

**THE EFFECT OF LOCAL RICE QUALITY ON CONSUMER CHOICE OF IT: A STUDY OF  
RICE CONSUMERS IN SOUTH EAST NIGERIA**

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**Abstract**

*This study examines the influence of rice Quality on the choice of local rice in South East Nigeria. The research draws upon cross sectional survey and correlational evidence from household consumers of rice in which data required for the study were generated through the instrument of questionnaire. A sample of 400 respondents was elicited from a finite population of household rice consumers' resident in the five (5) South East Nigeria using a stratified random sampling and purposive non probability sampling techniques. Of this number, 366 copies were usable. The data were cross tabulated and analysed with descriptive statistics and the hypothesis was tested with Pearson product moment Correlation (PPMC) and multiple Regression whose aim is to ensure objectivity, rigour and logical reasoning in fulfilling the research objectives. Findings indicate that perceived quality of local influences consumers' choice of local rice. The study therefore recommends that government intervention strategy should focus on promoting local rice as stone free. Government investment effort should also incorporate mechanism to provide incentives to processors so as to upgrade their technologies, thus enhance rice quality.*

**Keywords:** Consumer Choice; Local Rice, Quality, Rice consumers, South East Nigeria

**BACKGROUND**

Rice botanically called Orizae is relatively an Agricultural grain grown and consumed as staple food in Nigeria and other parts of the world (Ajijola, Usman, Egbetokun, Akoun, and Osalusi, 2012). Rice represents 29% of the total output of grain crops worldwide and it is a major crop that grows in the standing water in vast areas of flat, low lying tropical soils. It is usually adopted for growth in tropical and sub tropical regions of most continents. It is cultivated under widely different conditions because of the great cultural diversity.

Rice is becoming an increasing popular food in Africa because it is easy to store for a large variety of dishes. In Nigeria, rice is a diet of an estimated population of 180 million consumers and it is cultivated widely across the states, extending from the North to the South with most of it grown and consumed in the extreme North at (Kano and Bonu), middle belt at (Benue, Kaduna, Niger and Taraba states and South East at (Ebony and Enugu State) (Emordi and Madukwe, 2008). Significantly, the physical appearance and brand of rice is equally important as they determine what type of menu consumers embrace and use for menu preparation. Interestingly, different local dishes are prepared with different types of rice that are considered suitable for such dish. Importantly, It is argued that taste, neatness, quick cooking, colour and stickiness after cooking are some of the factors that trigger consumers' preference for certain types of rice where available (Ogundele, 2014; Emodi & Madukwe, 2011) and as such incorporating these variables in production could lead to its choice especially in the South Eastern region. In the light of these however, information as regards to what informed consumers' choice of certain types of local rice is still lacking and not available itself. However, the choice of local rice for household and general consumption varies across different geo political zone of Nigeria. This is associated with the different cultural and traditional food consumption pattern of the

area, availability of the local rice, as well as the nutritional and psychological value attached to it (Ogundele, 2014).

When information regarding the variables that can affect local rice choice is available to consumers, it could lead to increased positive behavior of consumers towards its choice. Although rice grows well in all the six geo-political zones of Nigeria, the demand for polished long grain, stone free and odourless rice by the urban dwellers has fueled the demand for imported rice. Total demand for rice in Nigeria is put at about 5million MT a year out of which about 3.2 million MT are produced locally (Osuoha, 2014; Ajijola et al, 2012). The high cost of importation in recent years has highlighted the desire by the government to encourage import substitution by encouraging increased local production. However, locally produced rice at present is uncompetitive in the market because its value chain is fragmented and cannot offer a standard. The uncompetitiveness is caused by poor processing and low marketing interest as well as poor quality as a result of extraneous material such as stones and debris (Ugalahi et al, 2016). Thus, consumers are weary of picking stones from local rice. Secondly because all operations are manual, cost of production is also high. Thus, perceived quality, among others could be the variable that if enhanced, could lead to increased choice of rice by consumers.

Several studies that exist in Nigerian context, tried to provide information on the factors that influence consumers' choice towards local rice by looking at the whole consumers' in the nation. While taking a holistic look at the nation, some studies focused on the north while others focused on the middle belt (Ogundele 2014, Okeke, Iheanacho and Obasi, 2015). There is relatively no study that systematically investigated the phenomenon in the South East hence little is known about consumers' choice and behaviour towards local rice in this region. To address this gap the study is undertaken in the concerned region to empirically investigate the variables that influence consumers choice of local rice in South East Nigeria with a view to providing information on the influence of perceived product quality

### **Study Objectives**

The general objective of the study is to evaluate the variable (factor) that influence consumers' choice of local rice in South East Nigeria, the specific objective is:-

- To determine the relationship between perceived quality of local rice and consumers choice of it in South East Nigeria.

### **Research Questions**

The following research question was drawn out to empirically address the objective of the study:

- To what extent does perceived quality of local rice relate with consumers' choice of it in South East Nigeria?

### **Formulation of Hypothesis**

Based on the objective and research question, the following null hypothesis is formulated to empirically address the issues raised:

- **H<sub>01</sub>:** There is no relationship between perceived quality of local rice and consumers choice of it in South East Nigeria.

### **Significance of the Study**

Because information regarding the variables that explain consumers' preference for locally produced rice is limited in Nigeria as highlighted and such information provided in this study will be a valuable one to all and sundry. The findings of this study will be useful to various stakeholders: the federal, state and local governments; the consumers as well as marketers and dealers. Conclusively therefore this study is significant in the sense that through the findings of this study the government both federal and state, even private sector will have an informed platform to formulate policy framework that will further encourage the production and marketing of locally produced rice and as well bring about the need to accept it better than the imported one. Academics will also benefit as it will serve as valuable resources materials to various scholars in the field of agricultural marketing, sociology, management as well as postgraduate students undertaking courses in the areas of communication strategies and model building. Consumers will use the re-directed local rice strategy to make informed choice, make the chain buyer-driven and enhance sustainable agro business.

### **Scope of the Study**

Thus, for the purpose of this research, the scope of this study is consumers' choice of local rice focusing on consumers in South Eastern region of Nigeria. These are those in Ebonyi, Enugu, Anambra, Abia and Imo states, looking at their choice and consumption behaviour towards local rice produced in the region.

### **Limitations of the study**

This study is correlation related and not causal in nature and it intends to build upon existing work in the field. Against this background, the identified relationships should be interpreted as possible relationship or preliminary evidence rather than as a conclusive demonstration that such causal relationship exist. More theory driven studies are necessary to provide evidence for verification of the linkages and provision of a fair understanding of the variation in consumers behavior in different food setting rather than in rice alone. As with any cross-sectional study, the data presented are useful in justifying relationships in the model. It is also important to recognize the inherent limitation associated with generalizing the findings beyond the sample utilized and its geographical scope. The population for the study was limited to the five South Eastern states of Abia, Anambra, Ebonyi, Enugu and Imo. As such results could be different from that of other geopolitical zones of the country.

The study was also strictly limited to only one product category, (local rice) and the findings may not be generalized to include other local food category or foreign rice per say.

