Full Length Research Paper

The influence of consumer's perception on pork and poultry meat consumption in Calabar South LGA, Cross River State

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This study was carried out to determine the socio-economic characteristics of pork and poultry meat consumers and the factors influencing their perception in Calabar South LGA of Cross River State. Multi-stage sampling procedure was used in selecting a total of fifty pork and poultry meat consumers, for the study. Data collected were analyzed using descriptive statistics and inferential statistics (Probit regression). The result showed that educational level of the consumers had a negative coefficient and was statistically significant at 5%. The sign of the coefficient of age, marital status, source of market and occupation of the consumers were positive as expected, but were not statistically significant at 5%. Gender and quantity per household had a negative coefficient and was significant at 10%. Also, the sign of the determinant factor and price of pork and poultry meat did not comply with a priori expectation while the coefficient of the quantity per household and religion were negative and were not significant. Hence, the study recommends the need for proper education and enlightenment since a lesser percentage of the people who attributes their non-consumption of pork and poultry to religion, tribe and health reasons are not fully educated. It was therefore concluded that consumer's perception of pork and poultry could to a large extent be influenced by age, marital status and occupation.

Key words: Consumption, pork, poultry consumer's perception.

INTRODUCTION

One of the greatest problems confronting millions of Nigerians today is lack of adequate protein both in quality and quantity to carter for the nation's ever growing population (Simmons, 1980). In Calabar South LGA of Cross River State, pork and poultry meat which are the two major dietary protein sources available to the people are influenced by certain factors like income, price, taste, religion, tribe as well as health environmental factors. Based on this individual perception, pork and poultry meat consumption has changed to a large extent, thereby leading to decreased consumption, and intake of animal protein (Kuo and Lin, 2003). According to nutritionist, pork, poultry, and other related products of animal origin are needed by the body for growth, repairs, and general maintenance of the body tissues and its poor intake could result in diseases condition like kwashiorkor, brain malfunctioning and stunted (Williams, 1988).

Over the years, poor animal protein intake has resulted in infant mortality, pronounced malnutrition, diseases and reduced human productivity (Federal Office of Statistics (FOS), 2008). Hence, the aim of this paper was to investigate the influence of consumer's perceptions on pork and poultry meat consumption in Calabar South LGA of Cross River State.

CONCEPTUAL FRAMEWORK

The theory of reasoned action (TRA)

Human food choice is a complex phenomenon with many

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factors having an effect on which foods are eaten by an individual. Van Doorn (1975) investigated the relationship between beliefs, attitudes and behavior and developed a structured attitude model. This model, labeled the TRA has proved useful in the prediction of future eating patterns for a number of types of foods. He argued that beliefs should not be assessed as directed towards an object but should be assessed as directed towards behavior.

The TRA seeks to explain rational behavior that is under the control of individual, that is, volitional behavior. With volitional behaviors, it is argued that intention to perform a behavior (BI) is the best predictor of behavior. Limitations associated with this model are that of control. This model assumes volitional behavior which of course is not the case in many consumption situations. Others are that the model does not explicitly deal with choice problems and that individuals' intentions are assessed when it is impossible to have all of the necessary information.

In this study, the subjects are the main purchasers and meal preparers in the household and the products are regularly purchased. Therefore, these limitations should have minimal impact as these respondents are relatively well informed and buying and consumption behavior should be under their control (Williams, 1988).

A number of researchers have applied this model to consumer behavior towards food products and have found that the model is a relatively good predictor of food consumption behavior. In most cases, the attitude towards the behavior was more important in the prediction of food consumption behavior. Kim (1992) reported significant correlations between all the model components and identified taste and health as the most important predictors of the attitude towards meats and products. Nsentip (1986) and Akintola (1993) observed that nutritional and health concerns were important predictors of intentions to eat beef in the future.

The revealed preference hypothesis

The revealed preference hypothesis assumes the rationality, transitivity, and consistency of human behavior, as he indicates preference for the quantity of a particular commodity which best satisfies him (Blinder, 1975).

