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ANALYSIS OF DISCOUNT PRICING AND MARKETING OF PROCESSED CATFISH IN KWARA STATE, NIGERIA

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ABSTRACT

In the literature, there are few researches on the effect of discount pricing on the market margin of catfish marketers. Consequently, this study identified the common types of price discounts and discount pricing strategies, described the catfish market's structure, estimated marketing margin, determined variables affecting price discounting strategies and identified the constraints hindering price discounting among marketers in the study area. Two hundred and twelve respondents were selected proportionately. To achieve the objectives of this study, the Likert-type scale, Herfindal Index, marketing efficiency as well as marketing margin and multiple regression analysis were used. The Herfindahl index value of 0.006 was obtained, which suggested an extremely aggressive and expanded catfish market. A marketing efficiency value of (140.09%), indicated that catfish marketing was well organised. The marketing margin value of 28.62%, implied that every ₦1 deal evolves a price spread of about 0.29k in catfish marketing. Hence, catfish marketing is profitable and is therefore worthwhile. The marketing margin, cost of spoilt fish, cost of marketing services, pond size and distance to state capital are the predictors of price discounting among marketers. In addition, the study revealed that the most significant constraint hindering discount pricing strategies in catfish marketing is the cost of production. We, therefore, recommend training marketers on the productive methods of processing and storing catfish in order to reduce losses and raise marketing margins. The pooling of resources together is also encouraged to minimise the cost of production. Policies towards increasing pond sizes should be enhanced by the government at all levels.

Keywords: Catfish, Herfindal Index, marketers, policies, price discounting and strategies.

INTRODUCTION

A price discount is a depletion on the efficient selling price of any goods and services. This motivation is done to attract consumers and increase sales. Most managers use this method to get rid of low-priced products in huge volumes. It becomes critical to minimise costs and be aggressive using this strategy. Price discount is a productive game plan aimed at motivating consumers to purchase the advertised goods and services instantly (Yin and Huang, 2014).

Marketing involves knowing the needs and productive ways to get to the consumers to enhance their gratification and profit maximization. It entails the transportation of the products to the end-users in an acceptable form. Many organizations perform divergent functions in marketing activities. They are facilitators, brokers, transporters, wholesalers and retailers. These organizations make varieties of advertised products available and accessible for consumers to purchase at the right time.

Catfish marketing must be done with care in order to sustain its quality and nutritional value due to its short shelf-life. Therefore, for enhanced growth and development of the fishery subsector, marketing efficiency is important. Marketing efficiency entails the transportation of advertised products from the manufacturer to the end-users at a reduced cost, at the right time and in the right place. Fish marketing is said to be profitable when the products are supplied in a healthy condition and at the right price (Nwabunike, 2014). According to FDF, 2012, fish marketing is mainly done in the private sector via village markets, township markets, retail markets and urban wholesales.

Surprisingly, catfish marketing is badly evolved in Nigeria. It is mainly engulfed by the challenges of durability, caducity, and processing amongst others. Salau (2019) noted that poor application of appropriate discount pricing strategies that can help them increase their sales, expertise and awareness in marketing had to a greater extent worsened the situation, leaving many fish farmers and marketers wrestling to increase sales. Worst still, many studies (Omowa, 2016; Osundare and Adedeji, 2018) have been carried out on catfish marketing and its determinants in Nigeria. However, there is a dearth of data on factors influencing price discounting and how price discounting can be used to enhance catfish marketing margin in the area. Consequently, the study identifies frequently used price discounts and discount pricing strategies, describes the organization of the catfish market, estimates the profitability of catfish marketing, determines factors influencing price discounting strategies and identifies the constraints hindering price discounting among marketers.

