MARKET STRUCTURE, CONDUCT AND PERFORMANCE OF BEEF MARKETING: EVIDENCE FROM SOUTHEAST, NIGERIA

Ejike, R.D.[1], Lemchi, J. I.[2], Eze, C.C.[2] and Ohajianya, D. O.[2]

[1]Department of Agricultural Economics, Extension and Rural Development, Imo State University Owerri, Imo State, Nigeria
[2]Department of Agricultural Economics, Federal University of Technology, Owerri, Imo State, Nigeria

Corresponding Author's email: ejikedabrechi@yahoo.com

ABSTRACT

In recent times, market structure and conduct has been increasing in agricultural food retailing sector, raising concerns about increased retail price competition and have heightened opportunities for exploitation in consumer markets with far reaching impact on the performance of food distribution system particularly beef. This paper investigates the market structure, conduct and performance of beef market in Southeast Nigeria. A multistage sampling technique was adopted in the selection of retail beef markets and beef traders for the study. Data for the study were collected using structured questionnaire administered to 270 traders who were selected from 30 spatially separated retail beef markets. Frequency count, mean, percentage, marketing margin analysis, herfindahl index and marketing efficiency index were used for data analysis. The results showed that male gender dominate (76.3%) the beef marketing sphere with an average trading experience of approximately 9 years. The organizational structure for beef marketing system as showed by the Herfindahl index was 0.37 indicated that retail beef marketing system was a relatively perfect competition. The marketing margin, cost and efficiency estimates showed that on the average a trader incurred ₦1,040.74 cost with a realizable net margin of ₦354.32 per kilogramme of beef sold. Marketing margin and marketing efficiency were found to be 30.32% and 34.05% respectively suggesting that retail beef marketing is a viable enterprise and the traders were relatively efficient in carrying out trading activities in the beef marketing system. There is need for strong market linkages across beef marketing chain and marketing agents in the chain to help retail beef traders get appropriate price for their product, reduce undue charges, involvement of middle men and minimize the cost incurred in marketing.

Keywords: Beef market, Market structure, Conduct, Performance, Southeast, Nigeria.

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INTRODUCTION

The livestock sub-sector is an important and integral component of the Nigerian agricultural economy. The sector contributes about 40 percent of global value of agricultural output and

supports the livelihoods and food nutrition security of at least 1.3billion people (Food and Agriculture Organization [FAO], 2021). It contributes about 9% to agricultural Gross Domestic Product (GDP) with a growth rate of 1.65% (FAO, 2019; National Bureau of Statistics [NBS], 2012). Nigeria is one of the four leading livestock (cattle) producers in Sub-Sahara Africa with an estimated 18.2 million cattle herds which are predominantly managed in large herds by semi-sedentary and transhumance pastoralists (FAO, 2018, 2019).

Beef trade provides one of the largest market in Nigeria with millions of Nigerians making their livelihood from various beef-related enterprises (FAO, 2019; Umar, Alamu & Adeniyi, 2008).The value chain operates almost entirely by the private sector. The beef marketing process makes possible the delivery of beef cattle to the buyers in the form, place and time needed which is important in achieving sustainable and profitable agricultural commercialization in the livestock beef sub-sector in Nigeria. (Mafimisebi, 2012). In recent time, market structure and conduct has been increasing in agricultural food retailing sector, raising concerns about increased retail price competition and have heightened opportunities for exploitation in consumer markets with far reaching impact on the overall performance of food distribution system particularly beef.

The organizational structure as well as the conduct of traders and middlemen in the market place has continued to widen the gap between commodity prices, traders' margin and the distribution channels of food commodities, including beef across markets particularly in south-east Nigeria. These situations has led to trade distortions causing market inefficiencies among players in the marketing chain, which among others have resulted in higher delivered food prices to consumers relative to producer prices. Olukosi, Isitor and Ode (2005) defined market structure as those characteristics of an organization of a market which seem to influence strategically the nature of competition and pricing within the market. Marketing conduct on one hand refers to the patterns of behaviour that enterprises follow in adopting or adjusting to the markets in which they sell or buy (Bain, 1968). Conduct explains price policy, advertising policy, output policy, legal tactics, etc (Abbot, 1958) while Market performance on the other hand is the assessment of how well the process of marketing is carried out and how successfully its aims are accomplished. It is an economic indicator that is reflected by profit and efficiency. It refers to the impact of structure and conduct as measured in terms of variables such as prices, costs, volume of output (Bressler & King, 1970; Giroh, Umar & Yakub, 2013).

Efficient marketing plays an important requirement in the attempt to achieve wider accessibility and affordability of any product to consumers (Mafimisebi, 2011). According to Olukosi et al. (2007), the exact number of agents in these markets is difficult to determine and various unfixed charges and commissions are paid by the buyer, depending on his bargaining power. It has been observed that the involvement of too many middlemen in the marketing of animal products and by-products leads to an inefficient distribution system, high marketing costs and margins (Ekunwe, Emokaro, Ihenye, Oyedeji & Alufohai, 2008). Also, it is a known fact that most agricultural products are bulky, perishable and highly prone to microbial attack which leads to their deterioration in quality, and resulting in the spoilage and wastage of these products. This however, places a tremendous pressure on achieving the Sustainable Development Goal (SDG) on hunger by year 2030 (FAO, 2018).

Marketing is an economic activity which stimulates further production and if efficiently done, both the producer and consumer get satisfied in the sense that the former gets a sufficiently remunerative price for the product to continue to produce while the latter gets it at an affordable price that stimulates continued consumption (Umar, 2005; Mafimisebi, 2012). In this regard, pertinent questions raised are; How organized is the market for beef? What are the structural characteristics of the participants in the area? How efficient is the conduct of participants in beef marketing? What is the magnitude of cost and margin of retail beef marketing in the area? Finding answers to these questions therefore becomes imperative which this study seeks to address.

