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MARKETING EFFICIENCY: A CASE STUDY OF MAIDUGURI CATTLE MARKET, BORNO STATE, NIGERIA.

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ABSTRACT

The study aimed at determining the efficiency of the marketing system of Maiduguri cattle market, by measuring performance of the market. The study made use of primary data, which were collected from questionnaires randomly administered to the buyers, sellers. Performance was measured in terms of price analysis, marketing margins, cost and returns analysis, marketing efficiency. The analysis of the results showed marketing margin is low (47 84%) marketing efficiency was appreciable (42.29%) while pricing was inefficient (-336.54%) and net returns per head was N1,698.76. this concludes that the market is a fairly efficient market with an inefficient pricing system

INTRODUCTION

The overall aim of marketing efficiency is to provide goods to consumer in the required form at the required time and place with the lowest possible marketing costs, consistent with interests of the producers. Farmers define efficiency as the sale of their products at the highest possible price while consumers see efficiency as the provision of high quality supplies at the lowest possible price. High price would therefore, limit sales to consumers, and low prices would discourage the production of future supplies. The satisfaction of cost is linked with the maintenance of a high volume of farm output.

The major indicators of efficiency are marketing margin, consumer prices, market competition and availability of physical marketing facilities. A marketing efficiency is more likely to be high in a competitive market than in a less competitive one. It is expected that in anefficient market prevailing prices reflect costs plus a normal profit margin while quality of services provided in relation to cost and consumer desires should nether be too high nor too low. However, prevailing high prices in urban retailer marketing in Nigeria and low prices at the farm gate level result from poor marketing infrastructure and services.

The major aim of marketing system is to achieve efficiency. But most of the agricultural markets in Nigeria are inefficient due to high margins, abnormal profits, poor infrastructural facilities, high marketing cost and poor price performance (Ditto, 1994, Adeyeye, 1986, Hays & McCoy. 1978). Improvements need to be done in order to improve efficiency of the markets. The Maiduguri livestock market is one of the largest in the country and it serves as a producing as well as transit market for livestock especially of cattle (Balami et. al., 1999). Though some research have been conducted concerning of trading of cattle in the marketing, only few involved performance of the market in particular, therefore the need for this study.

Objectives of the study

The study aimed at determining the efficiency of main cattle market in Maiduguri. Specifically, the study sought to assess market performance by use of price analysis, market margin analysis, marketing costs and returns and marketing efficiency.

METHODOLOGY

Study area

Maiduguri the capital of Borno State is located in the North Eastern corner of Nigeria. It has 3 three main districts, Yerwa, Bolori and Gwage, and 15 wards. The climate is hot and dry for a greater part of the year with a short rainfall period of three month, from June to September. The sahel vegetation consist of mainly Neem trees and a few shrubs. The major occupation of the people is farming. Crops grown include groundnut, cowpea, millet, maize and guinea corn while animals reared are cattle, sheep, goat and poultry. The main livestock market, kasuwan Shanu, at Gomboru Ward serves as producing, trading as well as transit center for livestock especially cattle.

Data collection

Primary data were collected from questionnaires administered to 43 respondents out of about 200 participants in the market. The questionnaires were administered to 14 wholesalers, 24 retailers (6 fatteners,18 ordinary retailers), 4 market staff / workers and I butcher

Data analysis

Market performance was measured based on findings on marketing margin, costs and returns, marketing and price efficiencies

Marketing margin, costs and returns

a Marketing Margin:

According to Abbott and Makeham (1979) marketing margin is the difference between the purchase price and the price received on resale. It shows the fraction of the consumer's expenditure on a commodity that is received by the producer or the marketing agents. The general formula for calculating marketing margin, according to Olukosi and Isitor (1990) is written as -

$$MM = \frac{CP - SP}{CP} \times 100$$

Where MM = Marketing Margin
CP = Consumer price
SP = Seller's price

Marketing margins may fluctuate depending on perishability of products, the number of level of participants in the marketing channel, the marketing services provided and risk and uncertainty borne by each of the market participants (Pomeroy and Trinidad, 1995, Digby, 1997). The value of marketing margin obtained would indicate the percentage share that the producer received from the consumer

b. Marketing Costs and Returns

i. Marketing Costs

Marketing costs are the actual expenses incurred in the performance of the marketing functions as a commodity