Conceptual and Theoretical Framework

Marketing is the management process responsible for identifying, anticipating and satisfying customer requirements profitably (Chartered Institute of Marketing, 2015). Marketing of fish could be regarded as the performance of all business activities involved in the flow of fish from the point of production to the final consumer. The fish marketing node in the value chain comprises those who sell fish at both retailing and wholesaling modes to the final consumers (Omonona and Ajani, 2014). These wholesalers/retailers either collect fish directly from landing points themselves or are supplied by other distributors. The use of wholesalers and retailers (intermediaries) between producers and consumers tremendously improves the marketing and distribution of agricultural products. The function of wholesalers and retailers is very crucial to efficient fish marketing.

The theory of demand and supply plays a very vital role in the marketing of fish. The level of marketing activity going on in a market is determined primarily by the interplay of the forces of demand and supply. In a perfectly competitive market, where there are many consumers (buyers) and farmers (producers), the price mechanism is fully operational. In other words, the prices of goods and services are determined by the forces of demand and supply. Put differently, prices guide consumers in the choice of goods and services, and the quantities of such goods and services that they buy (Umoinyang, 2014). Demand is oftentimes

differentiated from effective demand. While demand refers to the willingness to buy, effective demand entails willingness backed by the ability to pay. As such, demand is described as the quantities of goods and services that consumers are willing and able to buy at various prices. Demand is a function of several variables, i.e., the quantities of goods and services demanded at any given point in time are a function of several factors. Four such factors are often pronounced. These are the price of the good (service), the price of substitutes and complements, the income of consumers, and tastes or preferences (Umoinyang, 2014). This theory was used in this research to fill the gap between the demand and supply of catfish in Nigeria.

METHODOLOGY

Study Area

This study was accomplished in Kwara state, Nigeria. Kwara is situated in the North Central geopolitical zone of the country. Kwara lies between parallels 8Â° and 10Â° north latitudes and 3Â° and 6Â° east longitudes. It is surrounded in the north, east, south and west by Niger, Kogi, Osun and the Republic of Benin respectively. The temperature and rainfall range between 27ºC and 35ºC; and 1,000-1,500mm respectively. Kwara has both wet and dry seasons. The wet season ranges between April and October while the dry season falls between November and March. Kwara is endowed with huge quantities of water and has a population of about 2,365,353 (NPC, 2006). Due to ecological, cultural and administrative suitability, the state is broken into four zones. These are Zone A: Baruteen and Kaima Local Government Areas (LGAs); Zone B: Edu and Patigi LGAs; Zone C: Asa, Ilorin East, Ilorin South, Ilorin West and Moro LGAs and Zone D: Ekiti, Ifelodun, Irepodun, Offa, Oyun, Isin and Oke-Ero LGAs (KWADPs, 2010) (Figure1).

Data collection and sampling methods

Largely, primary data was employed. Data were gathered on price discounting strategies and catfish marketing with the use of a structured interview schedule. There is 4 ADPs zone in Kwara, out of which Zone D was purposively selected because it has the highest (449) population of registered catfish marketers in Kwara. This was followed by a proportional selection of 212 catfish marketers from all the 7 LGAs in Zone D using the Taro Yamane Formula as shown below:

Taro Yamane Formula

$a = M/1 + M(k)^2$

where a= sample size

M = target population

k = 0.05

$a=449/1+449(0.05)^2$

a=212 respondents

Calculation of sample proportion.

Proportion= sample size/population x 100

Proportion= $\frac{212}{499}$ X 100

Proportion= 47%. That is 47% of the total catfish marketers in each LGA in Zone D were selected.