METHODOLOGY

The study was conducted in south-east zone of Nigeria. The area is situated east of River Niger covering an area of 29,908 sq km with a cumulative population figure of 21,955,414persons (NBS, 2017) and lies between latitudes 5^{o}and7^{o}75'North of the equator and longitudes 6^{o}85' and 8^{o}46'East (Federal Ministry of Lands, Housing and Urban Development, 2010).The zone falls within the tropical rain-forest vegetation and it is characterized by two distinct climatic seasons i.e. a rainy season and a dry reason within one year. The area is characterized by a fairly high temperature (as high as 28.7^{o}C) with a mean annual rainfall above 1800mm. Its location within the tropical rainforest belt of the country allows and supports the growth and survival of most

tropical food crops like cassava, cocoyam, yam, maize, rice, vegetables, oil palm etc, and the production of livestock including cattle. The area houses one of the largest commercial beehive centres in West Africa, and one of the largest beef cattle markets in Nigeria the renowned Onitsha main market and Amansea cattle market both in Anambra State respectively which creates big business opportunities for its inhabitants.

A multistage sampling procedure was used to select beef traders and retail beef markets for the study. The first stage was the random selection of three states from the states that make up the south-east zone namely; Imo, Anambra and Ebonyi States. The second stage was the selection of the agricultural zones that make up the selected states. They are; Owerri, Okigwe and Orlu zones for Imo State; Onitsha, Awka, Aguata and Anambra zones for Anambra State; and Ebonyi North, Ebonyi South and Ebonyi Central for Ebonyi State respectively. The third stage was the purposive selection of a central urban market and two (2) rural markets representing each agricultural zone of the selected states. The purposive selection of these markets was based on high concentration of beef traders. This brought the number of markets selected per state to 9, 12, and 9 markets for Imo, Anambra and Ebonyi States respectively making a total of 30 markets. Finally, proportionate random sampling was used to select 270 beef traders for the study. Thus, organization of the sample according to states gave 80, 104 and 86 beef traders from Imo, Anambra and Ebonyi States respectively. The list of beef traders which formed the sampling frame for the study was sourced from the beef traders' association chairpersons.

Structured questionnaire administered through personal interview was used to ellicit data from the respondents. Descriptive statistical tools such as frequency count, percentages, charts, and inferential statistical techniques such as herfindahl index, marketing margin analysis and marketing efficiency index were employed for data analysis. Model specification for the study is expressed thus;

Herfindahl Index (HI) is given as;

$HI = \Sigma Si^2$.....(eqn. 1)

Where;

Si = Market share for respondent i, calculated as:

$Si = qi / q$.....(eqn. 2)

qi = quantity of beef sold per week by respondent i (₦/Kg)

q = total number of beef sold per week by all respondents (₦/Kg)

Marketing Cost (MC) = Total Variable Cost (TVC) + Total Fixed Cost (TFC).....(eqn. 3)

Marketing margin (MM) = $\frac{\text{Selling price(₦/kg)} - \text{Purchase price(₦/kg)}}{\text{Selling price (₦/kg)}} \times \frac{100}{1}$……(eqn. 4)

Marketing Efficiency Index (MEI) according to Shepherd 1969 is given as:

$$MEI = \left[\frac{V}{I} - 1\right] * \frac{100}{1} \text{.....(eqn. 5)}$$

Where

ME = Index of Marketing Efficiency (Percentage)

V =Value of goods sold or price paid by the consumer (Retail price of beef) (₦/Kg)

I = Total marketing cost or marketing cost per unit of beef (₦/Kg)

RESULTS AND DISCUSSION

Organizational structure and conduct of traders in retail beef marketing

The organizational structure and conduct for the surveyed retail beef markets were discussed on the following headings: mode of entry, number of beef traders, association membership, knowledge of price information, method of attracting market share, method of fixing prices and their buying and selling activities.

Organizational structure of beef marketing

Mode of Entry

The ease with which potential participants can enter various markets is one of the commonly used measures of assessing the degree of competition in an industry. The study result showed that there exist barriers to entry into the beef marketing sphere as traders must fulfil certain conditions before they can become participants in the marketing of beef. The results indicates that the mode of entry requires that the prospective trader spent at least 1 to 3years periods of apprenticeship (optional) as a means of acquiring marketing skills, pay registration fee which averages as high as ₦25,000 to ₦40,000 and provision of kola nut, a carton of soft drink and an

alcoholic drink (malt and stout drinks respectively) before they are issued certificate of license that can permit them undertake trading activities and as long as they are willing to operate within the codes of conduct marshalled out by the association. These conditions could be responsible for the restriction on new entrants into the business to begin operations in beef trading within the study area. This depicts a deviation from the ethics of a perfect market competition. The findings is in contrast with the outcome of the study conducted by Dodo and Umar, (2015) who noted the absence of barrier to beef trade in Katsina Local Government of Katsina State.

Number and Size of Beef Traders

The size of participants in the beef retail market in the study area is presented in Table 1.0. The result in Table 1.0 showed the organizational size of the surveyed retail beef markets in the study area. The result showed that the markets surveyed are characterised by the presence of relatively large number of traders which ranges from a minimum of 48traders to as high as 112 traders with an average size of approximately 67 traders. The result shows that majority (53.33%) of the beef retail markets surveyed houses between 48 -60 beef traders. This implies that many traders face and interact with numerous buyers. The presence of the relatively large traders suggests that, an individual trader will not noticeably affect the market price of beef by altering his quantity of beef offered for sale neither could buyers' perceptibility influence price by raising or lowering demand. The relative large number of traders also infers the less likely for traders to maintain price or quantity of beef supplied at a level significantly greater than cost. As a consequence, collusive agreements among traders in the mark regard to the et sphere tend to dissolve more readily. The finding suggests that the market for beef portrays a relatively perfect market competition. This is consistent with the findings of Dodo and Umar, (2015), Ogisi, Egware and Akalusi (2012) who recorded the presence of numerous buyers and sellers in beef marketing in Katsina State and garri marketing in Ethiope-west of Delta State respectively.

Seller (market) concentration

Market concentration refers to the number of buyers and sellers in the market. It measures the extent of domination of sales by one or more firms in a particular market. The result of the estimated HI was found to be 0.37. The result implies a lower level of seller concentration in retail beef marketing which suggest a relatively competitive retail market for beef in the study

area. It could further be inferred that retail beef marketing is characterized by many sellers denoting a common feature of a perfect competitive market system. This suggests that the tendency to distort or manipulate supply and price of beef by traders is minimal thus influencing the pricing efficiency of the marketing system positively and erasing the chances of traders engaging in market collusive behaviour. The result is consistent with the findings of Lemchi (1999).

