



## Effect of Quality Attributes On Meat Demand in Ilorin Metropolis, Kwara State, Nigeria

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**Abstract:** Consumers are now showing more concern about the type and quality of meat they buy and consume. This study therefore analyses the effect of quality attribute on meat demand in Ilorin Metropolis of Kwara State, Nigeria. The specific objectives of the study include to: describe the socioeconomic characteristics of the respondents, ascertain the most preferred meat product, analyse the quality attributes that are perceived and used by the meat consumers as well as the market outlets from which they purchase the meat products. 134 meat consumers were interviewed and the data obtained was analysed using the descriptive statistics, Likert-type scale and Least Significant Difference (LSD). The result shows that beef was the most preferred meat among the respondents (50%). This was followed by chicken (23.9%). The quality attributes that were perceived and used by the meat consumers in order of their importance were freshness/colour (1<sup>st</sup>), hygiene of the market outlet (2<sup>nd</sup>), odour of the meat (3<sup>rd</sup>), fat deposit (4<sup>th</sup>), packaging (5<sup>th</sup>) and price of the product (6<sup>th</sup>). Open meat shops near abattoir were the most patronized market outlet by the meat consumers in the study area. It was therefore recommended that Sanitary Inspectors and the Veterinary Department of the Nigeria Police within the metropolis should carryout daily routine check on abattoir and abattoir activities to ensure that the standard stipulated for commercial operation is met in the open markets.

**Keywords:** consumer preference, marketing, meat, meat demand, meat quality attributes

### 1. Introduction

Consumers are evolving rapidly in response to socio-economic changes, cultural and ethical values. Consumers are becoming more concerned about the type, preferred attributes and expected quality of the meat products they buy and consume. If food, particularly meat, is to be successfully marketed, it has to meet changing consumer expectations. This is because food hazards are associated with foods from animals. Meat can transmit certain diseases commonly referred to as zoonotic diseases (Oluwafemi et al., 2013).

Consumers are becoming more cognizant of health-related hazards in the animal products they buy; their awareness and desires for better quality products are increasingly translated into an effective demand because of higher income and

increased urbanization. For this effective demand to be sustained, it has to be catered for by processors that are expected to respond to higher premiums that desired attributes would command in the marketplace. This has the potential to improve the incomes and livelihoods of smallholders and other market participants. It would also be an avenue for the overall development of the livestock sector (Cosmos, et al., 2013).

In addition, the concept of quality is dynamic as there are several perceptions of quality for meat products (Grunert et al., 2001) all of which depend on different attributes (physical, assurance, packaging, production systems, origin, etc.). Quality is interpreted differently by various operators in the industry (producers, processors, retailers) and by consumers, leading to ambiguity

and failure to transfer information effectively between them (Abidoye et.al., 2011). Meanwhile, in the context of this study, subjective quality, which is the quality attribute as perceived by consumers, is of paramount interest. Kihlberg and Risvik (2007) explained that quality as perceived by meat eaters means “nutrition, convenience, wholesomeness, appearance, health image and naturalness, palatability price. Alternatively, quality meat is the meat that looks good, smells good and tastes good, and is affordable.

The quality of meat products may be assessed on the basis of a number of externally observable attributes. Large food retailers such as Shoprite in Ilorin city rely on standards based on International Organization for Standardization (ISO, 1986) principles (Zaibet and Mtimet, 2010). On the other hand, there are some observable quality attributes which consumers have traditionally valued subjectively (Kihlberg and Risvik, 2007). With the spread of food-borne illnesses, assurance of food quality is becoming significant in influencing consumers’ purchase decisions. For meat products, such observable quality indicators may include health certificates displayed at the market place or veterinary stamps on carcasses at butcher shops. A manifestation of this is the price premium in formal markets (supermarkets and other such outlets) for similar products sold in traditional open markets. For the same reason, some higher income and expatriate consumers prefer to buy imported products whenever available (Reardon *et. al.*, 2003).

The marketing environment in which smallholders operate is primarily comprised of informal distribution channels where quality standards are either lacking or inadequately defined. The prevalent use of locally defined standards based on consumers’ preferences and responses by market actors, the scanty empirical knowledge about which quality attributes are valued and used by meat consumers have created a gap in the marketing environment. All of these call for more studies. This study sought to address this market and knowledge gap through a research work that used known methods and procedures guided by conceptual underpinnings that

characterize informal markets with heterogeneous actors.