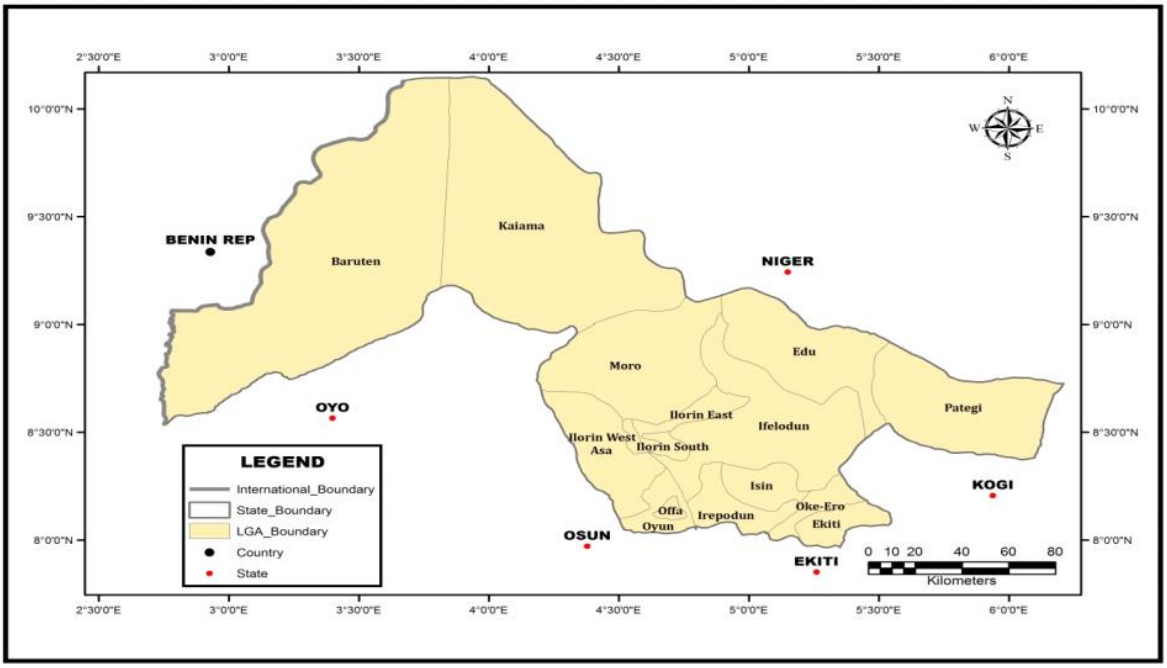

Fig 1. Map of Kwara state showing the Local Government Areas

Table 1: Sampled respondents

S/N	LGAs	Number of catfish marketers in each LGA	Sampled proportion
1	Ekiti	27	13
2	Ifelodun	62	29
3	Irepodun	67	31
4	Offa	184	87
5	Oyun	36	17
6	Isin	48	23
7	Oke-ero	25	12
	Total	449	212

Analytical Techniques

To identify the common types of price discounts and discount pricing strategies employed by respondents, tools of analysis such as frequency, percentage, mean, mode and range were used. The organization of the catfish market was analysed using the Herfindahl–Hirschman Index (H). The Index is given as:

$H = \Sigma A_i^2$ ..... (1)

$A_i = Ci/C$ ..... (2)

Where Ai = Market share for respondent i,
Ci = entire kilogrammes (kg) of catfish get rid of per cycle by respondent i, and
C= entire kg of catfish get rid of per cycle by all respondents

Marketing margin (Mm) analysis was used to estimate the profitability of catfish marketers. It is calculated mathematically as

$$Mm = \frac{SP - PP}{SP} \times 100 \quad \ldots\ldots (3)$$

Where:
Mm = Marketing margin
SP = Selling price (₦)
PP = Purchase price (₦)

Marketing efficiency (ME) was employed to estimate productivity in catfish marketing. The model is depicted as:

$$ME = \frac{\text{Revenue generated from marketing}}{\text{Cost of marketing services}} \times 100 \ldots (4)$$

Where cost of marketing services includes costs of transport, wheel-barrow services and other marketing charges and the 10% commission paid to Commissioned agents by the marketers. Factors influencing price discounting strategies were identified using multiple regression analysis. The model is stated as:

$$Q = b_0 + b_1k_1 + b_2k_2 + b_3k_3 + b_4k_4 + b_5k_5 + b_6k_6 + b_7k_7 + b_8k_8 + b_9k_9 + ei \quad \ldots\ldots (5)$$

