

## Factors influencing beef purchase among consumers in Mafikeng, South Africa

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**Abstract:** This paper examined Factors influencing beef purchase among consumers in Mafikeng. A descriptive research design was used for this study and from a population of beef consumers in Mafikeng, a sample of 120 respondents were selected for the study. In order to ensure that all the people interviewed for this research are the consumer of beef, ten butcheries were selected from which twelve people from each butchery were interviewed. The results show that majority of consumers are married, and have a high education level with a middle income. The Mafikeng consumers mostly buy meat from butcheries, because they provide for best value for money. They only purchase their beef meat when pressed for time or looking for something extra special. And their main reason for buying beef is for household consumption. The consumers mostly buy fresh and dried beef. The most effecting factors for Mafikeng consumers to buy beef is because of the considerations on beef parts, price, more varieties for cooking, suggestions from known person and the beef colour quality.

[Keketso R and Oladele O. **Factors influencing beef purchase among consumers in Mafikeng, South Africa.** *Life Sci J* 2012;9(4):1439-1443] (ISSN:1097-8135). <http://www.lifesciencesite.com>. 220

**Keywords:** beef, consumers, market, demand, supply, taste, preferences

### Introduction

The study of consumer play an important role by helping firms and organizations to improve their marketing strategies, i.e. the consumer is the most important person to the market because the consumer takes into considerations the liking and the disliking of the consumer and produces the goods and services according to them (Becker, 2000). Hence consumer behavior refers to the study of individuals, groups, or organizations and the process they use to secure, use and dispose of a product, services, experience and ideas to satisfy needs and the impact that these process has on the consumer and society (Brester and Wohlgenant, 1991). Consumer behavior involve the psychological process that the consumer goes through in recognizing the needs, finding ways in solving these needs, making purchasing decision( e.g. whether or not to purchase the product, if so which brand and where, interpret information, make plans, and implementing these plans by engaging in compromising shopping or actually purchasing the product).

In dealing with consumer behavior in relation to beef, it is important to know how beef is perceived by different marketing segments, and what the values, needs and expectations of these consumers are. It is also important to know how consumer attitudes are formed and how learning takes place. The consumers' cultural and social backgrounds also have an important influence on the buying behavior. There are other aspects, such as where the target consumers buy their products, how they buy and what they are willing to pay and can afford, and how they decide on specific product, will also influence decision-making by markets. The primary decision that the consumer takes

is whether or not to purchase the product, in this case beef, the result of this decision is influenced by many variables which is divided into internal or individual and external or environmental (Steenkamp, 1990)

The factors affecting purchasing pattern of meat and meat products has to be identified in order to comprehend the changes in the purchasing behavior of consumers to make a qualified prognosis for the further development of consumer demand. Shin *et al.* (1997) described that the consumption can only be properly understood through the analysis of multiple factors. A range of economics, cultural, social, religious, marketing and personal factors determines consumer behavior (Northern, 2000). With respect to meat and meat products, factors such as safety, guarantee, quality assurance and trustworthy information, as well as interest in animal welfare and convenience are most relevant consumer considerations (Devine, 2003). Consumers are becoming more demanding about the type of food they buy and the preferred attributes, as well as the expected quality of red meat (beef) they buy and consume. In order for the beef meat to be successfully market it has to meet changing consumer expectation. Consumers are demanding food products that are safe for their families. There are a number of studies that have shown that certain consumer segments are willing to pay for food safety attributes. Even though beef constitutes an important part of many consumers' diets, its consumption has become a quite controversial issue. On the other hand red meet provides essential nutrients, containing high quality protein and essential health life (Hayes et al 1995). Consumers are exposed to beef products with a greater variety on features and

attributes that are preferred, they will be willing to pay more for those character they value (Hoffman, 2000).

Schroeder and Graff (1999) found that beef recalls by the Food Safety Inspection Service (FSIS) caused declines in beef demand, especially in years when a relatively large number of recalls occur. Several studies have addressed consumer willingness-to pay for food products with safety features or benefits (Shin *et al.*, 1992). For example, in an experimental auction, Hayes *et al.* (1995) found that the average undergraduate Iowa State University student would pay approximately R0.70 per meal for safer food (i.e., food screened for pathogenic bacteria).