Based on this backdrop, this study was carried out to:

1. describe the socio economic characteristics of the respondents;
2. ascertain which meat products are preferred and regularly purchased by consumers;
3. identify the observable quality attribute of meat perceived and used by meat consumers and
4. analyze the meat market outlets used by meat consumers

## 2. Methodology

### Material

This study was conducted in Ilorin metropolis of Kwara State. Kwara state has a population of 2,365,353 persons with 50.5% of the entire population being males and 49.5% being female, NPC (2006). Kwara State is made up of 16 local government area namely: Asa, Baruten, Edu, Ekiti, Ifelodun, Ilorin East, Ilorin West, Ilorin South, Irepodun, Kaiama, Moro, Offa, Oyun, Isin, Oke-Ero and Patigi. The State capital is Ilorin metropolis which comprises of 3 local government areas namely: Ilorin East, Ilorin West and Ilorin South. The population of Ilorin metropolis was estimated to be 781,934 persons, NPC (2006).

The data used for this study originated mostly from primary sources, however information from secondary sources made up the literature. The primary sources of data used were carefully extracted from 134 respondents in Ilorin metropolis with the aid of well-structured questionnaire and interview scheduled.

The sampling techniques employed in this study were purposive and convenience sampling techniques. The study area was chosen purposively because of the number of abattoirs it accommodates and number of registered supermarkets where meat products are sold, as well as the size and heterogeneity of the population of the metropolis. Convenience sampling technique was used to sample the respondents due to their proximity and accessibility given the population of the study

area. The survey was based on data derived through face to face interviews using structured questionnaire.

### Method

The analytical tools that were used for the purpose of this study include: Descriptive statistics, Likert-type scale and the Least Significant Difference (LSD). Descriptive statistics such as frequency, percentage were used to describe the socio economic characteristics of the respondents as well as meat product preference. Perceived and used observable quality attributes on most preferred and regularly demanded meat products by the respondents were asked to be listed and six most important quality attributes perceived and used by the respondents were identified as captured on a 3 – point likert scale. The ordered scores significant difference were identified using the Least Significant Difference (LSD).

The LSD is specified thus:

$$LSD (at \alpha = 0.05) = 1.96 \times (SF(n) \times (n + 1)/6)^{1/2}$$

Where,

SF was the number of sampled respondents

'n' was the number of rated perceived and used meat observable quality attributes by the respondents.

### 3. Results and Discussions

#### Socioeconomic characteristics of the respondents

The result in Table 1 describes the socioeconomic characteristics of the respondents. About 44.8% of the respondents are males whereas 55.2% are females indicating the dominance of females as meal planners and shoppers for sampled households in the study area. 31.3% of meat consumers in the metropolis are within the age range of 41-50 years. Majority

(71.6%) of the respondents (meat consumers) were married. This is similar to the findings of Onurlubaş et al, 2015 who reported that 80.4% of red meat consumers in Tekirdağ Province were married. Majority (55.2%) of the sampled households is made 6 to 10 persons. All the respondents were educated with about 55% of them having tertiary education. 59.0% were government employed as 12.7% were privately employed including own businesses while 24.6% were retired and only 12.7% were housewives. This shows that all the sampled meat consumers had the capacity to afford meat irrespective of the market outlet where their preferred meat product could be found.

43.3% of the respondents were Christians while 45.5% were Muslims, and the remaining 11.2 % were followers of the traditional religion. A result that is consistent with the heterogeneous nature of the study area, where different people co-exist. It is expected that religion and meat consumers adherence to religious teachings would affect the consumers preference for some meat products irrespective of the quality attributes observed in the meat product. From the findings, 62.7%, the largest proportion of the respondents have stayed above 6 years in the metropolis, guaranteeing their level of exposure and readiness to assess and adopt quality as exhibited through the observance of meat product quality attributes instead of quantity as is the case in remote towns.

35.8% of the sampled respondents earn incomes within the range of ₦51, 000 - ₦80, 000. Also, about 31.3% earn between ₦31, 000 – ₦50, 000, with only 6.0% earning above ₦80, 000 per month. This difference in income level may be attributed to factors such as place of work (whether private, state or federal establishments), educational attainment, etc.