Where
Q=average price discount (₦)
k_1=initial capital outlay (₦)
k_2=household size (number)
k_3=marketing service (₦)
k_4=total fish loss due to poor processing or spoilage (kg)
k_5=marketing margin (₦)
k_6=experience (years)
k_7=education (years)
k_8=farm distance to state capital (km)
k_9=cost of pond (₦)
ei = Error term
b_0 = intercept (or constant)
$b_1, b_2 \ldots b_9$ = $_i$th coefficient corresponding to $k_1, k_2 \ldots k_9$

A 5 point-Likert-type scale was deployed to describe the factors affecting price discounting strategies. Marketers were told to specify if they concur or disconcur and to specify the extent as the case may be. The response options and allocated values are: strongly disagree (SD) =5; disagree (D) =4; agree (A)=3; moderately agree (MA) =2; and strongly agree (SA) =1. These values were added and divided by 5 to obtain the mean (3.0). Challenges with mean scores greater and lower than 3.0 will be denoted as significant and insignificant challenges respectively.

RESULTS AND DISCUSSION

Socio-Economic Features of Marketers

Most (95.8%) of the marketers were males while 4.2% were females (Table 2). It suggests that gender sensitivity is inclined towards men more than women in catfish marketing in the study area. These findings agree with that of Ali *et al*. (2008).

The average age of marketers is 43.8 years. This suggests that marketers are still in their active age and could withstand the rigours associated with marketing activities. Age is a significant factor that may influence the capacity and cleverness with which the household head attains the food requirements of the family (Salau *et al*, 2019). Household size connotes the entire number of people living and feeding in the same household. Most (84%) of the catfish marketers in Kwara state have household sizes between 1-5

members while 16% have household sizes between 6-10 members. The average household size is 5 persons. Furthermore, the majority (58%) of the respondents spent between 13-18 years in school with an average education of 12 years. This indicates that most catfish marketers have tertiary education. Education is essential in managing risks and uncertainties that may be associated with marketing activities and technology adoption in the industry. According to Onoja *et al*. (2012), people that are educated are better endorsers of transformations. Most (85.4%) marketers fall between 1-10 years, while 5.2% of them have between 21-30 years of marketing experience with an average of 12 years. The experience could assist in reducing past mistakes and predicting future market circumstances. Few (28.8%) marketers have catfish marketing as their primary occupation while the majority (71.2%) accepted other occupations other than catfish marketing.

Common Types of Price Discounts and Price Discounting Strategies

Table 3, shows that the frequently embraced price discount types are: quantity, geographical, seasonal, trade and cash discounts. Most (44.3%) marketers adopted volume discounts. Quantity discount is offered to a buyer who purchased in large volumes. It leads to a decreased cost per unit of goods purchased. It is normally done to attract customers to buy in larger volumes. This could be due to the biodegradability nature of catfish. Quantity discount is slightly (25.5%) followed by geographical discount. Geographical discount is the price differentials based on buyers' location. It is offered to reduce high transport costs relative to the selling price. Cash discount (the deduction allowed by some marketers in order to attract customers to pay within a specified time) is the least (4.7%) used by marketers. The main (37.3%) effective discount pricing strategy is offering a discount to new customers. This is closely followed by customer value discounts.

Organization of the Catfish Market

The Herfindahl Index value of 0.006 was obtained. This indicates a highly aggressive and expanded catfish market. This implies that there are many marketers and buyers, and there is a free entry or exit in the industry. This explains why catfish marketers use price discount strategies to attract more sales and become more competitive in the industry.

Marketing Efficiency of Catfish Marketers

Table 4 showed that acquisition cost gulped 81.2% of the entire variable cost while the cost of labour gulped 4.45% of the entire variable cost. The cost of storage and transport accounted for 6.25% and 1.09% of the entire variable cost respectively. The calculated marketing efficiency value of 135.05%, suggests that catfish trading is productive in the state.

Profitability of Catfish Marketing

Table 5 shows a marketing margin value of 25.95%. This indicates that every ₦1 sale results in a price spread of about 0.26k in catfish marketing. This implies that catfish marketing is a money-making business and it is therefore worthwhile in the state. This result agrees with the works of Abdal and Eglal (2010) and Adeleke and Afolabi (2012).