This theory assumes that the consumer is rational and as such, will indicate preference for the quantity of a particular commodity which best satisfies him. He is also consistent in the choice of a particular commodity, no matter the situation and there is transitivity of choice (Koutsoyiannis, 1987). Because he is consistent, the quantity of a commodity indicated and preferred lesser quantities inferior. However, in this theory, it is believed that when a consumer buys a certain quantity of goods, he reveals his preference for those goods as against others available to him. Consequently, a consumer will at no time prefer goods that are less preferred (Van Doorn,

1975).

RESEARCH METHODOLOGY

Study area

This research work was carried out in Calabar South, Cross River State. Calabar fondly referred to as Canaan City by indigenes is situated between latitude 4°18 and 5°21N of the equator and longitude 8°18 and 8°19 E of the Greenwich meridian (National Population Commission (NPC), 2006) and is about 600 feet above sea level. It has a mean yearly rainfall ranging from 3000 - 4000 mm and annual temperature of between 35 - 37°C, thus it lies within the wet humid tropics. The topography is mostly flat and is bordered by two big rivers: Cross River State and Atimbo River. The population of Calabar South LGA is 4 million comprising 49.97% males and 50.03% female (Cross River State Geological Survey Agency, 2010). The area is occupied with favorable climate of tropical, humid, dry and wet seasons which gives rise to rich agricultural lands.

Population of the study area

The population of Cross River State is estimated at 1.2 million persons (Cross River State Geological Survey Agency, 2010). Forty percent of the estimated population constitutes the active population that is engaged in various economic activities ranging from subsistence agriculture to urban, commerce and transport business. Agriculture currently employs about 80% of the State's labor force and contributes about 40% to the gross domestic products (GDP) (Food and Agriculture Organization/World Health Organization Ad Hoc Expert Committee, 1973). The population of this study comprised fifty respondents in each of the three communities used for the study.

Sampling procedure and sample size

Multi-stage random sampling procedure was used in selecting fifty pork and poultry meat consumers:

- Stage I: Random selection of the LGAs to be used for the study.
- Stage II: Random selection of villages to be used for the study.
- Stage III: Random selection of pork and poultry meat consumers from each village sampled.

Seventeen respondents were randomly selected from the two communities (Atakpa and Nsidung) where pork and poultry meat consumption is predominant, while 16 respondents were selected from Idang community. This was done to ensure homogeneity and representativeness of the sample and also to ensure more accurate result for the study. The sampling frame comprised all the cassava producers in the study area. Simple random sampling

was used in selecting one out of the eighteen LGAs in Cross River State, giving a total of three communities (Atakpa, Nsidung, and Idang) used for the study.

Data collection and analysis

Data collected from the study were analyzed using descriptive statistic and inferential statistics. To determine the socioeconomic characteristics of consumers, data were analyzed using simple descriptive statistics such as frequency counts and percentages, where:

$$Mean\ X = \frac{\sum X}{N}$$

N = Number of observations; $\sum X$ = Summation of the observations.

$$Standard\ deviation\ (\delta) = \frac{\sqrt{\sum(X-X)^2}}{N-1}$$

Where,
δ = Standard deviation;
X = Observations;
N = Number of observation.

$$Coefficient\ of\ Variability\ (CV) = \frac{\delta}{X} \times \frac{100}{1}$$

The influence of pork and poultry consumption was analyzed using Probit regression model. The Probit model is expressed as:

$Y = b_0 + b_1X_1 + e_t$.

Where,

Y is a dichotomous dependent variable which can be explained as Y (Pork = 1, --- if consumers default, Poultry = 0 --- if consumers do not default);
b_0 = Intercept
b_1 = Regression coefficient that explains the probability of default of both pork and poultry consumers;
e_t = Error (Disturbance) term.