**Table1:** Socio economic characteristics of respondent

Variables	Frequency	Percentage
<b>Gender</b>		
Female	74	55.2
Male	60	44.8
<b>Age</b>		
21-30yrs	13	9.7
31-40yrs	23	17.2
41-50yrs	42	31.3
51-60yrs	35	26.1
> 60yrs	21	15.7
<b>Marital Status</b>		
Married	96	71.6
Single	33	24.6
Others	5	3.7
<b>Household Size</b>		
1-5	36	25.9
6-10	74	55.2
11-15	18	13.4
>15	6	4.5
<b>Educational Level</b>		
Primary	20	14.9
Secondary	37	27.6
Tertiary	73	54.5
Others	4	3.0
<b>Occupation</b>		
Government Employed	79	59.0
Private Employed	33	24.6
Retired	5	3.7
Housewife	17	12.7
<b>Religion</b>		
Islam	61	45.5
Christianity	58	43.3
Others	15	11.2
<b>Level of Exposure</b>		
1-2yrs	6	4.5
3-4yrs	23	17.2
5-6yrs	21	15.7
Above 6yrs	84	62.7
<b>Household Monthly Income</b>		
₦11000 – ₦ 30000	36	26.9
₦31000 – ₦50000	42	31.3
₦51000 – ₦ 80000	48	35.8
Above ₦ 80000	8	6.0
<b>Total</b>	<b>134</b>	<b>100</b>

Source: Field Survey Data, 2014.

**Meat product preference**

From Table 2, the most preferred and regularly purchased meat by the meat consumers is beef. It is preferred by 50% of the respondents. This result is in line with the findings of Ronald *et al*, (2016) that shows that beef is the most preferred meat by 72% of meat consumers in Maroua, far north of Cameroun. Next is chicken at 23.9%. 17.2% purchased chevron while only 9.0% purchased ram probably due to its seasonality of demand since it is mostly demanded during festivities like *Sallah*, child naming and engagement ceremonies, Also, the method of marketing of ram is wholesome not in cuts compared with other meat types, thus made the price to be at extreme for the consumers. Beef was highly preferred followed by chicken. The reason was attributed to the availability of the products especially in cuts that made the beef product readily affordable. The quest to attain the protein requirement of the body was the major reason for their meat demand preferences.

**Table 2:** Distribution of respondents according to Meat products preferred and regularly purchased.

Meat Type	Frequency	Percentage
Beef	67	50.0
Chicken	32	23.9
Chevron	23	17.2
Mutton	12	9.0
<b>Total</b>	<b>134</b>	<b>100.0</b>

Source: Field Survey Data, 2014.

**Meat Quality Attributes Perceived and Used by Meat Product Consumers**

From the result in Table 3, meat consumers in Ilorin metropolis perceived and used freshness/colour, hygiene, odour, fat cover/deposit, package, price as quality attributes of the meat products they consume. However, branding and age at slaughter of livestock were named as quality attributes but were not used during meat purchases by the consumers probably because they do not obviously portray quality hence were rated and ranked least. Meanwhile, freshness/colour of meat product was rated highest with a score of 384 and was ranked first. This is in tandem with the findings of Vermeulen *et al.*, (2015) on “A consumer perspective of the South African red meat classification system” freshness/ colour of meat was also ranked first among the meat quality attributes that affect consumers demand for meat. Similarly, Onurlubaş *et al.*, 2015 also reported that freshness and hygienic condition are the most important factors families consider while purchasing meat from butchers. The LSD analysis revealed that there is a significant difference between and among the attributes perceived and used by meat consumers in the metropolis. From the descriptive statistics, 87.3% of the consumers highly preferred freshness/colour as a quality attribute against 56.0% that preferred hygiene of personnel and market outlet.

**Table 3:** Distribution of meat consumers according to meat quality attributes perceived, used and rated/ranked.

Attribute Variable	Usage	Rated Score	LSD Rank	Indifferent		Preferred		Highly Preferred	
				Freq.	%	Freq.	%	Freq.	%
Freshness/Colour	used	384	1 <sup>st</sup>	1	0.7	16	11.9	117	87.3
Hygiene of personnel & market outlet.	used	339	2 <sup>nd</sup>	4	3.0	55	41.0	75	56.0
Odour	used	304	3 <sup>rd</sup>	-	-	98	73.1	36	26.9
Fat Cover/Deposit	used	236	4 <sup>th</sup>	45	33.6	76	56.7	13	9.7
Package	used	203	5 <sup>th</sup>	82	61.2	35	26.1	17	12.7
Price	used	199	6 <sup>th</sup>	94	70.2	34	25.4	6	4.4
Branding (logos/trademarks)	Not used	181	7 <sup>th</sup>	92	68.7	37	27.6	5	3.7
Age at Slaughter	Not used	138	8 <sup>th</sup>	129	96.3	5	3.7	-	-
<b>LSD Statistics</b>			<b>87.87</b>						

Source: Field Survey Data, 2014.