Nature of product traded

The result indicated that the traders' surveyed traded only on a standardized product in this case beef. Under perfect competition only a single product is sold. This means that all the sellers sell the same type of product to buyers which make the product a perfect substitute. This result suggests the presence of product homogeneity which is one of the features of a perfect market competition and as such each trader had negligible impact on the quantity supplied and market price for beef. The result is consistent with the findings of Dodo and Umar (2015) who discovered product homogeneity among beef marketers in Katsina State.

Market Conduct

This section takes into account the conduct of traders selling and pricing behaviour in terms of fixing prices and the methods employed in establishing beef prices.

Selling Conduct of Traders

Selling conduct of beef traders by category of buyers

The results of the study showed that the beef traders in the study area had no clear line of demarcation in their trading activities as regards their selling conduct. This is so because the traders sold their products to different or more than one category of buyers. The selling conduct of the retail beef traders in respect to the categories of buyers is presented in Figure 1.0. The result in Figure 1.0 showed that all the traders (100%) sold directly to consumers, 86.4% sold to food vendors, 38.6% sold to fast food centres, and 48.7% sold to hoteliers. This suggests that the demand for beef is widely spread across the different categories of consumers in the study area.

Traders selling conduct by regular customers

Table 2.0 shows the distribution of beef traders by regular customers that patronize them. The number of regular customers that patronized the surveyed beef traders' ranges from 2 to 25 with an average of 11 customers that made beef purchase from them, suggesting that the product is a generally consumed as it gains patronage from consumers. The result is supported by Lemchi (1999) who observed that cassava products enjoy a wide spread patronage from consumers in his area of study.

Traders selling conduct by frequency of sales

This section takes into account the frequency of sales patronage received by the traders from their regular customers. The result is presented in Figure 2.0. The frequency of patronage gained by the traders varied. All (100%) of the traders in Figure 2.0 reported having regular customers who patronize them on daily basis and once per week respectively. About 73.6% had customers that patronize them twice a week, while 46.4% had customers that bought thrice a week. This implies that beef trading commands regular patronage from the consumers which suggest the daily sales of beef within the study area.

Traders conduct by selling arrangement

The traders reported having a variety of sales arrangement for selling of their product. The result in Figure 3.0 indicated that all the traders (100%) uses open display and persuasive method to attract sales, 28.7% approaches the buyers for sale, 100% reported the buyer approaching the trader for sale, 100% of the traders reported informally meeting with the buyer at the market place and negotiating transaction, 38.4% reported the buyer sending an agent to the trader to arrange for purchases and 48.7% of the traders indicated selling through a paid staff. This is an indication that the bulk of sales made by the traders were executed in the market place through the buyer approaching the trader and sales made through informal meeting between traders and buyers.

Traders conduct in setting beef prices

The study showed that price setting or fixing in retail beef marketing sphere is greatly influenced by the prevailing conditions of demand and supply. Observation of the market indicated that

there is no conspiracy or formal agreement among traders to fix or raise prices or restrict the quantity of beef offered for sale as a means to earn greater-than-competitive returns. This situation suggests the absence of collusive market practices among the beef traders in the study area. Collusive behaviour defines the actions of firms that coordinate their pricing or production policies in an attempt to increase their profit (Bain, 1985). It was also observed that the traders do not engage in hoarding of the product (beef) in order to create artificial scarcity of the product in the market arena. This is so because the quantities of beef bought as reported by the traders are offered for sale in the market place. This is possible due to the perishable and bulky nature of the product. Again, the competitive nature (perfect competition) of the market for beef in the study area suggests that an individual trader cannot noticeably influence the quantity of beef bought and sold in the market sphere.

Traders conduct on method of establishing beef price

With regard to traders' selling pricing system, the study indicated that the traders reported having a combination of methods of establishing prices at which they sell their products. Figure 4.0 showed that among the traders sampled 100% reported selling at prices established through negotiation, 92.7% reported selling by adding mark ups, while 64.5% agreed selling at prices established by trader. However, 64.5% of the traders also reported selling at current market prices. For instance, there are instances when prices are based on the weighted scale of the beef. In the different markets surveyed, a kilogram of beef was sold between ₦1,200 and ₦1,500 depending on the bargaining power of the consumer. But this however is not a common practice among beef traders in the area. The result suggests that price established through negotiation between traders and buyers is the prevalent method of price fixing in beef retail market in the study area. However, prices obtained through negotiation or bargaining with the buyers usually is influenced by the existing conditions of demand and supply, and therefore may approximate competitive prices which characterize a competitive market. The result is supported by the findings of Ayele, Zemedu and Gebremdhin (2017) who opined that over 75% of the traders reported that price determination was based on negotiation between sellers and buyers among beef cattle traders in Dudga district, East Shoa Zone of Oromia Regional State in Ethiopia.

Weight and standard measures for retail beef marketing

Standardization is concerned with the establishment and maintenance of uniform measures of produce quantity and quality. One advantage of uniform standards is that it makes price quotations more meaningful and sales easier to conduct. The study showed that all the traders based their sales transaction on volume or size of various measures in retail beef marketing. With this situation, standardization of sales and purchases were lacking. This method results in increased amount of time and energy spent in transacting one business since the measures of the product are not uniform. This suggests that sharp practices by the traders would abound leading to inefficient transactions and cheating of unsuspecting buyers by the traders and vice versa. Reports have it that lack of standard measurement is a common set back in agricultural food marketing in Nigeria and the absence of standard weights and measures results in trade becoming more expensive to conduct (FAO, 2015). The study further showed that there were instances where the traders used weighing scale for sales transaction of beef on per unit basis. However, this was not a common practice among the beef traders. The traders reported using weighing scale mostly for hoteliers and customers who wished to buy the product on per kilogram weighted averages using weighting scale.