## **LITERATURE AND THEORETICAL FRAMEWORK**

In this section some conceptual issues as well as theoretical framework and reviews that are relevant to study concept are discussed. This includes the concept of choice, consumer behaviour amongst others. First the theoretical reviews are done and thereafter the conceptual issues.

### **Theoretical review:**

This study is anchored on the important theory of reason action in establishing the construct and research hypothesis. Regardless of the limitations, they have been proven as most suited for studying consumer behavior especially as it concerns the consumption of a commodity. Thus, the theory is based on consumer behaviour which has responded to the conception and growth of modern marketing to encompass the more holistic range of activities that impact upon the consumers decision (Blackwell, 2001).

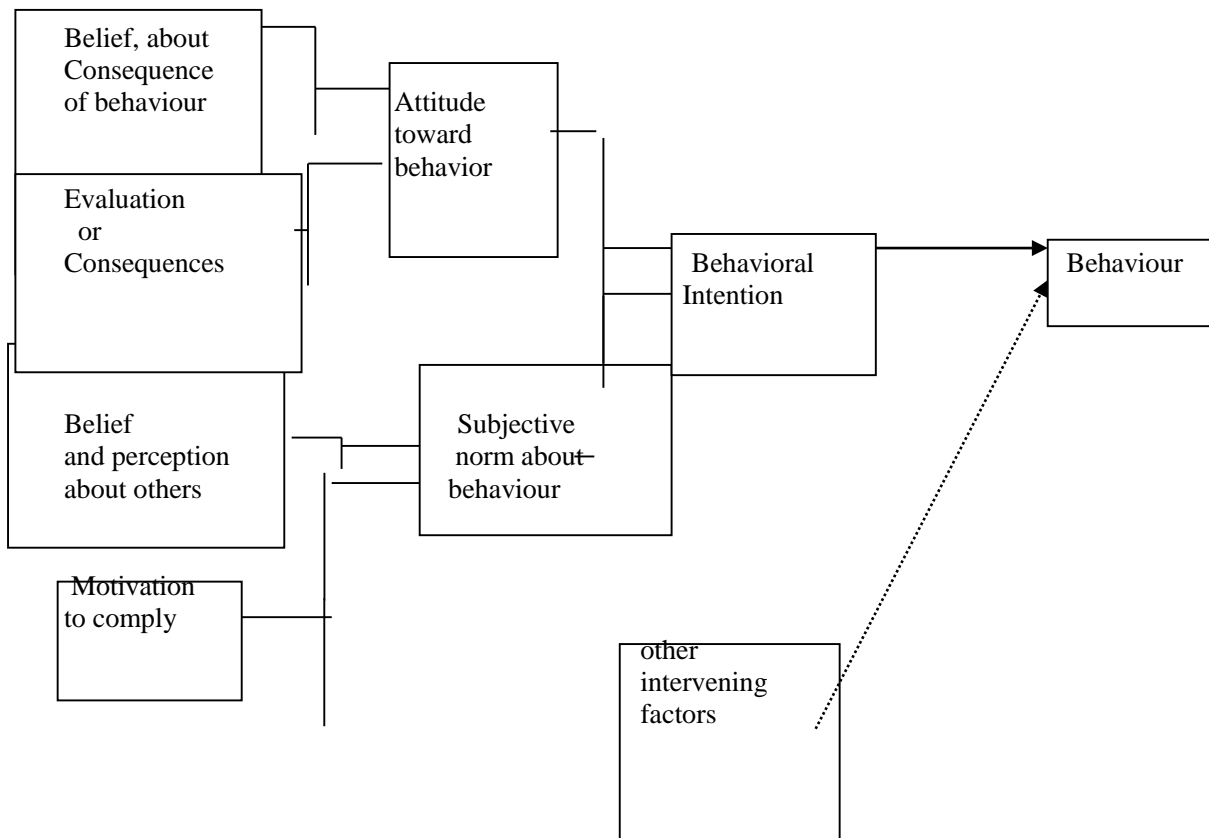
### **Theory of Reasoned Action**

Theory of reasoned action is a series of linked concepts and hypotheses postulated and developed by social psychologists to understand and predict human behaviour (Mckemoy & Sakyi-Dawson, 2000). The theory is one of the expectancy-value models of human behaviour and the terminology is not very different from that of the well established subjective expectancy utility model used by economist (Lynne, 1995). It is one of the most influential theories about volitional human behaviour (Trafimor and Finlay, 2002).

The theory of reasoned action is based on the assumption that human beings usually behave in a sensible manner since they take account of available information. The theory postulates that behaviour is approximately equal to behavioral intention and the person intention to perform (or not perform) a behaviour is the immediate determinant of the action (Ajzen. 1988).

The model developed by Fishbien and Ajzen (1975) defines the link between belief, attitudes, norms, intention and behaviour of individual and this is derived from a combination of the consumers' attitude toward purchasing the product and the subjective norms about the behavior. Though the concept of subjective norms theory acknowledge the power of other people in influencing behavior (Solomon & Bamossy 2006), it accounts for the thought of others towards certain behavior and it is moderated by the extent to which the consumers are motivated to comply with these views. According to Miller (2005) the relative contribution of attitudes and subjective norms will not necessarily be equal in predicting behaviour depending on the individual consumers propensity to care about others views, consumption situation or the product type under consideration. A person's intention to behave in a certain way is based on their attitude towards the behaviour and their perception of the social pressures on them to behave in this manner. The relative contribution of attitudes and subjective norms varies according to the behavioral context and individuals involved.

This model therefore suggest that external stimuli influence attitudes by modifying the structure of the persons belief. Accordingly, the theory claims that all other factors which influence behavior only do so in an indirect way by influencing the attitude or subjective norms. Fishbienand Ajzen (1975) refer to these factors as being external variables. Figure 2.1 shows theory of reasoned action



**Fig 2.1 Theory of Reasoned Action**

**Source: (Loudon & Della, 1993)**

For Obvious reasons, the behaviour is not always within the complete control of the actors and as such an additional variable mediating between intention and behavior is necessary (Warshaw 1980) and this led to the provision of additional variable in 1985 called Behavioural control in theory of planned behavior TPB (Ajzen, 1985).

**Conceptual Review**

**Concept of Consumers’ Choice**

Choice involves decision making. One can make decision between imagined options or real options which collaborate with each other leading to action or behaviour. Choice includes judging the merits of multiple options and selecting one or more of them based on preference whose option depends on information relating to the value attached to the product (Reed, et al 2011). Foods are not simply chosen because they are liked but other reasons in addition to taste, smell and pleasurable appearance and these are seen as post ingestive consequence of consuming a particular food. They are the complex motivators and are regarded as cognition, instinct and feelings. For the purpose of this study choice of local rice is the process of selecting local rice based on values attached to it. This choice focuses on thought mechanism arising from rationality, intuitiveness, recognition and the combination of the above. According to Bates (2009), choice of acceptance of a particular commodity as most frequently mentioned, involves either a measure of those quantities bought or of the number of consumers who buy the commodity when the alternatives are offered in conjunction with the price and income structure which are known and fixed. With reference to local rice, choice could be seen as the intention to buy the locally produced rice when the alternatives (foreign rice) are offered with price and the income of the consumers which are determined. Food choice and preference are developed through exposure to the physical characteristics of food combining environmental, physiological, psychological, accessibility and the combination of these factors. Food preference is the degree of like or dislike for food and can exist without consumption but food acceptability denotes the food consumption accompanied by

pleasure. It therefore has a behavioural and attitudinal component whose causative factors are not explained by food preference.

