national requirement but the bulk of the production is from dry season cropping particularly under irrigation in the northern states and near perennial river banks in the south (Aminu, 2004). Nigeria ranks as the second highest producer of tomato in Africa, the country is 13th in the world (FAO, 2011), but Nigeria is not on the lists of official exporting countries of tomato or tomato products. The demand for tomato is currently estimated at about 2.3 million metric tons per annum, while only about 1.8 million metric tons is locally produced in the country. The report further stated that about N16 billion is spent annually on the importation of tomato paste into the country. A well-developed marketing system is expected to complement production effort towards the realization of its desirable goal through the provision of time, space, possession and form.

Adeoye *et al.* (2009) indicated that as a perishable crop, tomato has frequent variations in price even on a daily basis.. Price provides the incentive to both producers and consumers; higher prices encourage more production by the producers but less consumption by the consumers, while low prices discourage production by the producers and encourage consumption by the consumers. These mechanisms push the price to balance the forces of demand and supply providing the most efficient economic outcome possible. Therefore, tomato marketing comprises of a complex and diverse array of independent markets facing different supply conditions, marketing needs and demand trends. Hence, understanding price seasonality and the economic factors behind it aid the study of demand and supply relationships within the vegetable market. Given that vegetable prices tend to be more volatile than those for staple commodities. Uncertainty in crop prices makes it difficult for farmers in Nigeria to be confident, that they will obtain a sufficient return from the sale of the additional harvest. This is because the storage process is technically difficult and expensive, agricultural prices are therefore subject to strong seasonal variations. This is alleviated by fluctuations of provision of information and market news services that assist producers in organizing supply and enabling farmers to re-route goods to other markets which suffer from a shortage of supply or high-demand markets. There is therefore a need to understand the pattern of price variations, price trends, monthly seasonal indices and their deviations to establish policies that help stabilize food prices.

The study therefore aimed at examining marketing channels and marketing margin analysis of tomato among retailers in Kawo and Mando markets within Kaduna metropolis.

METHODS OF RESEARCH

The study was conducted in Kawo and Mando Markets. The two markets are located within Kaduna metropolitan town. Kaduna state is located within the Guinea Savannah Region on latitude 10° 32' E and longitude 7° 17' N. It has an estimated annual rainfall of about 1000mm-1500mm per annum and a land mass area of about 3,174.5sq kilometers. The state has contributed immensely to the Nigerian economy especially in the area of agricultural production of major crops like tomato, yam, cassava, maize, millet and pepper. The selected markets are known for marketing of various agricultural products such as tomatoes, pepper, maize, beans, yam, sweet potatoes, irish potatoes, onions, okra and other vegetables. The markets have several tribes and ethnic groups i such as Yoruba, Hausa, Ibo and Fulani land other locals interacting together harmoniously.

Two stage sampling techniques were used for the study. The first of sampling technique is the purposive selection of two markets from Kaduna metropolis. The markets selected purposively are Kawo and Mando markets respectively. The second stage of sampling is the random sampling of tomato retailers in the selected markets. 30 and 20 tomato retailers were selected from Kawo and Mando markets respectively making a total of 50 marketers that were used for the study.

Primary data were used for this study. The primary data were obtained by administering of well structured questionnaire to the respondents.

The data collected were analyzed using descriptive statistics such as frequency percentages, tables and flow charts to achieved objectives i, ii and iv while marketing margin analysis was used to achieve objectives iii.

This was used to achieve objective iii. It was employed to determine the fraction of consumer's expenditure on a commodity that is received by producer and each of the marketing agents. The formula that was used for marketing margin is specifying as:

$$\text{Marketing margin (\%)} = (\text{Selling price of tomato} - \text{Cost price of tomato} \times 100) / \text{Selling price of tomato}$$

RESULTS AND DISCUSSION

The information on the socio economic characteristics of tomato retailers in Kawo and Mando markets were considered. Information on variables such as; age, gender, education level and marketing experience were gathered for the study.