Table 2. Socioeconomic features of marketers

Variable	Frequency	Percentage	Mean
Age			
1- 30	18	8.5	
31-60	188	88.7	43.8
61-90	6	2.8	
Gender			
Male	203	95.8	
Female	9	4.2	
Level of education			
1 - 6	43	20.3	
7 – 12	46	21.7	12 years
13-18	123	58.0	
Marketing experience			
1 - 10	181	85.4	
11 - 20	20	9.4	12 years
21 - 30	11	5.2	
Household size			
1 - 5	178	84	
6- 10	34	16	5 persons
Main source of income			
Fish marketing	61	28.8	
Others	151	71.2	
Access to Co-operative			
Yes	148	69.8	
No	64	30.2	
Type of ponds used			
Earthen pond	128	60.4	
Concrete pond	84	39.6	
Marketers' income per cycle			
500, 000- 1,000000	17	8.0	1, 412,724
1, 000001- 1,500000	109	51.4	
1,500001- 2000000	86	40.6	

Source: field survey, 2019

Table 3. Price discount and price discounting strategies

S/N	Price discount	Frequency	Percentage	Price discounting strategy	Frequency	Percentage
1	Quantity discount	94	44.3	Offer discount to new customers	79	37.3
2	Geographical discount	54	25.5	Customer value discount	67	31.6
3	Seasonal discount	42	19.8	Prepayment	26	12.3
4	Trade discount	12	5.7	Free gift with purchase	25	11.8
5	Cash discount	10	4.7	Offer free shipping	15	7.1

Source: Field Analysis, 2020.

Table 4. Marketing efficiency of catfish marketers per cycle

S/N	Items	Cost (₦)	% of TVC
1	Mean cost of storage	76,760. 9	6.25
2	Mean cost of purchase	997,892.1	81.2
3	Mean cost of equipment	61,603.05	5.02
4	Mean cost of labour	54,735.85	4.45
5	Me cost of transport	13,516.35	1.09
6	Mean cost of spoiled fish	13,941.02	1.13
7	Mean cost of marketing service	10,436.32	0.85
8	Mean entire variable cost (TVC)	1,228,885.6	
	Mean entire revenue	1,659,610.8	
	Market efficiency	135. 05%	

Source: Field Analysis, 2020.

Table 5. The marketing margin of catfish marketers per cycle

S/N	Items	Cost (₦)	% of TVC
1	Average cost of storage	76,760.93	6.25
2	Average cost of purchase	997,892.1	81.2
3	Average cost of equipment	61,603.05	5.02
4	Average cost of labour	54,735.85	4.45
5	Average cost of transport	13,516.35	1.09
6	Average cost of spoiled fish	13,941.02	1.13
7	Average cost of marketing service	10,436.32	0.85
8	Average total variable cost	1,228,885.6	
9	Average total revenue	1,659,610 .8	
	Margin	430,725.2	
	Percentage marketing margin	25.95	

Factors affecting price discounting strategies

The estimated R square value of 0.5435, suggests that 54.35% of the entire variation in price discounting strategies is accounted for by the estimated explanatory variables (Table 6). The farm distance to state capital, cost of spoilt catfish, marketing margin, size of pond and cost of marketing services were all remarkable. Other factors such as household size, marketing experience and education were not important in determining price discounting among marketers.