### **Perceived Benefits and Risks involved in the Construction of Consumers' Attitude**

The consumer behaviour paradigm focuses on how the intrinsic and extrinsic attributes of food affect purchase decision. This enable the influence of convenience, price and other explicit attributes of food choice (Tregear & Ness, 2005; Chambers et al, 2007) to be assessed along more abstract factors for example, healthiness, environmental and welfare benefits. In addition to broader attitudes towards food, local foods are generally perceived as being higher in quality (Murdock et al 2000). This study is made to determine whether actual purchasing behaviour reflects the stated attitude which consumers of local rice appear to have towards locally produced rice in a situation where consumer benefits are made explicit.

Furthermore, perceived benefits are believed to be crucial for the choice of food products. Since locally processed rice are perceived as possessing moderately severe risk and as unknown risk they should be processed under the condition that potential risk be avoided (Chem & LI, 2006) The consumers' attitude is tested as a tendency to evaluate a particular entity with a certain degree of favour or disfavour (Eagly & Chaiken 1993). A specific attitude can be used to explain why some people support particular brand and why others oppose them. According to Bredahl, (2001) attitude towards the use of genetic modified food is determined by both perceived risks and perceived benefit. Perceived risk is the consumers perceptions of importance and the possible undesirable consequence of using the system (Lee 2009; Tanakinja et al, 2010).

### **Perceived Rice Quality Attributes on Choice Decision of Local Rice**

Rice quality include physical appearance of the rice grain as well as the cooking and eating quality. Appearance related traits include colour, grain length and shape (Ayinde et al, 2013; Cranfield et al 2008). Perception of quality is a critical factor in consumers foods choice (Gunnert 1997; Cranfield et al, 2008). Weatheral et al (2003) report that top of mind issues when choosing local foods are intrinsic quality (including taste, freshness and appearance) health, animal welfare, environmental issues and origin. Similarly, Tregear & Ness (2005) identify moral issues, health, image, convenience, origin, price and intrinsic quality (including appearance, taste and freshness in choosing local foods. Product quality is not an abstract concept. It is either built by the economic (product specification) or through public policy decision (i.e. minimum quality standard). According to Prigentsimonin, Herault & Fourmer (2005), and Becut (2011) consumers associate local foods with better taste, freshness, aroma, flavor, price, grain size, ease of cook, attractive color (Brown, 2003; Feagan et al, 2004; Selfax and Qazi, 2005).

Locally processed rice are perceived as possessing moderately severe risk and as an unknown risk, they should be processed under the condition that potential risk be avoided (Chem & Li, 2006). Bredahl et al, (1998) observed that an attitude towards genetic engineering is related to weighing up of the perceived risks and perceived benefits. According to Bredahl (1998) attitude towards the use of genetic modified food production is determined by both perceived risks and perceived benefits of applying genetic modification in food production. This goes to sum that attitude depends on overall perceived risks and benefits associated with the product and the processing. Evidence further suggests that individual behaviours are driven by perception or beliefs about risks (Frewer et al, 1998) consumers are optimistic about possible benefits of food but they are also concerned with the associated health, safety and environmentally harmful consequences (Hossain et al, 2013; Onyango et al, 2004). The reciprocal influence among perceived quality of rice, perceived benefits and perceived risks of consuming local rice calls for examination.

### **Brief Profile of South East Geographical zone of Nigeria**

Southeastern Nigeria is a geographical zone on a universe. It is a region of Nigeria that was formally called East Central state. East central state and southeastern state were formally called Biafra controlled Territories (see Achebe, 2012). This then Biafra controlled states were regions of Nigeria that bordered Cameroon East and Atlantic ocean to the south. The boundaries are defined by Delta state on the west and Imo state to the south. South Eastern state was one of the initial twelve states (12) created during the Nigerian civil war which was later broken into the present South East, Akwa-Ibom state and cross River state. South Eastern state became the name of the six geopolitical zones in the country in 1990 consisting of five (5) states to include Abia state with an estimated population of 2, 833,999, Anambra state with an estimated population of 4, 182,032; Ebonyi state with an estimated population of 2,173,501, Enugu state with an estimated population of 3,357,298 and Imo state with an estimated population of 3,934,899. This brings the total estimated population of the present south Eastern states to 16,481,721 (National Bureau of Statistics 2012). South Eastern Nigeria is located between latitude of centre  $6^{\circ} 27' 10''$  ( $6,4528$ ) North and longitude

of centre 7° 30' 37" (7,5103) east. South Eastern Nigeria is the land of Akwa speaking people and the dominant language of this people in the region is Igbo. The South Eastern state has a total land area of about 15,800 square miles (statistical year book, 2009).

### **Empirical Review**

An increasing set of evidence has been reported on how consumer could potentially accept locally produced agro product especially rice grain in Nigeria and other parts of the world. Several Studies both empirical and theoretical attest to this issue as very crucial for self sufficiency of the nation. Some of these studies are highlighted and discussed here.

**Agbogo, Udouso and Tiku (2013)** conducted a study to evaluate the factors that affect rice consumption in Cross River State using 240 evidence purposively selected from 12 local Government Areas. The study adopted a multi-stage sampling techniques Descriptive statistics was used to analyse the socio-economic characteristics and the covariance model was used for the nature of qualitative and quantities exogenous variables to determine the financial relationship between consumption expenditure and disposable income, occupational status and brand of rice preference and price of rice. The findings showed that the socio-economic variables of age, mental status, household size, religion and educational levels affect rice consumption. It was further found that the average monthly income of the respondent, average amount spent on rice per day and average quality of rice consumed per meal per household have influence on the consumption of rice. The result showed that price has inverse relationship with consumption expenditure where any increase in income leads to decreased commodity consumed.

**Okeke, Iheanacho & Obasi (2015)** used 120 households evidence in six wards and twenty four streets to investigate the determinants of local rice consumption in Makurdi metropolis of Benue State. The study was specifically made to describe and identify the socio-economic characteristics and preferences for household and imported rice. Multi-stage random techniques were used to select the samples. Descriptive statistics was used to describe the socio-economic characteristics of local rice consumers and household preferences for imported rice. Multiple regression was used to investigate factors influencing households' consumption of local rice. The results indicate that household consumption of local rice is influenced by socio-economic factors and quality of local rice. However, it was recommended that investment in local rice processing should be on equipments that will improve its quality.