Consumer preferences have changed dramatically over time. Preference changes have occurred due to numerous demographic factors (Henneberry and Charlet, 1992). Aging population is one factor causing changes in meat consumption. These trends offer the beef industry the opportunity to target leaner cuts of beef to older people because they typically indicate a desire for leaner beef (Capps *et al.*, 1988). Female labor force participation is another factor affecting demand for meat. Increased teenage labor provides additional household income and more meals consumed away from home (Kinsey, 1983). Other demographic factors have also contributed to food product demand changes over time, including declining household size and changing ethnic population mix (Henneberry & Charlet, 1992).

Consumer behavior is one of the most stimulating areas in marketing studies. In first place, because understanding how and why consumers behave is a great challenge. Besides it, there are so many variables involved in the consumption process that is not an easy task to establish models to understand it. Human behavior is based not only on personal characteristics, but also on the psychological, environmental, social and cultural environment that they are submitted. Beef has been consumed throughout the years in Mafikeng, it has become a traditional and occupation of the people. The people has been consuming it differently (fried, cooked, etc) for different occasions. For example most of the communities buy their beef from their butcheries for household consumption, or they slaughter the cow/cattle during the wedding, parties, cultural ceremonies, funerals and etc. However, in recent years there has been a reduction in the consumption of beef, hence, the decrease in the beef purchasing. Clearly this shows that there must be factors influencing this reduction in beef purchase which needs to be investigated in order to improve or maintain the consumption of beef in the province to improve farmers' income. It has been found that generally, consumers have started to pay more and more attention

to information, product quality and safety as main purchase criteria, rather than price.

The main objective of the study is to identify the factors that influence consumers to purchase beef. The specific objectives were to identify personal characteristics, determine consumption behaviour and ascertain purchasing behaviour of beef n consumers. It is hypothesized that beef consumption in Mafikeng is influenced by personal characteristics such sex , age , income , and education, as well as consumption and purchasing behavioural characteristics such as taste, smell, attitude.

## MATERIALS AND METHODS

The study was conducted in Mafikeng area in the Dr Ngaka Modiri Molema District, (Central Region) and it is the capital city of the North-West Province. Situated on South Africa's border with Botswana, Mahikeng / Mafikeng is located 1,400 km northeast of Cape Town (Western Cape) and 260 km west of Johannesburg (Gauteng). A descriptive research design was used for this study and from a population of beef consumers in Mafikeng, a sample of 120 respondents were selected for the study. In order to ensure that all the people interviewed for this research are the consumer of beef, ten butcheries were selected from which twelve people from each butchery were interviewed. The names of butcheries used were Totobola butchery, Jof butchery, Joe hyper meat, Top meat butchery, Itireleng butcher, Butswana and son's butchery, Riviera slaghuis, Sorona butchery, Lebogang Batswana butchery and Central butchery. A structured questionnaire was used to collect data with sections on personal characteristics consumption behavior and purchasing behavior of beef. The results of the survey were coded, and collected of in excel-sheets by the researcher. Also comments are translated and evaluated by the researchers. Probit model is used for explaining discrete choice in home beef consumption. Probit model consists of observable independent variables and unknown parameters, and their values are estimated from a sample of observed choices made by decision makers when they confronted with a choice situation. Binary choice model (Probit) variables indicate whether a consumer wants to buy a product or not.

### Assumptions:

1. Variable=1 the consumer wants to buy beef product
2. Variable=0 the consumer does not want to buy beef product
3. Error term  $\epsilon$  in the regression of latent dependent variable follows a standard normal distribution.

The probability that a binary choice variable ( $y_1$ ) =1, a consumer is willing to buy

beef is given by:  $P[\text{consumer } i \text{ wants to buy beef}] = \Phi(\beta'X_i)$

Where  $\beta$  is a  $(k \times 1)$  vector of regression coefficients;  
 $X_i$  is a  $(k \times 1)$  vector of  $k$  regressors for the  $i$ th consumer; and  
 $\Phi$  denotes the standard normal cumulative distribution function (CDF)

## Results

The results shows respondent's personal characteristics in Table 1, frequency of beef purchasing in Table 2, Beef product preferences among beef consumers in Table 3, reason for purchasing in buttery in Table 4, beef behavior on product preference in Table 5, and parameter estimates of probit regression in Table 6.