Table 1 below shows the distribution of respondents based on their age. 24.00 % of the respondents are between the age of 31 – 40 years, 22.00 % have an age range of between 41 – 50 years and 51 – 60 years respectively, 18.00 % of the respondents age ranges between 21 – 30 years, 10.00% of the respondents are below 21 years while only 4.00% are 61 years and above. The result reveals that 96.00% of the retailers are still in their working age group which signifies that they still possess the energy and strength to carry out their marketing activities actively. Okpeke (2015) recorded similar age range among tomato marketers in her study.

Table 1 – Age distribution of the respondents

	Frequency(F)	Percentage (%)
Below 21	5	10.00
21 – 30	9	18.00
31 – 40	12	24.00
41 – 50	11	22.00
51 - 60	11	22.00
Above 61	2	4.00
Total	50	100.00

Source: Field Survey, 2021.

Table 2 indicated that 56.00 % of the respondents are males while 44.00 % are female. This shows that the retailing of tomato is not gender bias in the study area. This result revealed that the males are more involved tomato retailing than the females in Kawo and Mando markets. The result was in agreement with the findings of Rahman *et al.* (2002) which stated that men were the main providers of the household and supports the family more than women.

Table 2 – Gender distribution of the respondents

Gender	Frequency (F)	Percentage (%)
Male	28	56.00
Female	22	44.00
Total	50	100.00

Source: Field Survey, 2021.

Table 3 showed that 64.00 % of the respondents are married, 24.00% are still single, 8.00% are widow and 4.00 % are divorce or divorcee. This reveals that married people are more into marketing of tomato than the singles. This might be as a result of the singles migrating from place to place while the married are looking for income to sponsor their children to schools, settle medical bills, feeding and shelter. The result was in line with the study of Okpeke (2015) that reported that majority of marketers involved in the marketing of tomato among women in Ughelli local government area of Delta state were married.

Table 3 – Distribution of respondents based on marital status

Marital status	Frequency (F)	Percentage (%)
Single	12	24.00
Married	32	64.00
Divorce(e)	2	4.00
Widow	4	8.00
Total	50	100.00

Source: Field Survey, 2021.

Table 4 shows that 44.00 % of the respondents had household size that ranges between 1-5 persons, 34.00 % of the respondents had household size that ranges between 6-10 persons, 18.00 % of the respondents had household size that ranges between 11 – 15 persons and 4.00% of the respondents had household size that ranges between 16 – 20 persons. The result revealed that majority of the respondents have household size that ranges between 1 to 10 people which shows that their labour need may be complemented by the family in addition to hired labour. Rahman *et al.* (2002) stated that family size or household size is the total number of individuals who live within and feed in the household. A household is made up of head, wives, and children and to some extent family relatives.

Table 4 – Distribution of respondents based on household size

Household size	Frequency (F)	Percentage (%)
1 – 5	22	44.00
6 – 10	17	34.00
11 – 15	9	18.00
16 – 20	4	8.00
21 and above	0	0.00
Total	50	100.00

Source: Field Survey, 2021.

Table 5 shows that 32.00 % of the respondents had secondary education, 30.00 % of the respondents received tertiary education, 24.00 % of the respondents had no form of formal education and 14.00 % of the respondents attended primary school. The result revealed about 76.00 % of the tomato retailers had formal education which might have positive effect on their rate of accepting new innovations concerning marketing strategies. This implies that reasonable populations of the respondents are educated and due to their education level it will be easier to adopt new technologies in marketing and deal with problems of risk and uncertainty in marketing Rahman *et al.* (2002)

Table 5 – Distribution of respondents based on educational level

Educational level	Frequency (f)	Percentage (%)
No formal education	12	24.00
Primary education	7	14.00
Secondary education	16	32.00
Tertiary education	15	30.00
Total	50	100.00

Source: Field Survey, 2021.

The marketing of tomato is presented in Figure 1. The figure shows that the channel of tomato marketing interwoven with about three different paths as identified by the respondents. The first path is from the farmers to wholesalers to retailers and finally to the consumers. The second path is that the retailers by cut the wholesalers and purchase tomato at the farm gate from the farmers directly while the third path is that sometimes the consumers by cut the retailers to buy from the wholesaler directly.