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moves from the farm to the ultimate consumers (Olukosi and Isitor, 1990) Marketing costs consist of fixed and variable costs

The fixed costs include capital invested, costs of sheds, ropes, food containers, water containers and bamboo sticks for tether. The variable costs are. transportation cost, cost of labour (L), cost of handling (H), tax per animal head (HT), space/shed rent (RT), costs of feeding and vaccines (V), gate fee/head, state revenue per head, costs of agent fee, dealer license fee, annual agent/seller tax, and cost of loss due to diseases or price decline Addition of variable costs items and fixed costs items is expected to give total cost

ii. Market Returns (Net Returns)

The net returns is the difference between what is received and costs incurred. This according to (Pomeroy and Trinidad, 1995) is mathematically presented as

NR = $\sum PiVi - (Fc + Vc)$

Where: NR = Net Returns
Pi = Average price of cattle handled per week.
Vi = Number of cattle handled per week
Fc = Fixed Costs
Vc = Variable Costs

If NR gives a positive figure, the market would be expected to be efficient.

c. Marketing Efficiency

Marketing efficiency is defined as the maximization of the ratio of output to input in marketing (Olukosi and Isitor, 1990) It is expressed as:

$$ME = \frac{\text{Value added by marketing}}{\text{Cost of marketing services}} \times 100$$

For the market to be efficient, marketing efficiencies must be at least equal to or close to average (that is, 50%) percentage.

d. Pricing Efficiency

Pricing efficiency refers to the improvement of the operations of buying and selling and pricing output to reflect consumer's wish (Abbott and Makeham, 1979).

Pricing efficiency was determined using efficiency ratio. which measures the benefits to costs for a particular marketing system or commodity (Olukosi and isitor 1990) It is expressed as

$$ER = 100 - \frac{(C_1 + C_2)}{V} 100$$

Where ER = Efficiency Ratio
C1 = Total costs of purchase
C2 = Total Costs of marketing
V = Total Value of cattle marketed

The market would be expected to be efficient if ER is positive

RESULT AND DISCUSSION

a. Marketing margin

The total gross marketing margin for the whole marketing system is 47.84%. This margin (below average of 50%) indicates an average return on the cost of providing marketing services. It also indicate that the producers share is appreciable.

The respective marketing margins for the various seller categories are 15% for ordinary retailers, 77.2% for cattle fattener, 47.6% for wholesaler and 6% for the butcher **(Table 2)**. Wholesaler, retailers and the butcher have normal and acceptable margins (below average of 50%) Fatteners have a very high margin which means they receive a greater share from what the consumer pays than the producer. The fattener's high margin could be due to additional costs involved in feeding few animals for the whole fattening period and the eventual resale price obtained due to animals' large sizes The butcher had the least, he buys and sells the carcass as meat to consumer His marketing costs is minimal, only cost of slaughter, skinning and butchering The slight difference (24) between the total gross marketing margin (47 84% and wholesalers margin (47.6%) suggests that wholesalers handle higher percentage of sales in the market than retailers and fatteners.

Table 1 Fixed and Variable Costs for Wholesalers in Maiduguri Cattle Market 2003

S/No.	Variable				Fixed Cost		
S/No.	No. of cattle handled week	Tax head	Labour/ truck (transport)	Cost of transport truck	Toll gate fee and revenue for other states/truck	Dealer license fee/year	Capital costs = average purchase price x No. of cattle handled/week
1	30	3,000	10,000	90,000	11,000	5000	1,050,000
2	50	8,000	20,000	180,000	200,000	5000	1,750,000
3	60	6000	20,000	180,000	200,000	5000	2,100,000
4	80	8000	30,000	270,000	33,000	5000	2,800,000
5	100	10,000	30,000	270,000	33,000	5000	3,500,000
6	120	12.000	40,000	360,000	44,000	5000	4,200,000
7	150	15,000	50,000	450,000	55,000	5000	5,250,000
8	180	18,000	60,000	540,000	66,000	5000	6,300,000
9.	200	20,000	70,000	630,000	77,000	5000	7,000,000
10	250	25,000	80,000	720,000	88,000	5000	8,750,000
11	300	30,000	100,000	900,000	1,100,000	5000	10 500,000
12	330	33,000	110,000	990,000	121,000	5000	11,500,000
13	450	45,000	150,000	1,350,00	1,500,000	5000	15,750,000
14	500	50,000	170,000	1,440,00	1,760000	5000	17,500,000
Total	**2,800**	**280,000**	**930,000**	**830700**	**1,023,000**	**70,000**	**98,000,000**