Table1 Respondent's personal characteristics ( n = 120)

VARIABLES		Freq uency	Percentage
Gender	Female	77	64.2
	Male	43	35.8
Marital Status	Married	51	42.5
	Single	40	33.3
	Divorced	14	11.7
		15	12.5
Windowed			
Age	22-29	24	20.8
	30-40	50	41.7
	41-50	31	25.8
	Above	15	12.5
50			
Size of household			
Male(adult)	1.00	114	95
	2.00	6	5.0
Female(adult)	0.00	10	8.3
	1.00	100	83.3
Male(children)	2-3	10	7.8
	0.00	9	7.5
	1-4	102	85.0
Female(children)	5-8	9	7.5
	0.00	21	17.5
	1-4	79	65.3
Education	5-7	20	16.6
	Primary	12	10.0
school		34	28.3
Secondary			
	Tertiary	74	61.7

Life Style	Sporty	14	11.7
	Travel	25	20.8
loving			
		23	19.2
Entertainment	Relaxing at	58	48.3
home			
Religion	Christian	89	74.2
		28	23.3
Muslim			
		1	0.0
Buddhism			
	Other	2	1.7
Occupation		13	10.8
Student/scholar			
		25	20.8
Officials			
	Own	20	16.7
business			
	Private	53	44.2
company staff			
		9	7.5
Housewife			
Income	<2000	32	26.7
Rand/month			
	2000-	36	56.7
5000 Rand/month			
	6000-	40	90.0
10000 R/month			
		12	10
>10000 Rand/month			

Table 2: Frequency in beef purchasing

Variables	Frequency	percentage
Less than four times per year	4	3.3
At least once per month	17	14.2
At least once per week	82	68.3
Every day	17	14.2
Purchase Location Of Beef		
Supermarket	23	19.2
Local butcher	95	79.2
Farm shop	2	1.6
Other locations		
Looking for something extra special	40	33.3
When pressed for time	53	44.2
When looking for something quick and easy to cook	27	22.5
Purpose For Purchasing		
Household consumption	111	92.5
Gift/souvenir	4	3.3
Other	5	4.1
Brand Acquaintance		
Not acquainted	116	96.6
Acquainted		

Table 3. Beef product preferences among beef consumers

Frequency of beef purchase	Often	Sometimes	Rarely	None
Fresh	95 (79.2)	14 (11.7)	6 (5.0)	5 (4.2)
Pre-cooked	24 (20.0)	42 (35.0)	25 (20.8)	29 (24.2)
Dried	40 (33.3)	27 (22.5)	28 (21.7)	27 (22.5)
Chilled	25 (20.8)	35 (29.2)	30 (25.0)	30 (25.0)
Frozen	27 (22.5)	35 (29.2)	28 (23.3)	30 (25.0)

Table 4 Reason for purchasing in buttry

Reason for purchasing in preferred location	YES	NO
Most convenient	102 (85.0)	18 (15.0)
Best value for money	104 (86.7)	16 (33.3)
Greatest choice	93(77.5)	27 (22.5)
I trust them to make sure the meat is safe for eating	93(77.5)	27 (22.5)
The service is excellent	102(85.0)	18 (15.0)

Table 5 Beef behavior on product preference

Beef type	Mostly buy	Sometimes	Unlikely	Not buy
Meatball	37 (30.8)	43 (35.8)	28 (23.3)	12(10.0)
Deep fried beef	39 (32.5)	53 (44.2)	16 (13.3)	12(10.0)
Ready-to-cook beef steak	48 (40.0)	37 (30.8)	26 (21.7)	9(7.5)
Beef sausage	35 (29.2)	23 (19.2)	40 (33.3)	22(18.8)
Pizza	34 (28.3)	24 (20.0)	36 (30.0)	26(21.7)