Purchasing Conduct of Traders

Place of beef purchase by traders

The place of purchase plays important role in the conduct of market participants in the marketing system particularly in the area of price analysis. The result on place of purchase of beef by the traders is presented in Figure 5.0. The result showed that all (100%) the beef traders sampled buy their products from slaughter houses which in most cases are located within the same markets they operate or few kilometres away from the market they sell. This is an indication that traders have access to several slaughter houses within the surveyed markets from which they could purchase beef product for sale. This probably could be as a result of the bulky nature of cattle in addition to transfer cost as most of the traders will find it more problematic travelling far distances to buy the product. Also, 26.7% of the traders reported buying directly from the local merchants outside the market they operate particularly those who butcher whole cow for sale. These traders take their beef to the market for sale rather than sell at the slaughter houses. This is

because there is the tendency of the beef traders who buy directly from the local merchants gaining price advantage over their fellow traders who buy from slaughter houses. This suggests that the place of purchase is critical in price formation as it may influence the prices paid to the producers and prices sold or received by traders and in turn the overall margin that accrues to the traders. The result is in agreement with the findings of Lemchi (1999).

Traders purchasing conduct from sellers

All the traders (100%) reported having regular customers from whom they bought beef from. This strategy according to the beef traders is to ensure steady supply, speedy negotiation in price, price advantage and to increase their chances of getting beef at credit purchase.

Traders purchasing conduct by regular sellers.

Traders in the beef market reported having customers from whom they make their purchases regularly. Table 3.0 shows the distribution of traders by regular customers they purchase beef from. Table 3.0 showed that the number of regular customer from whom traders purchase beef from ranges from 3 to 8 customers per trader with an average of approximately 5 customers per trader. The implication is that traders in the surveyed retail beef markets have access to relatively large and distinct sellers or customers from whom the product (beef) can be acquired for sale. This could also suggest increased chances of getting steady beef supply for the traders. The result is supported by Lemchi (1999).

Traders purchasing conduct by frequency of purchase.

The frequency of purchases by the traders is presented in Figure 6.0. Some of the traders purchased beef product on daily, twice, thrice and once per week. The frequency at which the traders purchase beef varied, 46.4% of the traders reported purchasing the product (beef) from their regular customers on daily basis, 73.6% purchase at least twice a week, 44.7% bought thrice a week while 100% indicated buying the product once a week. The result implies that the frequency of beef purchases by the traders' was usually within one week which suggests a relatively quick turnover rate. Relatively quick turnover rate is critical in retail beef marketing due to the high perishable nature of beef. The finding is supported by Lemchi (1999) who reported that cassava traders purchased cassava product for sale at least once a week.

Traders purchasing arrangement

The purchasing arrangement adopted by beef traders includes; traders going to the seller, seller approaching the trader, trader sends his paid staff, trader sends his fellow trader, trader calls seller on phone for supply and informal contact between trader and seller at the slaughter house. The result is presented in Figure 7.0. Figure 7.0 showed the purchasing arrangement for beef product by the traders in the surveyed retail beef markets. All the traders (100%) as indicated in Figure 4.6 reported going to the seller, 76.2% reported seller approaching the trader, 23.6% indicated sending fellow trader for purchase of beef product, 36.7% of the traders call seller on phone for supply, trader sends paid staff (13.9%) while 48.5% made arrangement for the purchase of the product through informal contact between trader and seller at the slaughter houses. The high proportion of traders going to the seller reflects the general situation and practice in terms of purchase of beef product for sale within the beef marketing system in the study area.

Traders purchasing conduct by purchase price

The prices paid by traders for beef purchased for sale were through different methods such as; negotiation between the trader and the seller, price by mark-up, price by current market price and price set by the seller depending on the size, part and beef quality. The result of the methods for establishing purchase price by the beef traders is presented in Figure 8.0. The result in Figure 8.0 depicts the method of establishing purchase price by traders. All the traders (100%) engage in price negotiation or bargaining with the sellers in arriving at the purchase price. Also, 62.3% of the traders purchase beef at current market price, 52% of the traders purchase beef at price set by the seller and 76.4% of the traders buy at mark-up price by seller. No weighing scale is used. This implies that traders purchasing price varied distinctly and in most cases prices reached are influenced on supply and demand conditions. Thus purchase prices are established through direct bargaining power with the seller or prices reached with the seller. Hence, with this practice, potential competitive prices can be generated. This therefore suggests that no individual trader has the monopoly power to noticeably influence the market price of beef by altering his quantity of beef purchased for sale neither could sellers' perceptibility influence price by raising or lowering his supply. Hence, buyers and sellers adjust quantities bought and sold to obtain

optimal level at a given market price. This again indicates that the conducts of beef traders in the study area is in agreement with the fact that participants to an extent have perfect knowledge of price in the surveyed markets which is one of the features that characterize a competitive market where prices so discovered are those defined by forces of demand and supply.

It is therefore expected that prices paid by the traders to the sellers for their products would approximate that established by the forces of demand and supply. However, the prices finally paid may be greatly influenced by the relative bargaining powers of the traders and the sellers. Hence, though the general practice of establishing traders purchase price has the potential of generating competitive prices, the relative bargaining powers of the participants may greatly influence it.

Market Information and Knowledge of Price by Beef Traders

This refers to the information available to participants in the market that enables them to take decisions in the market in which they operate. Access to information is one of the criteria for assessing market structure and hence an important factor that affects the functioning and performance of any marketing system.

Awareness of market information and knowledge of price by traders

The report gathered shows that information was not adequate as some of the traders were aware of the beef prices but not aware of supply situations in other markets. While the traders hardly extended reliable market information on prices and supplies in other markets to their fellow traders, sellers and buyers. It was further observed that Information in beef marketing is not restricted, but could not be said to be perfect due to poor interest and poor processing of the sources of information. This has the potential of impeding the efficiency of product and price transmission in the beef marketing system within the study area. The state of market information based on price awareness is presented in Figure 9.0. The result in Figure 9.0 depicts the knowledge of price information among the traders surveyed. The result suggests that majority (58.7%) were aware of price situations in corresponding markets. The implication is that traders have relative knowledge of price in alternative markets suggesting a relatively price information asymmetry among participants and this could enhance their trading efficiency in terms of making informed price decisions in the market they operate. The result contradicts the findings of Dodo

and Umar (2015) who recorded full awareness of market information including costs, prices and other market conditions among the market participants for beef in Katsina State.