**Market Outlets patronized by the Meat Consumers.**

From the results in Table 4, meat shops near abattoir in open markets, street vendors, kiosks/Roadside shops and supermarkets/cool-rooms were identified as the major marketing outlets for meat products in Ilorin metropolis. 29.1% of the consumers sampled visited meat shops near abattoir in open markets, of which 59.0% bought beef, 20.5% bought mutton, 12.8% bought chevron and 7.7% bought chicken products. Butchers in Ilorin Metropolis sell their meat products in meat shops near abattoir in open markets. This result is in tandem with the findings reported in past literature (Lorcu and Bolat, 2012;

Nalinci and Kizilaslan, 2013: as cited by Oruç et al., 2015 and Yildirim et al. 1998). It was observed from the study that mutton was the only meat product that was not sold in cuts rather in wholesome and this could be because it was reared and preserved for special festivities like Sallah, child naming ceremonies, engagement activities and for sacrifices according to some religious doctrines. 28.3% of the sampled meat consumers patronized meat vendors where 52.6% of consumers that patronized meat vendors bought beef, 26.3% bought chevron, and 21.1% bought chicken.

**Table 4:** Distribution of Meat Consumers According to Market Outlets.

Market Outlets & Meat Types		Frequency	Percentage	Overall Percentage
<b>Meat Shops near Abattoir in Open Markets</b>	Beef	23	59.0	29.1
	Mutton	8	20.5	
	Chevron	5	12.8	
	Chicken	3	7.7	
	<b>Sub total</b>	<b>39</b>	<b>100.0</b>	
<b>Meat Vendors</b>	Beef	20	52.6	28.3
	Mutton	-	-	
	Chevron	10	26.3	
	Chicken	8	21.1	
	<b>Sub total</b>	<b>38</b>	<b>100.0</b>	
<b>Kiosk/Roadside Meat Shops</b>	Beef	18	52.9	25.4
	Mutton	-	-	
	Chevron	12	35.3	
	Chicken	4	11.8	
	<b>Sub total</b>	<b>34</b>	<b>100.0</b>	
<b>Supermarkets &amp; Cool-rooms</b>	Beef	6	26.1	17.2
	Mutton	-	-	
	Chevron	4	17.4	
	Chicken	13	56.5	
	<b>Sub total</b>	<b>23</b>	<b>100.0</b>	
<b>Grand Total</b>		<b>134</b>	<b>100.0</b>	<b>100.0</b>

Source: Field Survey Data, 2014.

Furthermore, 25.4% and 17.2% visited kiosks/roadside shops and supermarkets/cool-rooms respectively of the sampled meat consumers. It was observed also that mutton was not sold in the two market outlets for similar reasons given earlier. Beef had highest patronage of 52.9% in kiosk market outlet while chevron

and chicken had 35.3% and 11.8% respectively. Moreover, of all the meat consumers that visited supermarket/cool room outlet, chicken product experienced the highest patronage with 56.5% with beef and chevron recording 26.1% and 17.4% respectively. The highest patronage of chicken product here could be because of the

various forms it was prepared and possibly the packaging of the product on purchase.

#### 4. Conclusion and Recommendations

The most preferred meat among meat consumers of Ilorin metropolis is beef (50%) this is followed by Chicken (23.9%). The major meat quality attributes perceived and used by meat consumers in Ilorin metropolis were: freshness/ colour, hygiene of the personnel and market outlet, odour, fat deposit, package as well as price.

From the study, two vital inferences were reached. Firstly, that despite the seemingly absence of practical official standards; there existed an operational local informal criteria in the open market which depended upon observable quality attributes as perceived and used by meat consumers in Ilorin metropolis. The different observable meat quality attributes perceived and used by the consumers according to the study were: freshness/ colour, hygiene of the personnel and market outlet, odour, fat deposit, package as well as price.

Secondly, one can also infer that introduction of quality in the entire meat value chain (as ignoring the issue at any stage of the chain affects the result of the entire chain) has a significant value addition and is desirable by both processors, retailers and meat consumers. These observable meat quality attributes had high influence in determining the meat purchase decisions especially for the households while improving the economic standing of both the producers, processors and retailers.

Based on the findings from this study, the following recommendations are made, that;

a. It is advisable to formulate quality standards for meat suitable for open markets. The observable quality attributes currently informally and privately used by consumers can be a basis for defining metropolitan official standards. This will be a legal background for processors and retailers to substantiate their price differences.

b. Hygiene of the processors/retailers and their shops is a major concern of the consumers and from the view point of public health management, steps should be taken to ensure that standards are

maintained by all actors in meat value chain. Proper hygienic slaughtering, transportation and handling practices should be encouraged/enforced to ensure that the consumers get their preferred meat with the desired observable quality attributes in order to attract their patronage.

c. The Consumers Protection Council, Sanitary Inspectors and indeed the Veterinary department of the Nigeria Police within the metropolis must insist on daily routine check on abattoir and abattoir activities, to ensure that the standard stipulated for commercial operation is met in the open market.

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