**Sporleder, Kayser, Friedrich & Theuvsen (2014)** investigated consumers' perceptions concerning sustainable produced Bananas using an evidence from 316 questionnaire of German online consumers who participated in the survey. Of the number, 313 observations were analysed using choice method. The results show that consumer behaviour significantly influenced preference for sustainability process quality and the certifying organizations. The model further measured significant influences for attitude and trust in the organization. Generally, it is found that a sustainability label significantly influence consumer preference for sustainably produced bananas. The results confirm that trust in the standard seller plays a particularly important role for the success of a label.

**Alfred & Adekayode(2014)** investigated consumers attitude towards local rice using two local government areas of Ondo state which were randomly selected. Two communities were also selected from each local Government areas thereby constituting a 100 respondents. Structured questionnaire was used in collecting primary data. The data were analyzed using descriptive statistics and correlation matrix. The result showed that 93% of respondent consumed local rice but only 26% consumed more of local rice than imported. The attitude of the respondent showed that they were indifferent in their preferences of local rice to imported rice. It was then recommended that processing which has much to be desired so as to make the product neat and attractive should be improved upon. This can be accomplished by adopting the use of improved technology.

**Marlia, Nasuddin & Fazlen (2011)** examine the determinants of consumers purchasing behaviour for rice in Malaysia using convenient sampling method to select 100 customers at random. The result of this analysis show that the variable of great interest that affect the purchasing behaviour are the marital status, gender, age, occupational status, head and household number. The results further indicated that rice attributes such as flavour, taste of cooking, price and location also affect their choices of brand available in the market. In his summary, majority of the consumers preferred to purchase local white rice in small packs over the

imported one. The findings from this study are useful for the producer and distributors to strengthen their rice brand and to segment their target market. Accordingly, they should label information on the rice packaging to inform the consumers which cuisine is suitable for each type of rice to avoid their purchasing the wrong one.

**Diako, Sarki,-Dawson, Bechako, Salie & Manful (2010)** examined consumers perceptions, knowledge and preferences for domestic rice types using a survey of 300 rice consumers as a base for quality improvement of local rice. Results indicate that most consumers were more familiar with imported rice which reflects in their patronage patterns. The reason being non availability of local rice, poor post harvest handling and perceived poor quality of local rice were responsible for non acceptance of local rice. The few that consume local rice do that with the claim that it is inexpensive and has better nutritional quality. Recognizing that both cooked and zero attribute of rice influence consumers preference, the appearance of raw rice was critical to consumer choice, taste, texture and aroma which detect consumer preference for cooked rice. Consumers are also concerned about appearance attributes of raw rice such as grain size, absence of white specks, Uniformity of grain, absence of white bellies (Chalkiness) and presence of foreign matters such as stones. It is then concluded that both cooked and sensory appeal dictates consumers preference for rice.

**Cranfield, Henson & Blandon (2008)** while studying the factors influencing purchase intention of canadian consumers, found that social-demographic characteristics play only a limited role in shaping local food purchase intention. Attitudinal base variables have far greater influence. Positive view towards local farmers, agriculture and food quality are positively related to the intention to buy local food. He however stated that the product origin factor has a positive and significant managerial effect on the likelihood to purchase local rice. Key, here is that consumers for which food taste and safety are important in their product choices and agreement with the quality and safety of locally purchased food have greater propensity to buy local food. The inexpensive or convenience variables was significant, suggesting that cost and consumers are not factors in shaping the consumers purchase intention with respect to local food.

**Zepeda & levelon – Reid (2004)** used focus group to investigate shoppers belief and behaviour regarding local food mostly African, and Americans who were less interested in the quality associated with local food, freshmen supporting local farmers and developing personal relationships with food producers. Overall, the research reveal great support for local food production but consumer behaviour is inconsistent unless consumers perceive direct benefits from buying local food if alternative supply or view local food are providing direct environmental, economic, community and health benefits. They reported that some consumers define local foods in terms of distance often used during time as a measure of benefits.

#### **2.4 Research Gap Identified:**

Following the theoretical review of the extant theories and empirical reviews some gaps were observed and noted as these shortcomings could form a platform for conceptualizing a more integrative theory or model for explaining consumer choice behaviour. In this study therefore, the researcher makes a constructive critique of theories of reasoned action and the theory of planned behaviour and proposed a conceptual model recognizing the shortcomings of the previous models or theories. The shortcomings which limit the use and the extent to which the theories can be deemed composite models of consumers choice decision is evident. Arguably the assumption surrounding the theory of Reasoned action and the theory of planned Behaviour which have been widely used in western landscape (Bagozzi Wong etal 2000) have never been applied in our local domain. Similarly the models do not well cater for all variables of interest in the choice decision model. Thus a conceptual framework has been developed for this study. Furthermore from the empirical reviews, gaps also exist. Despite the overwhelming interest of individualists and the alleged prospect of a bright future for locally produced rice, a considerable amount of research has so far focused on socio-economic factors influencing local rice consumption in Makordi, (Okeke, Iheanacho & Obasi, 2015). None of similar study has been carried out on local rice in South East Nigeria.

The consumers preference for domestic rice was investigated in Ghana by Damso-Abbeam, Armed and Boidoo (2014) and Ekiti State by Basorum (2008).The factors influencing consumers attitude towards local rice in Ondo State was investigated by Alfred and Adekayode (2004). There is no study that systematically investigated the variables that influence the choice of local rice in South East Nigeria, thus creating several research gaps. This study hopes to breach some of those gaps.

**Conceptual framework:**

As earlier highlighted this section, a conceptual framework is developed to define & formulate hypotheses with a view to fill the vacuum created in both theoretical and empirical reviews. The conceptual model is intended to isolate and identify the influence of the most influential constructs in decision making process concerning the purchase of local rice. Loob et al (2007) found that intention to purchase, behavioural control, attitudes towards the behaviour and trust on institution influence purchase decision. This underlying conceptual framework of Loob et al is related to the theory of reasoned action. Theory of reasoned action behaviour states that a person’s intention to perform or not a behaviour is the most important determinants of an action. (Ajzen, 2006). Both of these link individual attitudes regarding choice, preference or rejection of a particular product with final intention to purchase a particular product. The conceptual model was formulated to test the hypothesized relationship among perceived quality attribute, as having both direct and mediated effects, on consumers’ preference. Diagrammatically, the conceptualization of this study is represented below.