Sources of market information by traders

The sources of marketing information accessible by the traders are presented in figures 10.0. Several sources of gathering market information on price were indicated by the traders. These includes; market union, telephone calls and through fellow traders. Figure 10.0 shows the sources by which beef traders in the study area gather information regarding their marketing activities. The result shows that information gathering through fellow traders top the chart with 100% response. These sources suggests that information gathering in beef marketing is accessed by traders through variety of sources and this could play a crucial role in the behaviour of the traders in engaging with customers as regard price received for their product in the cause of carrying out marketing activities. This situation has implication on price formation and the marketing margin of the traders. The result is in consonance with the study conducted by Ogisi et al. (2012) who opined that 66.7% of the garri sellers in Ethiope-west in delta State get information on price of garri from their fellow traders.

Marketing margin, costs and marketing efficiency of retail beef marketing

This section takes into account the impact of the organizational structure and conduct of beef traders on prices, costs, quantities of beef sold and the margin received by traders in the surveyed markets within the study area. In estimating marketing margin, cost and marketing efficiency of the beef traders, the average prices in naira per kilogram (kg) of beef per week were used. The result is presented in Table 4.0. The result in Table 4.0 shows the **e**stimated marketing cost, marketing margin and marketing efficiency of beef marketing in Southeast, Nigeria. The estimation is measured in naira per kilogram of beef. The result indicated that on the average a kilogramme of was sold for ₦1,395.06 and bought for ₦972.09 by the traders in the study area. A gross margin of ₦374.28 was accruable to traders for a kilogramme of beef sold. The total cost incurred by the trader in performing marketing function per unit of beef sold was estimated at ₦1,040.74.The result further showed that approximately 98% of the total costs incurred in beef marketing in the study area constitute total variable cost while the remaining 2% constitute total fixed cost which is considered very low when compared to the variable cost incurred by traders.

Studies have shown that fixed cost component has a negligible value when compared to variable cost in estimating costs in agriculture. Again, about 94% variation in total cost structure which has a corresponding money value of ₦972.09 per kilogram of beef was incurred in the purchase of beef for sale by the traders. This implies that the bulk of the cost incurred in retail beef marketing is attributed to securing the product (beef) for sale by the market functionary (trader). Empirical studies (Nse- Nelson et al, 2017; Emakoro& Amadasun,2012) have shown that cost of acquiring the product for sale in any marketing system constitute a major cost component of the total marketing cost. On one hand, a net margin of ₦354.32was realized by the traders on the same quantity of beef.

The marketing margin received by the traders was found to be 30.32% per kilogramme of beef sold. The result indicates a relatively good marketing margin vis a vis the traders investment in the business which suggests that for every ₦100.00 expended in the marketing of a kilogram of beef per week, the trader gets an accruable average margin of approximately ₦30 implying that beef marketing in the study area is a profitable agribusiness enterprise which suggests that traders in the study area are effective at converting sales into profit. This value can be enhanced if traders could effectively and efficiently manage the business vis a vis increasing the scale of operation by increasing the quantity of beef sold per week. It could be further inferred that the magnitude of the marketing margin received by the traders is a reflection of the effect of the functioning and behaviour of the market participants (retail beef traders) as the product (beef) passes through the marketing system. The result is in agreement with the findings of Emakoro and Amadasun (2012). The coefficient of the estimated marketing efficiency was found to be 34.05% which is above 1suggesting that on the average, a trader's share of approximately 34% is not indicative of exploitative practices by the marketing agent (beef trader) in the beef marketing system which further indicates that the market for beef in the study area is efficiently competitive. Isitor, Babalola and Abegunde (2019) reported marketing efficiency scores greater than 1 for garri which lend support to this finding.

CONCLUSION AND RECOMMENDATION

The study investigated market structure, conduct and performance of beef marketing in southeast, Nigeria. The study concludes that the market for beef is a relatively perfect

competition with absence of price collusion or product hoarding among traders. Retail beef marketing is a profitable venture in the study area. It is recommended that;

i. There is the need for strong marketing linkages across beef marketing chain and marketing agents in the chain. Linkages between the players in the industry can help retail beef traders get appropriate price for their product, reduce the undue involvements of middlemen and minimize the cost incurred in marketing.
ii. Market unions should be proactive in regulating the activities of the marketing agents to make them conduct their marketing activities in such a manner that can reduce the price at which beef is delivered in the markets especially in the area of tax and levy collection which in turn can enhance the margin the traders receive.
iii. Grazing units should be established in and across the region by the state government to reduce economic shocks (farmer-herder crisis) that have bedevilled the beef industry in recent times. This will help enhance the efficiency of beef marketing system particularly as it relates to operational and pricing efficiencies.

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APPENDICES

Table 1.0: Percentage distribution of traders by organizational size

Organizational size	Frequency	Percentage	Mean
48 – 60	16	53.34	
61 – 73	4	13.33	
74 – 86	4	13.33	
87 – 99	3	10.00	
100– 112	3	10.00	
Total	**30**	**100.00**	
Mean			**67.30**

Source: Computation based on field survey data, 2019.

Table 2.0: Percentage distribution of traders by regular customers

Regular Customers	Frequency	Percentage	Mean
2 – 9	96	35.56	
10 – 17	150	55.55	
18 – 25	24	8.89	
Total	**270**	**100.00**	**11.38**

Source: Computation based on field survey data, 2019.

Table 3.0: Distribution of traders by regular sellers they patronize

Regular Customers	Frequency	Percentage	Mean
3 – 5	96	35.56	
6 – 8	150	55.55	
Total	**270**	**100.00**	
Mean			**4.50**

Source: Computation based on field survey data, 2019.