Table 6. Factors influencing price discounting strategies

Variables	Coefficient	t-statistics	P- value
Constant	2.11897	2.787	0.00582***
Farm distance to state capital	0.0146533	2.356	0.01945**
Household size	-0.0148494	-0.192	0.84766
Cost of marketing services	5.33187E-05	2.416	0.01657**
Cost of spoilt catfish	-1.09250E-05	-2.452	0.01503**
Marketing margin	-0.0192208	-3.906	0.00013***
Marketing experience	0.0803233	1.288	0.01994
Size of pond	1.27363E-06	3.884	0.00014***
Education	-0.00833764	-0.398	0.69086

* **, *** Significant at 10%, 5% and 1% respectively

The coefficient of the farm distance to the state capital is positive and significant at 1%. This suggests, the farther the farm is to the state capital, the higher the amount of price discount given to customers to entice them. The amount of spoilt catfish is negative and significant at 5 % level. This implies that as the quantity of wasted catfish increases, price discounting decreases. The coefficient of cost of marketing services is also positive and important at 1%. This suggests that increasing price discounting raises the cost of marketing services. The marketing margin is negative and significant at a 5% level, indicating that an increase in price discounting would reduce marketers' marketing margin. This agrees with the findings of Salau (2019), in his study on the analysis of discount pricing and its determinants among cocoa marketers in Ondo state, Nigeria. Similarly, the coefficient of the size of the pond is positive

and significant, indicating that the bigger pond, the more the amount of price discount deployed.

Constraints Hindering the Adoption of Price Discounting Strategies Among Marketers

The most critical factor challenging discount pricing strategies in catfish marketing is the high cost of production (4.1368) which was ranked first (Table 7).

Table 7: Constraints hindering discount pricing strategies

Constraint	SD	D	A	MA	SA	Mean	SD	Rank
High cost of production	2(0.9)	9(4.2)	47(22.2)	54(25.5)	100(47.2)	4.1368	0.96634	1st
Discount pricing can lower Perceived value	2(0.9)	8(3.8)	46(21.7)	64(30.2)	92(43.4)	4.1132	0.93708	2nd
Risk of losing profit from lower margin	2(0.9)	12(5.7)	65(30.7)	74(34.9)	59(27.8)	3.8302	0.93354	3rd
Marketing objectives	7(3.3)	29(13.7)	73(34.4)	73(34.4)	30(14.2)	3.4245	1.00188	4th
Government policy	11(5.2)	47(22.2)	66(31.1)	65(30.7)	23(10.8)	3.1981	1.06580	5th
Economic condition	4(1.9)	46(21.7)	92(43.4)	51(24.1)	19(9)	3.1651	0.93185	6th
Demand	7(3.3)	19(9)	134(63.2)	39(18.4)	13(6.1)	3.1509	0.79444	7th
Competition	6(2.8)	40(18.9)	108(50.9)	43(20.3)	15(7.1)	3.0991	0.88409	8th

Source: Field Analysis, 2020.

This could be probably because most commercial fish feeds are imported into the country and the problems associated with importation and distribution could be the main reasons for the hike in feed prices. These imported feeds possess floating and high protein qualities and are therefore preferred by fish farmers to local feeds. This finding concurs with the findings of Ugwumba and Nnabuife (2008), who identified the high cost of feed as a very serious drawback to profits making in catfish farming. This constraint was followed by lower perceived value and risk of losing

profit from lower margin with mean values of 4.1132 and 3.8302 respectively. The least constraint is competition with a mean value of 3.0991.

CONCLUSION AND RECOMMENDATIONS

This study assesses discount pricing and marketing of processed catfish in Kwara. Catfish marketers make use of price discounts and price discounting strategies to enhance sales. The majority of the respondents were male and are moderately aged. Quantity discount is mostly used price discounting type, while cash discount is least used by marketers. Furthermore, offering discounts to new customers is the most frequently deployed discount pricing strategy. In addition, the study showed that catfish marketing is competitive and non-concentrated, profitable and efficient. Furthermore, marketing margin, cost of spoilt catfish, the cost of marketing services pond size and farm distance are the important factors influencing price discounting strategies in Kwara. Moreover, the most significant constraint hindering discount pricing strategies in catfish marketing is the high cost of production and was ranked first. Marketers should be well trained on efficient fish processing and storage techniques to improve the quality of fish and fish products produced as well as reduce losses. Marketers must be encouraged to pool their resources together in order to enjoy economies of scale. Policies and strategies towards increasing pond size should be vigorously pursued by the government at all levels.

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