Hence, the model is implicitly stated as:

$C = f(X_1, X_2, X_3, X_4, X_5, X_6, X_7, X_8, X_9, X_{10}, e_t)$

Where, C = Output of pork and poultry meat consumed.
$X_1 – X_{10}$ = Independent variables specified as factors that influence pork and poultry consumption are identified below:

X_1 = Age (years);

X_2 = Educational level (years);
X_3 = Gender (Male = 0, Female = 1);
X_4 = Price (N) [Pork (P1) = 1, Poultry (P2) = 0];
X_5 = Marital status;
X_6 = Religion (Christians = 1, Muslim = 0);
X_7 = Occupation;
X_8 = Source of market;
X_9 = Determinant factors;
X_{10} = Quantity per household;
e_t = Error (Disturbance) term;
X_1 - X_{10} are as defined in equation (1).

Economic statistical and econometric criteria were employed to choose the lead equation based on coefficient of determination (R^2), the significant levels of the parameters and signs of the estimated coefficients that conform to the apriority expectations.

RESULTS AND DISCUSSION

The result as seen in Table 1 showed that respondents within the age ranges of 21 -25 years, 26-35 years, 36-45 years and 46-55 years were 10, 34, 26 and 20%, respectively, while those above 55 years were 10%. This shows that majority of the respondents are neither too young nor too old as they constituted the active populations as such would be used for beneficial projects. Majority of the sampled respondents were females (36%) while male population was 64%. The results also indicated that 30% of the respondents were single, and 50% were married, while 20% were either widows or divorced. On religion, 80% of the respondents were Christians, while 20% were Muslims. The educational level of the respondents showed that 10% of the respondents had no formal education, 40% attended adult literacy programme, 20% had primary education while 30% had higher education. On the occupation of the respondents, the result showed that 40% of the students and 60% of the working class consumes pork and poultry meat. In addition, the determinant factor to pork and poultry consumption in the area was based on its price, nutritional value and taste, having about 40% of the respondents, whose major source was from the market, mostly eaten weekly when cooked and fried, by majority (50%) of the respondents. This is in line with the study of Ye (1999).

Regression analysis

This was used to determine the influence of the independent variables such as, age, educational level, gender, price (₦), marital status, religion, occupation, source of market, determinant factors, and quantity per household. The model has a good fit and is significant at 10%. The significant variables include: age, educational level, gender, price (₦), marital status, religion, occupation, source of market, determinant factors, and

Table 1. Frequency distribution of respondents according to demographic characteristics.

Variable	Frequency	Percentage
(a) Sex		
Male	32	64
Female	18	36
Total	50	100
(b) Age (years)		
21-25	5	10
26-35	17	34
36-45	13	26
46-55	10	20
Above 55	5	10
Total	50	100
(c) Religion		
Christianity	40	80
Islam	10	20
Total	50	100
(d) Marital status		
Single	15	30
Married	25	50
Widowed/Divorced	10	20
Total	50	100
(e) Level of education		
No formal education	5	10
Primary education	10	20
Higher education	15	30
Adult literacy education	20	40
Total	50	100
(f) Occupation		
Students	20	40
Teachers (staffs)	30	60
Total	50	100
(g) Determinant factors		
Nutritious	5	10
Easy to prepare	5	10
Availability	10	20
Taste	10	20
Nutritious, taste	20	40
Total	50	100
(h) Factor hinder		
Price factor	20	40
Scarcity	10	20
Cultural value	5	10
Taboo	10	20
Scarcity, cultural value	5	10

Table 1 Contd.

Total	50	100
(i) Source of pork and poultry		
Market	20	40
Cafeteria	15	30
Beer parlor	10	20
Rearing	5	10
Market, farm	-	-
Total	50	100
(j) Form of pork and poultry eaten		
Fried	10	20
Roasted	5	10
Cooked as stew	10	20
Fried, cooked	25	50
Total	50	100
(k) How often is pork and poultry consumed		
Weekly	25	50
Monthly	10	20
Occasionally	10	20
Seasonally	5	10
Total	50	100

Source: Field Survey data (2014).

Table 2. Result of the probit model.