Table 4.0: Marketing margin, cost and marketing efficiency of a kilogramme of beef traded in retail beef market in Southeast, Nigeria

Indicator	Value (₦)	Percentage Contribution (%)
Purchase Price (₦/kg)	972.09	93..40
Selling Price(₦/kg)	1,395.06	
Gross margin (₦/kg)	**371.52**	
VARIABLE COST		
Transportation cost (₦/kg)	15.87	1.52
Cost of loading (₦/kg)	3.02	0.29
Cost of unloading (₦/kg)	3.09	0.29
Packaging cost (₦/kg)	6.53	0.63
Market charges (₦/kg)	3.42	0.33
Wages (₦/kg)	8.81	0.85
Storage cost (₦/kg)	4.25	0.41
Processing cost (₦/kg)	6.46	0.62
Total Variable Cost(₦/kg)	**51.45**	
FIXED COST		
Rent (₦/kg)	7.37	0.71
Depreciation on Equipments:		
Knife (₦/kg)	0.76	0.22
File (₦/kg)	0.61	0.06
Table (₦/kg)	7.14	0.68
Apron (₦/kg)	0.96	0.09
Total Fixed Cost	**17.2**	
TOTAL COST(₦/kg)	**1,040.74**	**100**
Net margin (₦/kg)	354.32	
Marketing margin (%)	30.32	
Marketing Efficiency (%)	34.05	

Source: Field survey data, 2019; Equipments were depreciated using the straight line depreciation method (SLDM)

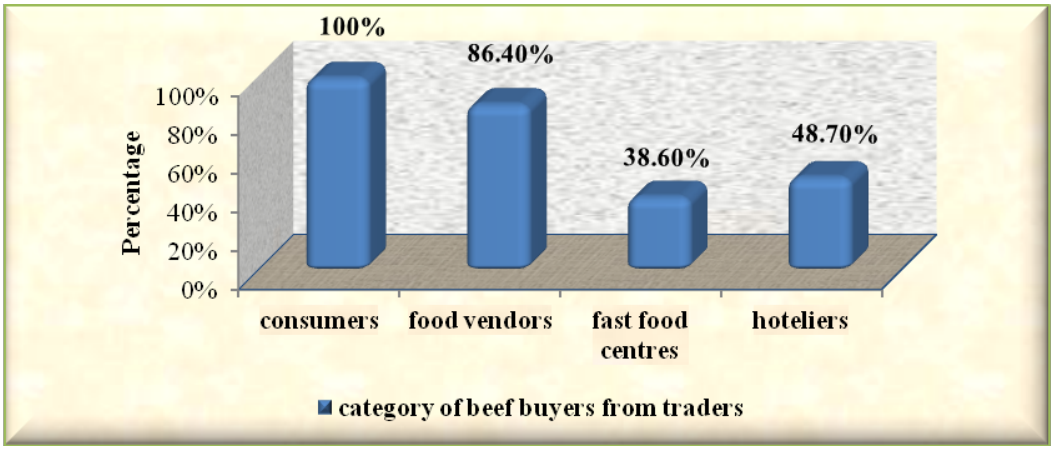

Figure 1.0: Percentage distribution of traders conduct by category of beef buyers
Source: Computation based on field survey, 2019. Multiple responses recorded

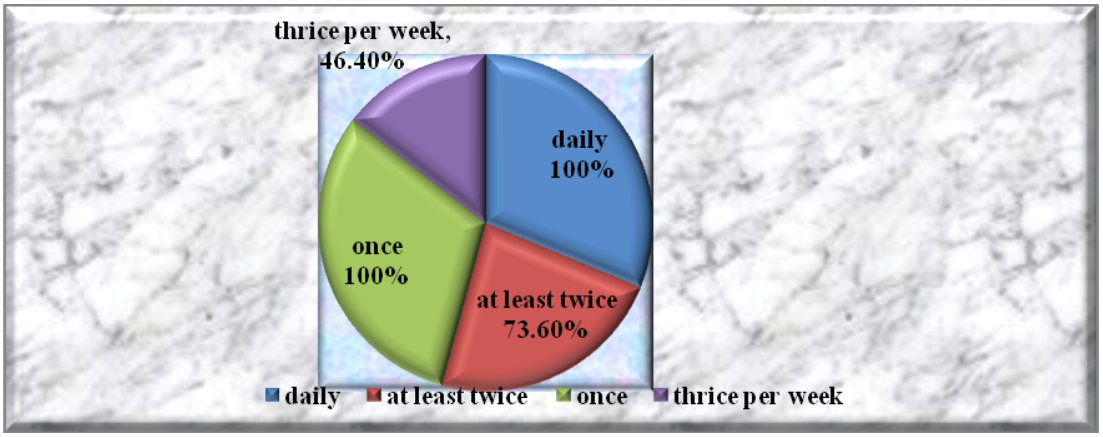

Figure 2.0 Percentage distribution of traders by frequency of sales to regular customers
Source: Computation based on field survey, 2019. Multiple responses recorded