Source: Field Survey, 2003
Assume 30 cattle per truck
Total No. of trucks
For 1330 cattle = 44

VC = ₦10610000
FC = ₦98000000
TC = ₦108610000
TC/head = ₦38789 29

Marketing costs and returns

a. Marketing costs

The marketing costs include both fixed and variable costs. All . respondents could not disclose their capital investments, therefore, purchase price of cattle was used as fixed (capital) costs Retailers have additional fixed costs apart from capital costs **(Table 3)**

Table 2: Marketing Margin

Seller category	No. of Cattle handled /week	Total purchase price (cost price) ₦	Total resale price (selling price)-₦
Retailer	118	2,360,000	2,714, 000
Fattener	14	462, 000	819, 000
Wholesaler	28000	98, 000, 000	145, 600, 000
Butcher	7	175000	185, 500
Total	**2939**	**100, 997, 000**	**149, 318, 500**

Source: Field Survey, 2003

$$\text{Marketing Margin} = \frac{149.318,500 - 100,997,000}{149,318,500} \times 100$$

$$= 47.84\%$$

$MM_R = 15\%$
$MM_F = 77.2\%$
$MM_W = 47.6\%$
$MM_B = 6\%$

Table 3: Fixed costs for retailer in Maiduguri Cattle market, 2003

S/No.	No. of Cattle handled week	Rope/head (R)	Water & food container per head	Bamboo stick (B)	Capital costs (C1)
1	2	100	600	300	50,000
2	6	300	1, 800	900	120,000
3	6	300	1,800	900	180,000
4	3	150	900	450	54,000
5	3	150	900	450	27,000
6	2	100	600	300	20,000
7	4	200	1,200 | 600 | 60,000		
8	5	250	1,500	750	50,000
9	3	150	900	450	60,000
10	6	300	1,800	900	132,000
11	5	250	1,500	750	125,000
12	6	300	1,800	900	90,000
13	8	400	2,400	1,200	176, 000
14	10	500	3,000	1,500	200, 000
15	11	550	3,300	1,650	220,000
16	12	600	3,600	1,800	264,000
17	12	600	3,600	1,800	300,000
18	14	700	4,200	2,100	420,000
Total	118	5900	35,400	17,700	2,548,000

Source: Field Survey, 2003

Note: Fixed costs = N2607.000
Cost of rope/head = N150
Cost of bamboo stick/head = N150
Cost of water & food Container/head = N300

The difference between the total costs of retailers (₦3, 607, 320) and that of the wholesaler (₦108, 610,000) is due to the very large difference in the number of cattle they handle (sell). The cost per head for wholesalers is ₦38, 789. 29 Retailers are ₦25, 083. 22 and fatteners is ₦46, 500 **(Table 1, 4 &5)**. The high cost per hand for fatteners is due to high cost involved in feeding the animals for the whole fattening period

Table 4: Fixed Costs (*capital* costs) for cattle fatteners in Maiduguri Cattle Market, 2003

S/No	Average purchase price x No of cattle handled/week
1	33,000 x 2 = 66, 000
2	9,000 x 1 = 9,000
3	38, 000 x 1 = 38,000
4	40,000 x 3 = 120, 000
5	50,000 x 1 = 50, 000
6	30,000 x 60 = 180, 000
Total	**N463,000**

Source. Field Survey, 2003

Table 5: Variable cost for retailers and fatteners in Maiduguri Cattle market, 2003

S/No	No. of cattle handled/week	Labour/week ₦	Space rent/head ₦	Water, feeding & vaccines/head ₦	Commission agent/head ₦
1	2	280	100	5,600	-
2	6	840	300	16,800	-
3	6	840	300	16,800	
4	3	420	100	8,400	-
5	3	420	300	8,400	-
6	2	280	300	5,600	
7	4	560	200	11,200	-
8	5	700	250	14,000	-
9	3	420	150	8,400	
10	6	840	300	16,800	-
11	5	560	250	14,000	-
12	6	840	300	16,800	
13	8	1,120	400	22,400	-
14	10	1,400	500	28,000	
15	11	1,540	550	30,800	
16	12	1,680	600	33,600	-
17	12	1,680	600	33,600	-
18	14	1,960	700	39,200	-
19	2	-	600	20,000	1,400
20	1	-	600	11,000	700
21	1	-	600	12,500	700
22	3	-	600	30,000	2,100
23	1	-	600	25,000	700
24	6	-	1,200	72,000	4,200
Total	132	16,520	10,100	500,900	9,800