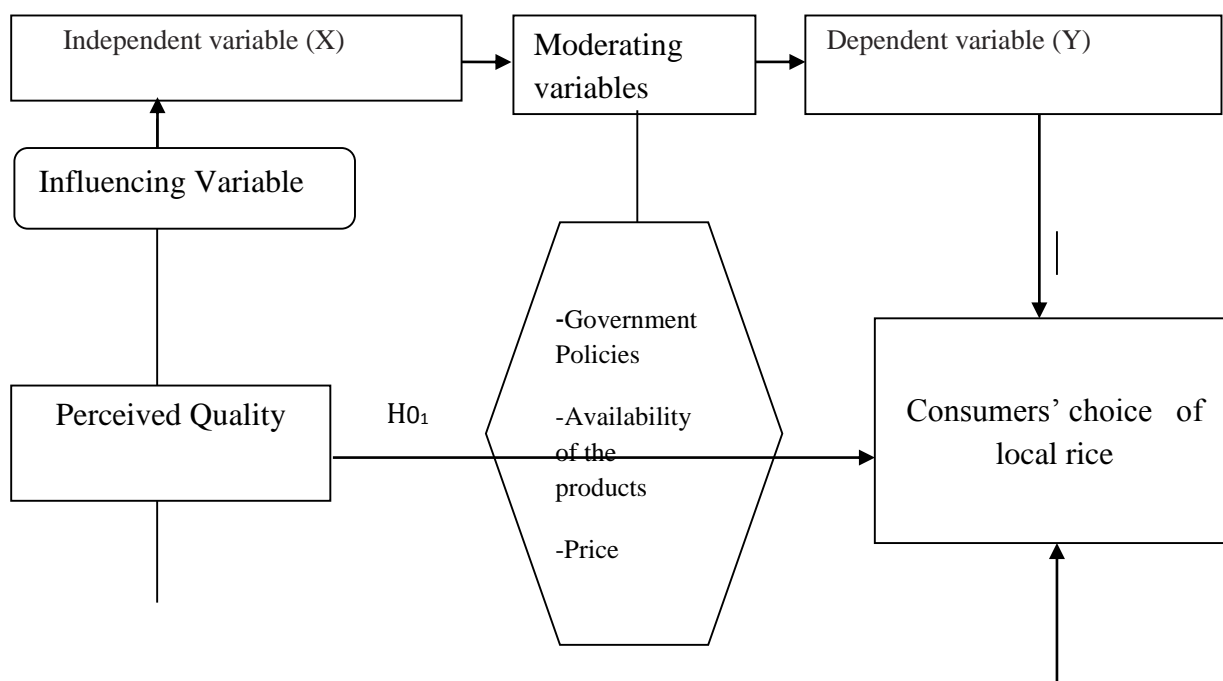


Fig 2.3: Proposed Conceptual Model of variables influencing consumers’ choice of local rice  
 Source: Conceptualized by Researcher from study data, 2017

**RESEARCH METHODOLOGY**

The cross sectional survey design was utilized for this study with a focus on the consumers in five (5) states of the south Eastern Nigeria. The population of the study consist of 16,481, 729 residents of the five states of the south Eastern region ranging from the age of 18 years and above who are legally able to make choice regarding rice consumption. Using Taro Yamene, stratified and purposive non probability sampling technique 400 respondents were sampled and questionnaires issued to them. Of this sample, 366 respondents were usable for analysis.

**Data Sources and validation**

Primary data source was used for the study. Primary data was collected with the use of structured questionnaire which was designed to address the variables identified and reviewed in this study. Five point Likert scale was used to structure and rate the questionnaires and Pilot study was conducted to ascertain the face validity of the instruments. Convergent validity, (determined by the validity of the construct) was observed with correlation coefficient value of 0.7705 and was deemed valid, while reliability of instruments was tested using Cronbach’s alpha test with a threshold of 0.894 Cronbach’s alpha coefficient value, and thus was considered reliable for the study in accordance with Warri et al (2010); Cooper and Schindler (2003) and Mahaltra and Birks (2007)



**Data analysis Tool**

The data gathered from the questionnaire were analyzed using, Pearson product moment correlation (PPMC) and use of multiple regression analysis. Using Statistical Package for Social Sciences (SPSS) software (version 19), the variables were subjected to complementary statistical test and the results were used for analysis and for hypothesis verification.

**ANALYSIS, FINDINGS AND DISCUSSIONS**

**Data collection and analysis**

Instrument for data collection in this study was the use of questionnaire which were administered and collected from sample of household and individuals who constitute the consumers of local rice in South Eastern Nigeria. Consequently four hundred copies (400) of the questionnaire produced were distributed to the respondents. However 366 copies were usable of analysis.

**Table 4.1:** Quality of local rice as a dimension of influencing variables of the choice of local rice

QUESTIONS		RESPONSES					Total	Mean
S/N	Opinions	Neutral (NT) (1)	Strongly Disagree (SD) (2)	Disagree (DA) (3)	Agree (AG) (4)	Strongly Agree (SA) (5)		
1	Local rice has high nutritive value	22	6	19	147	172	<b>366</b>	<b>4.2</b>
	<b>Percentage (%)</b>	1.4	0.8	3.7	38.2	55.9	<b>100</b>	
2	Local rice has unique taste, swelling & rising capacity	31	3	20	118	194	<b>366</b>	<b>4.2</b>
	<b>Percentage (%)</b>	2.0	0.4	3.9	30.0	63.0	<b>100</b>	
3	Locally produced rice is easy to cook	74	19	50	119	104	<b>366</b>	<b>3.4</b>
	<b>Percentage (%)</b>	<b>6.0</b>	<b>3.0</b>	<b>11.9</b>	<b>37.8</b>	<b>41.3</b>	<b>100</b>	
4.	Locally grown rice is easily available and has attractive grain size	65	13	20	158	110	<b>366</b>	<b>3.6</b>
	<b>Percentage (%)</b>	4.9	2.0	4.5	46.3	42.3	<b>100</b>	

All measures used 5 – point likert scale (Source: Field survey; 2016)

Table 4.1 looks at the quality attributes. It indicated that 56% of the respondents strongly agree with the statement that nutritious value of local rice is important quality factor while 38% of the respondents agreed to the statement, whilst 0.8% strongly disagreed. However, only 1.4% was neutral to the statement. Similarly, on the issue of unique taste, rising and swelling capability of local rice, 63% of the respondents strongly agreed that the quality attributes are important, 30% agreed as well, about 4% strongly disagreed whilst 2% were neutral with the statement. On the easiness in preparation and cooking of local rice, 41% of the respondents strongly agreed that local rice is easy to cook and prepare compared to foreign rice, 38% as well agreed, however 11% strongly disagreed. While 3% were neutral to the statement. On the issue of attractiveness of the grain size of local rice, 46% of the respondents agreed that local rice is attractive in terms of its grains, whilst 42% strongly agreed, while 4.5 % of the respondents strongly oppose the statement. The mean value indicates that there are positive responses to the question.

**Table 4.2: Consumers Choice of local rice as a measure of choice of local rice**

S/N	QUESTION	RESPONSES					Total	Mean
		NT(1)	SD (2)	DA (3)	AG (4)	(SA) (5)		
24	I would purchase local rice if it is cheap and affordable	49	7	31	136	143	366	3.9
	<b>Percentage (%)</b>	3.5	0.9	6.6	38.5	50.5	100	
25	I would buy local rice if it has good aroma and taste	39	8	24	152	143	366	4.0
	<b>Percentage (%)</b>	3.0	1.2	5.6	35.1	55.1	100	
26	I would buy local rice if it has attractive grain size without stones	38	7	28	124	169	366	4.0
	<b>Percentage (%)</b>	2.6	1.0	5.7	33.6	57.1	100	

All measures used 5 – point likert scale (Source: Field survey; 2016)

**Test of Hypothesis**

**Ho<sub>1</sub>:** There is no relationship between perceived quality of local rice and consumers’ choice of it in South East Nigeria.