Independent variable	Regression coefficient	Standard error	Probability
Intercept	-1.60	-1.57	-1.016
Age	0.07	0.026	2.73***
Educational level	-0.10	0.051	-1.99**
Gender	-0.0004	0.00025	-1.73*
Price	1.71E-05	8.16E-06	1.98**
Marital status	0.565	0.527	1.07
Religion	-0.958	0.617	-1.55
Occupation	0.076	0.276	0.27
Source of market	0.0010	0.053	0.019
Determinant factor	-4.23E-06	8.86E-06	-0.47
Quantity per household	-0.118	0.085	-1.39

Source: SPSS result output data (2014). Standard error of the regression = 0.430819; Log likelihood = -45.70794; Restricted log likelihood = -59.16886; L.R. Statistics (10 df) = 26.92184; Prob. (LR stat.) = 0.019709%. *** implies that p-value is significant at 1%; ** implies that p-value is significant at 5%; * implies that p-value is significant at 10%; Adjusted R^2 = 0.552.

quantity per household. The Probit model was employed to determine factors influencing pork and poultry consumption among consumers in Calabar South LGA of Cross River State. The result of the probit model in Table 2 seeks to explain the probability of pork and poultry consumption as a result of any of the ten identified independent variables used in determining largely the impact of each variable on consumption.

The educational level of the pork and poultry meat consumers had a negative coefficient and statistically
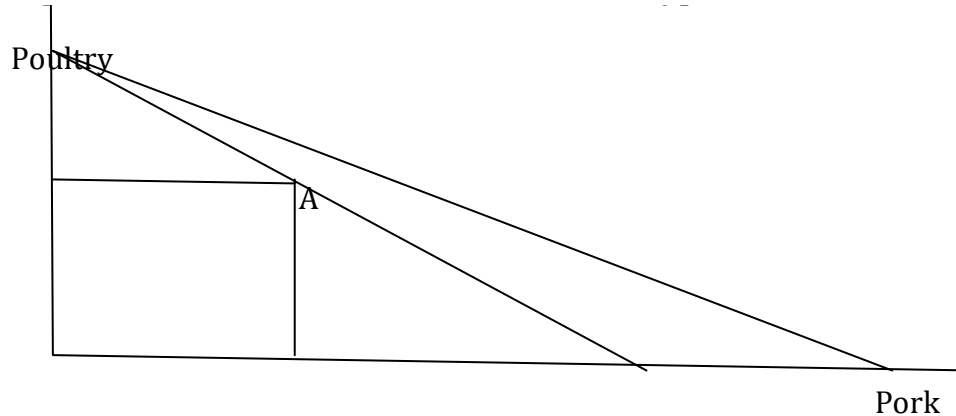
Figure 1. Illustration of revealed preference hypothesis.

significant at 5%. This indicates that there is an indirect relationship between educational level and meat consumption pattern, therefore, an increase in educational level (that is, more formal education acquired) will decrease the probability of the consumers defaulting in consumption. The sign of the coefficient on the age, marital status, and source of market and occupation of the consumers were positive as expected, but not statistically significant at 5%. This indicates that there is a direct relationship between these independent variables and meat consumption, hence, an increase in any of these variables will increase the probability of the consumers defaulting in the consumption of meat.

Gender and quantity per household had negative coefficient and was statistically significant at 10%. This also indicates that there is an indirect relationship between gender and consumption, thus, an increase in gender by one unit will result in a decrease in the probability of defaulting in consumption. Also, the sign of the determinant factor and price of pork and poultry did not comply with a priori expectation but was statistically significant at 5%. The coefficient of the quantity per household and religion was negative (indirect relationship) and significant. This indicates that the farmers' household size and their religious beliefs reduced the probability of defaulting in consumption. The adjusted R^2 of 0.55 indicated that the explanatory variables fitted explained 55% of variation in the dependent variable.

In Figure 1, if a consumer reveals preference at A, it means that all length to the left of A are inferior and points to the right of A are superior and can be selected (Akintola, 1993).

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