Table 6 Parameter estimates of probit regression

Parameter	Estimates	Std error	Z	Sig
Household size	0.76	0.025	3.029	0.002
Attitude	0.213	0.020	10.506	0.000
Perceived characteristics	0.49	0.011	4.690	0.000
Gender	2.578	0.256	10.051	0.000
Marital status	-0.149	0.089	-1.668	0.095
Age	-0.095	0.009	-10.108	0.000
Education	-0.574	0.153	-3.760	0.000
Life style	0.732	0.081	9.048	0.000
Religion	-0.410	0.142	-2.895	0.004
Occupation	-0.046	0.079	-0.585	0.558
Income	0.064	0.097	0.655	0.512
Purchase location	2.020	0.153	13.159	0.000
Purpose of purchasing	1.470	0.180	8.144	0.000
Brand acquaintance	0.006	0.142	0.044	0.965
Regularity of purchase	0.570	0.095	5.969	0.000
Beef type mostly eat	-0.540	0.075	-7.211	0.000
Intercepts	-17.161	1.067	-16.079	0.000
Chi-square	3.18			
df	103			
Sig	0.00			

## DISCUSSION

As shown in table1, the findings indicates that 64% of the respondents were female and only 35% of them were male. This may be because the females are recognized of doing the shopping and groceries than males. Forty-two percent of the respondents were married, followed by 33% of those who are single then widowed and divorced respectively. Majority of them were between 30-40 years of age. Almost all of the households had both males (70%) and females (83.3%) adult present, it was rare were only one adult was found in house and of course the majority in the households were children. Most respondents (61.7%) had tertiary qualifications with only 10% of them who had only primary education. The respondents mostly like relaxing at home (48.3), travel loving (20.8) and entertainment respectively (11.7), with only 11.7 of them who are sporty. 89% of the respondents are Christian, followed by Muslim then other religion. Most of respondents are on private companies (44.2), government officials (20.8) and own business

respectively (16.7), with an average income ranging from R600.00-R10000 per month (90%).

Table 2 is the frequency in beef purchasing, and the findings indicate that almost all respondents (82%) purchase beef at least once per week and their favorite location for purchasing is local butcher (79.2%). They only purchase from elsewhere when pressed for time (44.2%), looking for something extra special (33.2%) or something that is quick and easy to cook respectively (22.5%). And their main purpose of purchasing is for household consumption (92.5%). Most of the respondents are not brand acquainted (96.6%). Table 3 shows beef product preferences among consumers. It indicates that both in most of the respondents fresh beef ranks highest (79.2%), followed by dried beef (33.3%) by beef consumers. This result is in agreement with the previous literature of Chinese consumers' preference in relation to freshness of meats (Zhang 2002). Pre-cooked beef is the least popular type. Chilled beef (20.8%) is a rather new concept to Mafikeng consumers. It is offered mostly at supermarkets with good refrigerator facilities. The finding from table 4 which is the reason for consumers to purchase beef in preferred location, indicated that the reason for respondents to purchase in preferred location is because it give them best value for their(87.7%), most convenient(85%) and because the service is excellent(85%).

Table 5 is beef behavior on product preference, and it shows that various types of beef parts were popularly purchased especially ready-to-cook beef steak(40%), deep fried beef(32.5%) and meatball30.8%) respectively. The least purchased beef products was pizza and other beef products. Factors influencing consumer behavior in beef purchasing in Mafikeng. The result from the probit model in Table 6 showed that the coefficient/estimates for 8 variables were significant in Mafikeng. These estimates are gender (2,578), purchase location (2.020), purpose for purchasing beef (1.470), (household size), lifestyle (0.732), education (-0.574), regularity in purchasing

beef (0.570) and beef type (-0.540). the sigh for each estimates is consistent with expectation: that is the increase in males or female will increase the beef purchasing, the more the butchery (location) the higher the purchase, less education lead to decrease in beef purchasing, the more people buying every day the higher the beef purchasing and the less the beef type available the lower the beef purchase. Demographic characteristics in Mafikeng indicate that consumers are belonging to lower age group. Generally females are the dominant in households, with more children present in the households. Majority of consumers are married, and have a high education level with a middle income. The Mafikeng consumers mostly buy meat from butcheries, because they provide for best value for money. They only purchase their beef meat when pressed for time or looking for something extra special. And their main reason for buying beef is for household consumption. The consumers mostly buy fresh and dried beef. The most effecting factors for Mafikeng consumers to buy beef is because of the considerations on beef parts, price, more varieties for cooking, suggestions from known person and the beef colour quality.

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9/28/2012