Although Table 4.1 above indicates that there is positive response as shown (mean value) but it is not a sufficient ground to conclude that perceived quality of local rice does not influence or relate with the choice of local rice in South East Nigeria. In order to have a plausible ground, a statistical analysis that used the result of the SPSS output found in the table that follows present a fair decision.

**Table: 4.2 Single effect correlation**

		Perceived quality of local rice	Consumers’ choice of local rice
Perceived quality of local rice	Pearson’s correlation sig(2-tailed)	.9021 *	.0362 *
	N		4
Consumers’ choice of local rice	Pearson’s correlation sig(2-tailed)	.9021	.0362
	N	4	

\*\* correlation is significant at 0.05 level (2-tailed)

**Table 4.3: single effect regression value**

MR	R Square	Adjusted R-Square	Standard error	F-cal	Sig(2-tailed)
.90207	.81373	.7564	148.47584	13.10551	.0362

**Table 4.4: Multiple effect correlation**

		Perceived quality of local rice	Consumers’ choice of local rice
Perceived quality of local rice	Pearson’s correlation (2-tailed)	.1776 *	.8224 *
	N		4
Consumers’ Choice of local rice	Pearson’s correlation (2-tailed)	.1776	.8224
	N	4	

\*\* correlation is significant at 0.05 level (2-tailed)

**Table 4.5: Multiple effect regression**

R Square	Adjusted R-Square	Standard error	F-cal
.03153	.45271	846.43028	.06511

Source: SPSS output of Data, 2017

**Bases for Decision and decision reached**

The decision rule require us to reject null hypothesis (Ho) if the calculated table value is greater than the tabulated t – value (i.e reject Ho if  $t - cal > f - tab$ ) otherwise we accept at  $\alpha = 0.05$  or  $0.01$ . Reject also the null hypothesis (Ho) If the p-value is less than the chosen probability value otherwise we accept (i.e reject Ho if  $p - value < 0.05$  or  $0.01$ ).

Table 4.2 and table 4.3 above show that table value was significant at .0362 level which is lower than 0.05, being the chosen level of probability while the correlation result of .9021 indicated a very strong and positive association between the dependent variable and independent variables ( $PV - 0362 < 0.05$ ). The null hypothesis (Ho) is therefore rejected whilst the alternative hypothesis is accepted hence we conclude that there is a significant relationship between perceived quality of local rice and consumers’ choice of it in South East Nigeria. Considering the multiple effect of the independent variable on the dependent variable, table 4.4 and table 4.5 depict the regression analysis that was employed to show the coefficient of determination. Here, R square of 0.0315 is the coefficient of determination which indicates the multiple effect of the predicting variable as it explained 0.3% of the variation in the consumers choice of local rice in South East Nigeria. In addition, the correlation coefficient of 0.177 indicates that the effect of the predicting variables on consumers choice is weak but positive.

**Table 4.6 Summary of result**

Research Hypothesis	Correlation coefficient simple off (r)	Correlation (r) multiple effect	R square ( $r^2$ )	P – value (SIG)
Ho <sub>1</sub> (QLR → CLR)	.9021	.1776	.81373	.0362

Note: QLR – Quality of local rice, CLR – Choice of local rice.

**Discussion of Findings**

From the results of the analysis carried out, it was discovered that in this study, we have tested our claims that consumers’ choice of local rice are the result of a complex decision making processes that result from a specific cumulative interaction of attitude toward perceived quality attributes. Statistically, looking at the hypothesis, a significant relationship and influences exist amongst the variables. The relationship of quality attributes and choice were ascertained through the f-values (13.105) and correlation (r) values of (.9136). Coefficient of determination of .0315 as found in the study indicated that the multiple effect of quality of local rice explain 0.3% of the variation in consumers’ choice in the region and a correlation coefficient of 0.177 indicates the effect of the quality of local rice as weak but positive on consumers’ choice. This implies that consumers in both the rural and urban areas are highly interested in the quality of local rice as reflected in the stone free contents and other desirable attributes which guarantee the choice of local rice have other variables in mind.

The findings are in agreement with the works of Moon and Balasubramanian (2003); Onyango & Govindasamy (2004) as well as lusk et al (2005a). Similarly Carnavaris et al (2005) concluded that Italians were not willing to buy genetically modified food product even if they were nutritionally enhanced. All these are consequent upon choice. Choice in situations of risk and uncertainty means that actors do not know for certain which outcomes result from their actions. Also from the findings, it can be said that quality of local rice is a factor that is capable of explaining consumers purchasing behaviour. According to Marlia, Nasuddin and Fazlen (2011), rice attributes such as flavor, taste of cooking, price and location also affect their choices of brand in the market. Mindi and Charles argue that quality and taste were the most important factors in food purchase decision.

**CONCLUSIONS AND RECOMMENDATIONS**

**Conclusion**

The problem addressed by this study has been clearly stated. Despite the vagaries of attitude permutations, it is apparent that the nature of choice and preference of local rice in every nation is a reflection of several issues among which is the perceived quality attributes of the local rice This variable constitutes the core choice constructs and a better understanding of its influences is widely recognized as key successful factors

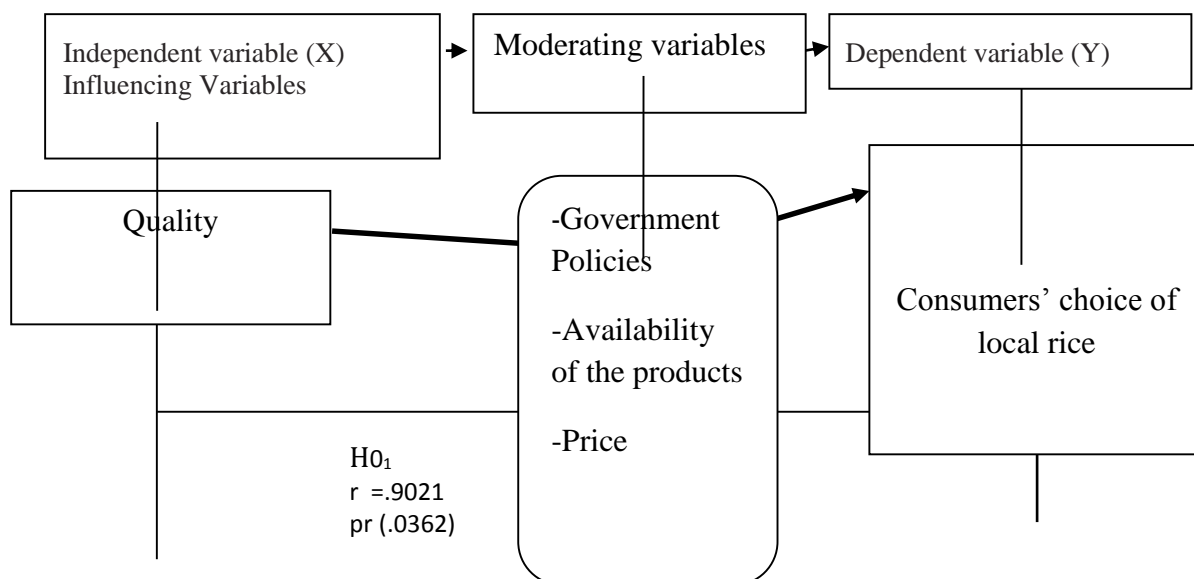
for market orientation, consumer led market development and successfully negotiating market opportunity of local rice market. In view of the findings of the study, it is concluded as follows:-

- ❖ Perceived Quality of local rice significantly relates with choice of local rice in the South Eastern region in Nigeria. This could be as a result of trying to get rid of the notion that average local rice in Nigeria does not have the quality attributes of being stone free crop and good taste. Where these perceptions are changed, the choice and preference for local rice will be there.