VC = N537,320
TC = 3,607,320

	Retailers ₦	Fatteners ₦
VC	352, 820	188, 700
FC	2,607, 000	463, 000
TC	2, 959, 820	651,700
TC/head	25,083,22	46,550

Note: Labour/week/head = ₦140
Space rent/head for retailers = ₦50
Shed rent/head for fatteners = ₦600
Water, feeding and vaccine for retailers/head/week = ₦2, 800
Commission agent/head = ₦700

Market returns

The returns per head of cattle per week is ₦1,698.96 It is a positive figure shows that each seller is expected to make average profit of ₦1.698.96 per head of cattle sold every week. This suggests that cattle marketing is a profitable business. The positive figure obtained also indicates good performance of the market

The respective Net Returns for the various categories of sellers are, ₦16, 950 for fatteners, ₦13, 210, 71 for wholesales and ₦ 728, 57 for butchers –₦2, 083,32 for retailers (Table 6). It is expected that at end of a week the fattener makes a profit of ₦16,950/ head, wholesaler makes a profit of ₦13,210 71/head while the butcher makes a profit of ₦728 75/ head the retailer had a negative NR-₦2,083 32 meaning he makes a loss of ₦2,083 32 on average pe week

This may be because; the retailer handles few cattle, his sales are taken on he daily basis (for the particular sales day), sales may not be everyday and he is faced with extra cost of feeding and keeping animals whether on a sales or no – sales day

Marketing efficiency

The marketing efficiency is the maximization of value added to the costs of marketing services. The value added is the difference between the selling value and initial (purchase) value of cattle

The percentage benefit – cost ratio of 42.29% obtained is a positive figure and close to the average ME (Marketing Efficiency) value of 50%. this suggests the market is performing well **(Table 6)**

Table 6: Market Returns

Seller category	Selling price ₦	No of cattle handled/week ₦	Fixed cost ₦	Variable cost ₦
Retailer	23, 000	118	2,607, 000	352, 820
Fattener	58, 500	14	463, 000	118, 700
Wholesaler	52, 000	2, 800	98,000,000	10,610,000
Butcher	26, 500	7	175, 500	4, 900
Total $\bar{X}$	160, 000 40, 000	2, 939	101,410,320	11,156,420

Source Field Survey, 2003

Net Returns = 40, 000 x 2, 939 – 112, 566, 740
₦4,993, 260
₦1,698.96/head/week
NR_R = ₦2,083.32/head/week
NR_R = ₦16, 950.00
NR_W = ₦13, 210.71
NR_B = ₦728.57

$$\text{Marketing efficiency} = \frac{149,318,500 - 100,997,000}{112,566,740} \times 100$$

$$= 42.29\%$$

$$\text{Pricing efficiency} = 100 - \frac{(100,997,000 - 112,566,740)}{48,921,500} \times 100$$

$$= 100 - 436$$

$$= -336.54$$

Price efficiency

The negative ER obtained (-336.54) shows the market is price inefficient. **(Table 6).** The inefficiency maybe due to;

i. Location of market in town, being the only main cattle market in Maiduguri
ii. Market dominated by few firms that conspire to maintain high price;
iii. Lack of price information to consumers

Then prices paid by consumers may not adequately reflect the cost of production and marketing

SUMMARY AND CONCLUSION

The total gross marketing margin obtained is 47 .84% which is appreciable and shows that marketing service are covered efficiently. The total cost for retailers is ₦3, 607,320 while that of wholesalers is ₦180, 610, 000, the large difference in cost is due to the large difference in the number of cattle handled by retailers and wholesalers The net return is a positive figure; ₦1, 698.96 per head of cattle received as average profit by each seller The percentage output – input ratio is 42.29% suggesting that total costs of services have covered all marketing functions efficiently The efficiency ratio is a negative figure: - 336.54, indicating that the market is price inefficient. The results revealed good market performance with average return on cost of providing marketing services and poor market price performance

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