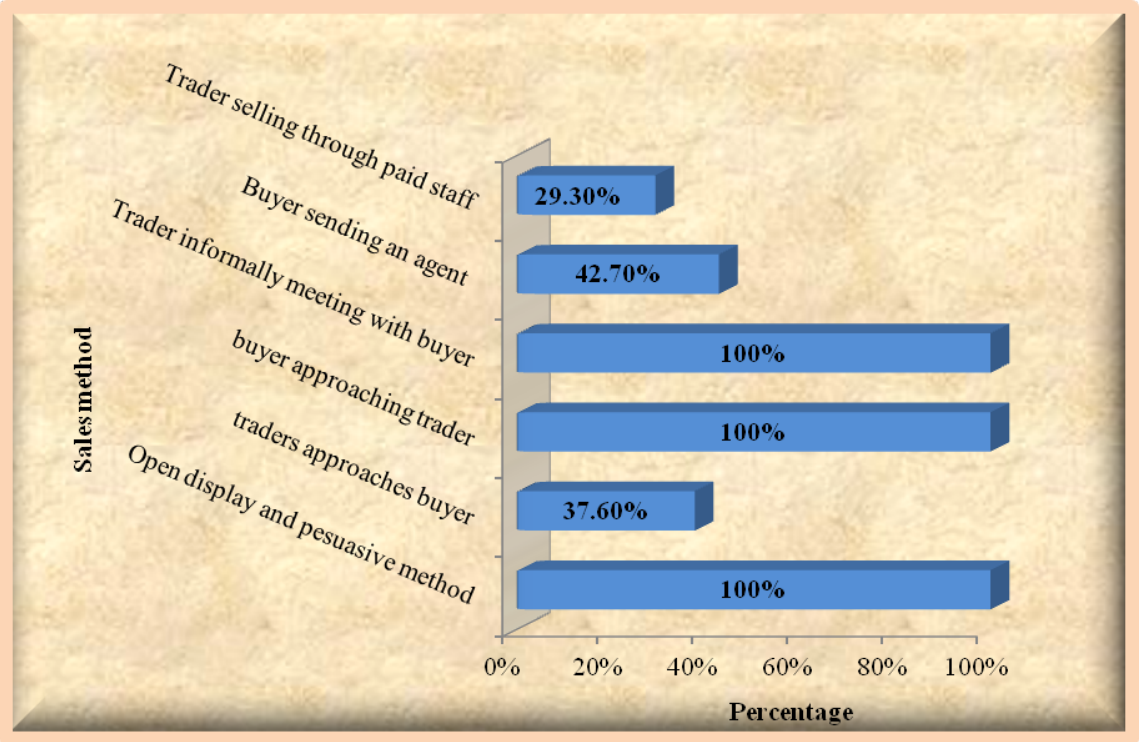

Figure 3.0: Percentage distribution of traders by method of selling arrangement
Source: Computation based on field survey, 2019. Multiple responses recorded

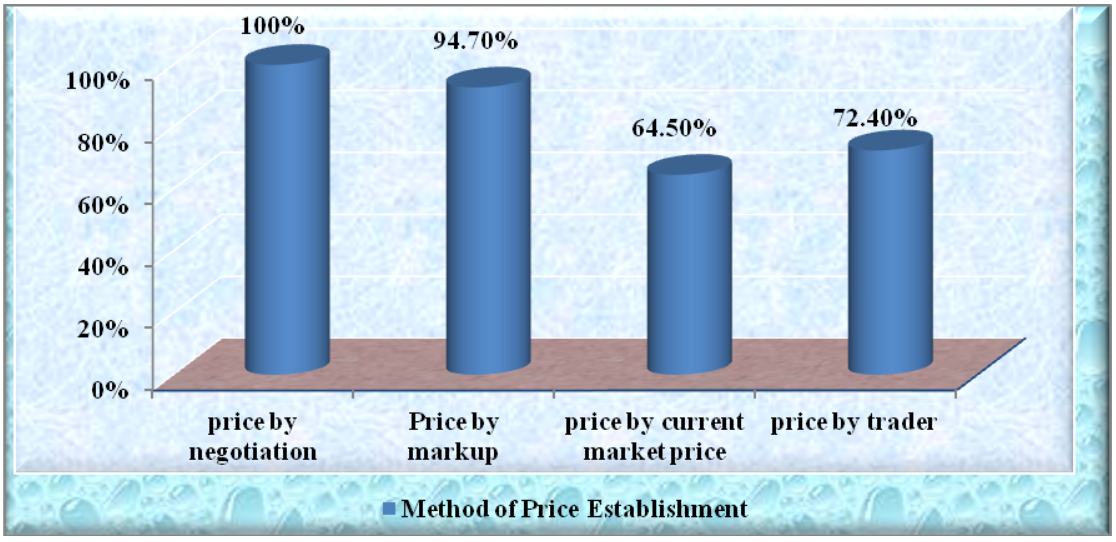

Figure 4.0: Percentage distribution of traders by methods of establishing selling price
Source: Computation based of field survey, 2019. *Multiple responses recorded.

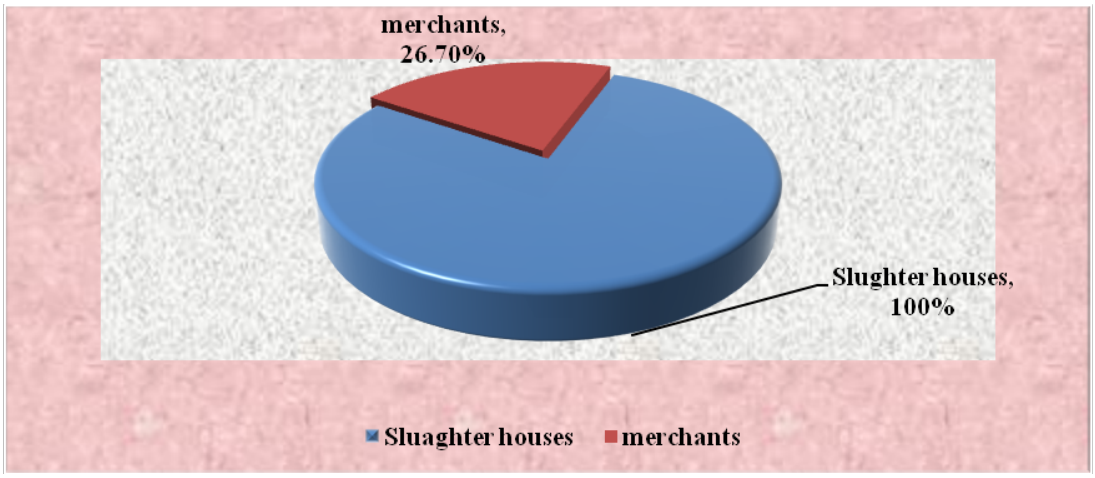

Figure 5.0: Percentage distribution of traders by place of beef purchase
Source: Computation based of field survey, 2019. Multiple responses recorded

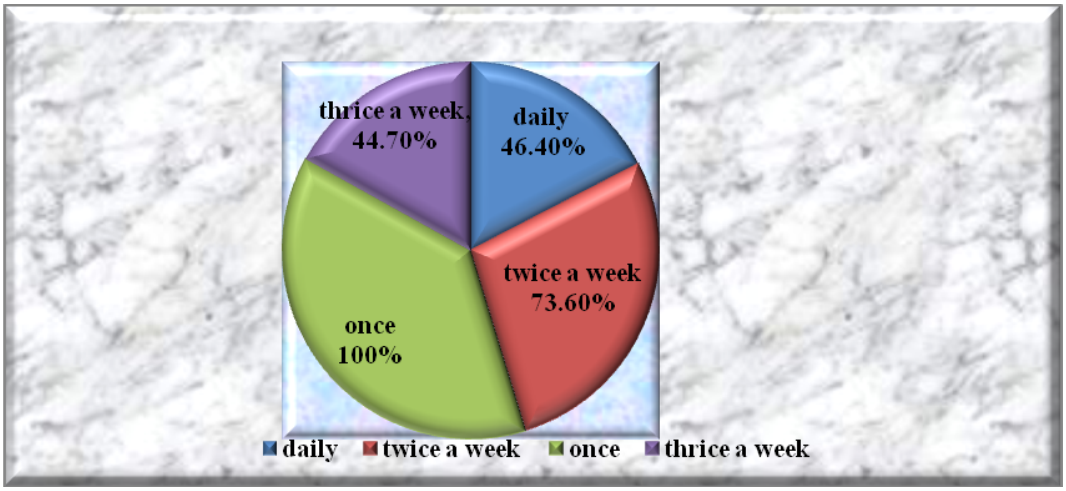

Figure 6.0: Percentage distribution of traders by patronage to beef sellers
Source: computation based on field survey data, 2019. *Multiple responses recorded.