**Implications and recommendations for Further Research**

Given the undeniable role that local food plays in shaping certain aspects of attitude and values, including those relating to economic life, the marketing importance of increasing our understanding of the relationship between local rice and consumer behavior seem apparent. Consequently, government intervention strategy should focus on promoting local rice as stone free. This can be achieved effectively by investment effort which incorporates mechanism to provide incentives to processors so as to upgrade their technologies and thereby enhance quality of the processed rice. Despite the methodological limitations experienced in conducting this research, it does provide a springboard for future dialogue on local food and consumer behavior. There are of course, several areas for improvements and possible directions that future research could take in order to continue to expand our understanding in this research domain.

1. Since results and ideas presented in this study are exploratory in nature, additional studies are however necessary to validate the conclusions drawn from the present findings.
2. The present study focused on investigating the factors that influence the choice of local rice in South East Nigeria which is cereal product. Additional research is needed to confirm whether similar value dimension and correlation can be observed in other cereals product such as soya beans, maize, Acha and wheat.
3. While the method used by the research for testing the proposed model is technically sound, the opportunity for future research is to test the model by employing SEM as a data analysis technique and to compare result with the present study.
4. It is recommended that future research should involve the creation and analysis of quantitative data which when obtained could then be used to generate items to develop scale for subsequent quantitative phase of the study.
5. Research should focus on understanding the claims used for promoting local rice attribute perception that could enhance trust and loyalty towards sustainable consumption of local rice.
6. Government should lay a concrete plan for local rice production and marketing, involving private sector investment in efficient rice processing using mini rice meals with built in capacity for the stoning, polishing and sorting homogenous high quality rice.



**Fig 5.1: Model of consumers' choice of local rice in South East**  
**Source: Conceptualized by Researcher from study data, 2017**

**Key:**

—————> Great Influence

## REFERENCES

- Achebe .C. (2012). *There was a Country, a Personal history of Biafra*; Penguin Press, U.S
- Agbogo, E.A; Udouso, A.B & Tiku, E.N (2013). Analysis of factors affecting rice consumption in Cross River State; *JOSR Journal of Agriculture and Veterinary Science* (2)4:29-33 [www.iosrjournal.org](http://www.iosrjournal.org).
- Ajjola, S., Usman, J.M., Egbetokun, O.A., Akoun, J., & Osalusi, C.S. (2012). Appraisal of rice production in Nigeria: A case study of north central states of Nigeria. *Journal of Stored Products and Postharvest Research* (3)9: 133–136, 8 May. Available online at <http://www.academicjournals.org/>
- Ajzen, I., (1988). *Attitude, personality and behaviour*, Milton – Keynes, England: Open University Press.
- Ajzen, I., (2006). *Constructing a TPB questionnaire, Conceptual and Methodological Consideration*, Retrieved from Sage Pub.Com/context/09/2/242.ref.
- Alfred, S., D.Y & Adekayode, A.B. (2014). Consumer' attitude towards local rice production and consumption in Ondo State. *Journal of Agricultural extension and Rural Development*. [Http/www.academljournal.org/JAL RD](http://www.academljournal.org/JAL RD).
- Ayinde, I., Kaream, K., Holdele, O.J; & Bakare, H. (2013). Consumption pattern of Ofada Rice among Civil Servants in Abeokuta Metropolis of Ogun State, Nigeria, *Journal of Biology Agricultural and Health Science* (3)6.
- Bagozzi, R & Wong, E (2000) cultural and structural contingencies and the theory of reasoned action. Application to fast food restaurant consumption *Journal of consumer psychology*; 92(2) Pp 97-10b.
- Basorum, J., O., (2008). Analysis of the relationship of factors affecting rice consumption in a targeted region of Ekiti State, Nigeria *Journal of Applied Quantitative Methods* 4(2).
- Bayou F., (2009). Rice value chain development programme, Submitted to MSME, Nigeria.
- Becut, (2011) Apples Quality sign and Trademarks for local products. *International review of social research*; University of Bucharest, Vol.1, Pp.65-83.
- Blackwell R., (2001). *Consumer behavioural, intention in diverse cultural environment* 9<sup>th</sup> ed, Orlando Florida.
- Bredahl, I., (2005). Or 2001 Determinants of consumers attitudes and purchase intentions with regards to genetically Modified Food. Results of a cross-national Survey; *Journal of Consumer Policy* 24 (1) Pp 23-61.
- Bredahl, L. Grunert, K.G & Frewer, L., J., (1998). Consumer attitudes and decision making with regard to genetically engineered food products. A review of the literature and presentation of models for future Research. *Journal of Consumer Policy* (3)21.
- Brown, C. (2003). Consumers preference for locally produced food. A study in the southeastern Missouri.
- Canavaris, M, Giuseppe, N & Ricardo, S (2005) stated willingness to pay for organic fruit pestiade ban. An evaluation using both useable fruit and pestiade based on face to face interview. *Journal of food product marketing* 11(3) Pp.107-134.
- Chambers, S., Loob, A., Butter, L & Traill, W., B., (2007). The influence of age and gender on food choice a focus group exploratory. *International Journal of Consumer Studies* 32.
- Chen, M & Li, H (2006). The consumers' attitude towards genetically modified foods in taiwan, food quality and preference, *Science direct* <http://www.elsevier.com/locate/foodqua>: 662 – 674.
- Cooper, D., R., & Schindler P., S., (2003). *Business research methods (18<sup>th</sup>ed)* Book law York, Ny: M-Graw-Hill
- Cranfield, J., Henson, S., & Blandon J., (2008). The effect of attitudinal and Socio-demographic factor on the likelihood of buying locally produced food. *International Food Economic Research Group. Agricultural and Research Economics*, Ontario.
- Cronbach, L.J (1951) coefficient alpha and the internal structure of test. *Reychometrika* (3)16: 297-334
- Danso-Abbeam, G., Armed, M., & Baidoo, F., (2014). Determinants of consumers preferences for local rice in Tamale metropolis Ghana. *International Journal of Education & Social Science* (1)2:114-122.