The result of marketing margin analysis of tomato retailing in two selected markets in Kaduna metropolis is presented in Table.6. The result shows that the marketing margin in both markets is 37.50%. The result signifies that there is no differential in both the cost and

selling prices of tomato in both markets. The result revealed that the market margin in both markets was quite high which signifies that tomato retailing is a profitable venture in the study area. This result is in agreement with the findings of Okpeke (2015) who obtained high values of market margin for tomato marketers in her study.

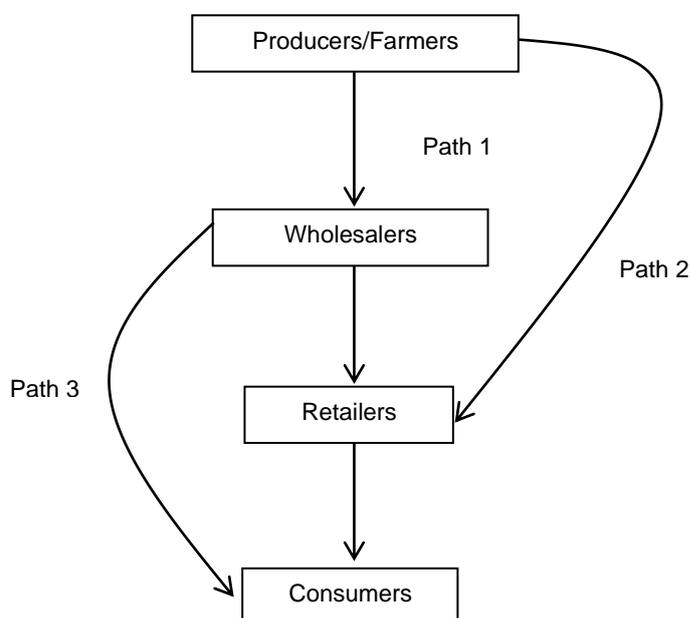


Figure 1 – Marketing Channels for Tomato Marketing in the Study Area

Table 6 – Marketing Margin of Tomato in the Two (2) Selected Markets in Kaduna Metropolis per Bag

Market	CP(Naira)	SP(Naira)	MM	MM (%)
Kawo	6000.00	9600.00	0.3750	37.50
Mando	6000.00	9600.00	0.3750	37.50

Source: Field Survey, 2021. Note: CP - Cost Price for a basket of Tomato in Naira; SP - Selling Price for a basket of Tomato in Naira; MM - Marketing Margin.

The result of Table 7 shows the various problems facing tomato marketing in the study area. Tomato spoilage accounted for 84.00 % of the problem facing tomato retailing as indicated by the retailers. The spoilage of tomato is the only major and serious problem identified by the respondents. Other problems identified but not that serious include lack of preservation facilities (40.00%), price fluctuation (34.00%), low sales (34.00%) and high cost of transportation (32.00%). According to the result problems of low sales observed might be as a result of high selling price of the tomato.

Table 7 – Problems facing tomato retailing in the study area

Problem	*Frequency (F)	Percentage (%)
Price fluctuation	17	34.00
Spoilage	42	84.00
High transportation cost	16	32.00
Low sales	17	34.00
Lack of preservation facility	20	40.00

Source: Field Survey, 2021. * Multiple Responses.

CONCLUSION

The study was carried out to examine the analysis of tomato retailing in two selected markets in Kaduna metropolis of Kaduna State. Primary data was collected by the use of structured questionnaires and personal interview. The result showed that 76.00 % of

marketers are in their active age of between 18-60 years, while about 62.00% of the retailers had post primary school. Three paths of channel of marketing were identified. The result of the marketing margin showed that tomato marketing is profitable venture in the study area. However spoilage of tomato was identified as the major problem facing tomato retailing in the study area. Based on the result it is concluded that tomato marketing in the study area is profitable and a good venture to imbibe in for self reliance and self employment. Based on the result gotten from this study, the following recommendations are therefore suggested: There is a need for a processing and preservation facilities to be provided so as to reduce the level of spoilage, more people should be encouraged to participate in the business since it is a profitable venture, loan facilities should be provided to the marketers to enable them expand their business and government should find lasting solution to the various constraints such as high transportation cost, low sales, price fluctuation and lack of preservation facilities which affects marketing of tomato in the study area in order to increase the efficiency of the investment.

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