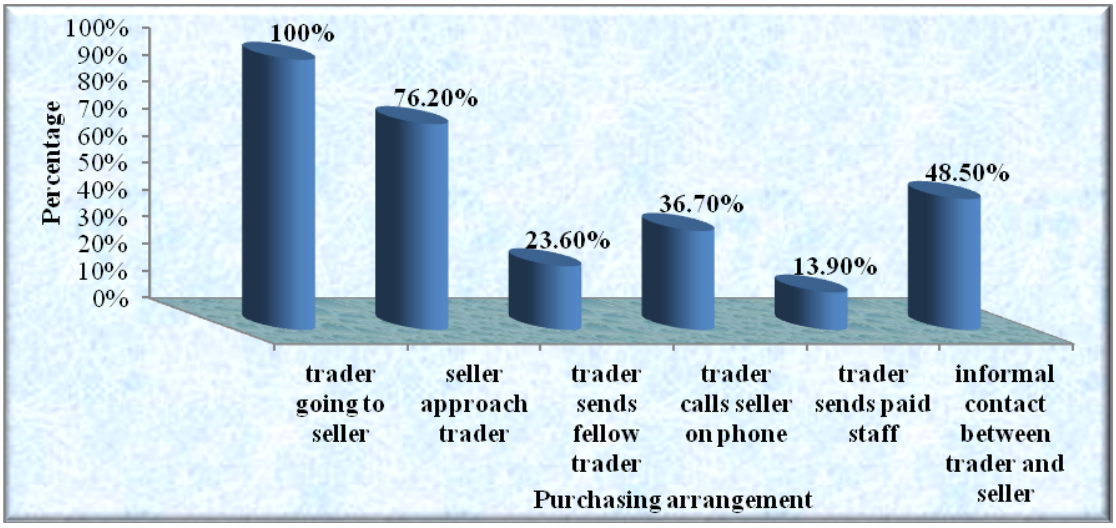

Figure 7.0: Percentage distribution of traders by purchasing arrangement
Source: computation based on field survey data, 2019. *Multiple responses recorded.

Figure 8.0: Percentage distribution of traders' by method of establishing purchasing price
Source: computation based on field survey data, 2019. *Multiple responses recorded.

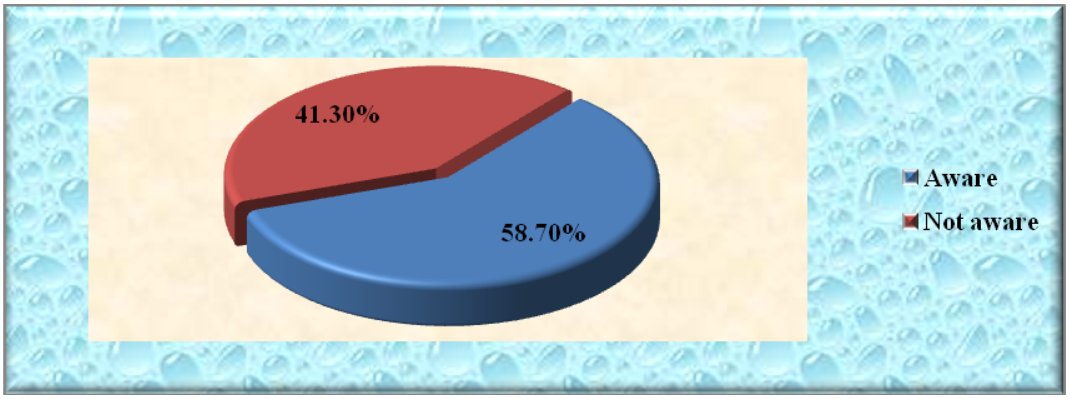

Figure 9.0: Percentage distribution of traders by awareness of price
Source: computation based on field survey data, 2019.

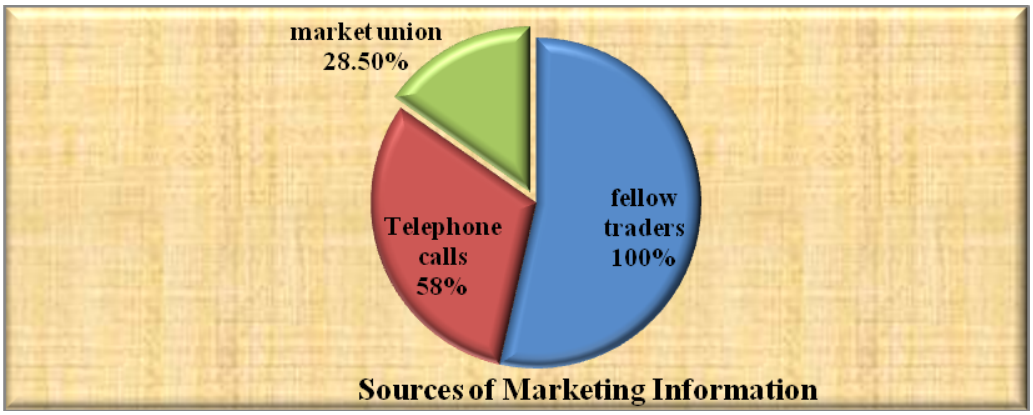

Figure 10.0: Percentage distribution of traders by sources of beef marketing information
Source: Computation based on field survey data, 2019. *Multiple responses recorded*