- Diako, C. Saky – Dawson, E; Bediako, A.B; Salia, F.R; & Manful J.T(2010). Consumer perceptions, knowledge and preferences for aromatic rice types in Ghana. [Http/www.Sciencepub.net/nature\\_natural\\_and\\_Science](http://www.Sciencepub.net/nature_natural_and_Science).
- Eagly, A., & Chaiken, S (1993). The psychology of attitudes, Fort Worth, Tx. Harcourt Brace. Ecuadorian fast-food customers: *Journal international*.
- Emodi, A.I & Madukwe, M.C (2011). Influence of consumers socio-economic characteristics on rice consumption in southeastern Nigeria: Libyan Agriculture Research Centre. *Journal International*; IDASI Publications.
- Emodi, I., A., & Madukwe M.,C., (2008) “A review of policies, acts and initiatives in rice innovation system in Nigeria. *Journal of Agricultural extension* (12)2:
- Feagan, R. Morris, D & Krung, K.K (2004) Niagara region farmers market: Local food system and sustainability considerations, local environments 9(3).
- Fishbein, M. & Ajzen, I. (1975). *Belief, attitude, intention and behaviour: an introduction to theory and research, reading,* Mass, Addison – Wesley.
- Frewer, L.J; Huward, L.& Aron, I (1998) “Consumers’ choice of transgenic crops pesticides Science” 52: Pp.338-393.
- Grunert, K.G (1997) What’s in a steak? A cross cultural study on the quality perception of beef: Food Quality and preference, 8, 157-174.
- Hossain, F & Onyango, B (2013). Product attributes and consumers’ acceptance of nutritional enhanced genetically modified foods. *International Journal of consumers Studies* (27):253 – 365.
- Lee, M.C (2009) Factors influencing the adoption of Internet Banking: An investigation of (TAM) and (TPB) with perceived risk and perceived benefits. *Electronic commerce Research and Application* 8, 130 – 141.
- London & Della B., (1993). *Consumer behaviour concepts and applications* 4<sup>th</sup> ed. Mchraw Hill.
- Loob, A.,E., Mazzocchi, M & Trail, W.B (2007). Modeling risk perception and trust in food safety information within the theory of planned behaviour. *Food Quality and Preference* 18.
- Lust, J.L; Journal, M. Kurlander, L. Roucan, M & Taulman, L (2005), A meta analysis of Genetically modified food valuation studies” *Journal of Agricultural and Resource Economics*: 30 Pp 78-144.
- Lynne, G.D (1995) modifying the neo-classical approach to Technology adoption with behaviour science model: *Journal of Agricultural and applied economics*, 70: Pp. 12-19.
- Malhotra, N.,K., and Briks D.F. (2007). *Marketing research:An applied approach*, Prentice Hall incorporated.
- Marlia, M Nasuddin, O & Fazlen, A (2011). Determinants of consumers purchasing behaviour for rice in Malasia, *America International Journal of Contemporary Research* (1)3
- McCkemy, K & Saky-Dawson, O.A (2000) Rice crop Protection Technology uptake Blockages among Rice farmers in Ghana with particular reference to variety Adoption.
- Miller, K (2005) *Communication theories perspectives, processes and contexts*, New York, Mchraw Hill.
- Mindi, L.S & Charles,A.F (2005) “Marketing locally produced food consumers and farmers opinion in Washington country, Nebraka Agro Horticulture – Faculty publications.
- Moon, W.K & Balasubramanian, S.K (2003) A public perceptions and willingness to pay a premium for non, G.M food in the US and U.K *Agricforum* 4(3/4): 22 – 231. [Htt/www/bioforum.org/4](http://www/bioforum.org/4)
- Murdoch, J., Marsden, T. & Banks, J (2000). Quality nature and embeddedness. Some theoretical consideration in the context of the food sector. *Economic Geography* 76(2) Pp.107-125.
- Novotova, R.,N & Mazzocco, A.,M (2008). Consumer preferences and trade offs for locally and genetically modified apples. *International Food and Agric Business Management Association*.
- Ogundele, O., (2014). Factors influencing consumers preference for local rice in Nigeria. *African Journal of Marketing Management*, (6)4: 48-55.
- Okeke, A.M; Iheanacho, A.C & Obasi, C.C (2015). Determinants of local rice consumption among households in Makurdi Metropolis of Benue State: *International Journal of Food Science & Technology*(5)1:1-10.
- Onyango, B & Gorindasamy, R (2004).Measuring US consumer preferences for genetically modified foods using choice modeling experiments. The role of price, product benefits and technology. *Paper at American Agricultural Economics Association Annual meeting 1 – 4 August 2004 Colorado*.
- Onyango, B (2004).Consumer acceptance of generically modified food, the role of product benefits and perceived risk. *Journal of food distribution Research* 35: 154-161

- Osuoha, S.A. (2014). Analysis of government initiatives on rice production in Nigeria. *Journal of Advances in Agricultural Science and Technology*, (2)6:89-93 <https://www.watchpub/jaast/index.htm>.
- Prigent – Simonin, A & C Herault – fourmier (2005). The role of Trust in the perception of quality of local food products with particular reference to direct relationships between producer and consumer. *Anthropology of food*: Pp41-68
- Reed, D.D Digennaro Read, F.D; Chok, J & Brozyna, G.A (2011). The Tyranny of choice, choice overload as a possible instance of effort discounting. *The psychology Record*, 6(4) 547-560.
- Selfa, T & Oazi, J (2005) place taste or face to face understanding producer, consumer network in local food systems in Washington State. *Agric Hum values* 22.
- Solomon, M; Bamossy, G; Askegard, S, & Hogg, M.K (2006) Consumers behaviour; European perspectives. Harlow, Financial time, & Prentice Hall.
- Sporlede, M.E; Kayser, M Friedrish N & Theuvson, L. (2014). Consumer preference for sustainably produced bananas: A discrete choice experiment: *International Food and Agro Business Management Review* (17)1.
- Tanakinjal, G.H; Deans, K.R & Gray, B.J (2010) Third Screen Communication and the adoptive of mobile marketing.
- Trafimov, D., & Finlay, K.,A., (2002). The prediction of attitudes from beliefs and evaluations: the logic of double negative. *British Journal of Psychology*(41):77-86.
- Tregear, A., & Ness, M., (2005). Discriminant analysis of consumer interest in buying locally produced foods; *Journal of Marketing*.
- Ugalahi, U. B., Adeoye, S.O, Agbonlahor, M. U. (2016). Irrigation potentials and rice self-sufficiency in Nigeria: A review. *African Journal of Agriculture*. (11)5: 298-309.
- Warshaw, P.R. (1980) Predicting purchase and other behaviour from genetically and untextually specifically intentions; *Journals of Marketing* (17/Pp 26-33).
- Wealtheral, C. Inegear, A & Allison, J (2003) in search of the concerned consumers, U.K Public perception of farming and buying local: *Journal of rural studies*. Vol.19
- Weatheral, C., Tregear A., & Allison, J (2003). In search of the concerned consumers, UK public perception of farming and buying local foods. *Journal of rural studies* (19).
- Zepeda L and Leviton Reid (2007) Consumers view on locally food: *Journal of food distribution Research* 35(3).
- Zepeda, L., & Leviton Reid (2004). Consumers view on locally produced food: *Journal of Food Distribution Research* (35)3.