

Factors Affecting Marketing of Yam: Wholesalers and Retailers Marketing Margin Analysis in Idah LGA of Kogi State

¹. Ikpeazu, Peter Chiazor; ². Moguluwa, Shedrack Chinwuba

Corresponding author : Ikpeazu, Peter Chiazor

Abstract: The study examined marketing of yam in one of the major routes for yam distribution and supply in Nigeria, Idah LGA of Kogi state. The primary data were collected using structured questionnaire administered to sixty active yam marketers. Descriptive statistics, marketing margin analysis, and multiple regression analysis were used to analyze the data collected. The result showed that majority of the traders were between 31 and 50 years of age, 40% of the yam marketers had no formal education. Furthermore, majority of the studied marketers (78%) had more than 10 years marketing experience. The marketing margin for wholesalers gives an estimated value of ₦21,839.03 while for retailers the estimated value was ₦24,490.02. R² value of 30.70% revealed that 30.70% of the variations in dependent variables were obtained by independent variables in the model. Finally, it was also revealed in the regression that the following constraints X₁ (storage cost), X₃ (age) and X₄ (capital investment) were significant at 5% level of probability as they constitute major determinants of yam marketing profitability in the area

Keywords: Marketing margin, utility, retailers and wholesalers

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I. Introduction

Nigeria is the world's largest producer of cassava, yam and cowpea – all staple food in sub-Saharan Africa. It is also a major producer of fish. Yet it is a food-deficit nation and imports large amount of grains, livestock products and fish (IFAD, 2012). Agriculture used to be a major source of foreign exchange for Nigeria before the oil boom in the early 1970s. Investment in the sector dwindled as focus shifted from agriculture to oil exploration. The setback experienced as a result of the shift and almost total abandonment caused decay in the sector. The agricultural sector plays pivotal roles in the development of Nigeria's economy. According to Kuboye and Ogunjobi (2013), agriculture is far the most important sector of Nigeria's economy, engaging about 70% of the labour force but characterized by simple tools and shifting cultivation. In spite of the agricultural resource endowment, however, there has been low rate of growth in the sector. Evidently, the agricultural holdings are generally small and scattered, farming is often of the subsistent variety, about 30.7 million hectares (76 million acres) or 33% of Nigeria's land area is under cultivation (CBN, 2000).

In a blueprint document released by the State government of Kogi State, the state has a comparative advantage for inclusion in the federal value chain transformation for oil palm, cassava, yam, rice, cocoa, maize, sugar cane and fish (Government of Kogi State, 2012). With impressive agricultural potentials, Kogi state has the land and resources to engage in profitable small scale and commercial agriculture that could contribute significantly to the country's economic growth and development. Kogi State has agriculture as the predominant economic activity. No gainsaying that most agricultural activities are in the rural areas producing the bulk of food, fuel and fibre needs of the population.

In the words of Canagarajah and Thomas (2001), "as in many other developing countries, especially those in Africa, the rural, traditional, mostly private agricultural sector in Nigeria is peopled by small-scale, poor farmers and informal traders". Rural farmers in Nigeria are trapped in perpetual poverty, malnutrition, unemployment and mass drift from rural to urban area (Kuboye and Ogunjobi, 2013). From all indications, according to Oye (2003), the development of rural area has not been given the deserved priority, as regard this there has been a drift from rural to urban areas.

Nigeria is the world's largest yam producer, contributing approximately two thirds of the global production; and yam is an important staple food crop in Nigeria, produced both for household consumption and as a cash crop (Phillips, Ogonna, Etudaiye, Mignouna and Siwoku :2013). Yet producing areas are characterized by low standard of living and poverty. Earlier researches by Eze, Onwubuya and Ezeh (2010) and Awoyinka (2009) identified produce deterioration, inadequate processing equipment, poor marketing facilities, high costs of shops, inadequate packaging information in the rural areas as some of the problems of agricultural marketing in Nigeria. An effective agricultural marketing entails adequate storage facilities, improved modes of transportation, and well-designed integrated marketing information system for the sector, among others. This is

not the case at the moment, and may be the reason for gap between the urban and rural areas. The evidence regarding levels of loss suggests a broad range of quantities that can be lost post-harvest, for instance ranging from loss of 10-50% of yam tubers in storage, and 3-40% at the retail stage (Amusa, Adegbite, Muhammed and Baiyewu, 2003; Rees & Bancroft, 2003).

1.1 Statement of the Problem

Every business enterprise requires marketing functions before and after production, agribusiness is no exception to ensure its survival; and marketing activities are needed to make for equalization between the demand and supply sides. In a bid to ensuring producers and marketing players get commensurate compensations for their participation in the value-chain and consumers on the other hand receive goods in the most convenient manner and at fair prices. This is usually not the case as many scholars have mentioned inefficient agricultural marketing as a major problem of agriculture in Nigeria – Phillips et al (2013) & Oye (2003). At the moment information is lacking about the efficiency of yam marketing in the area. Studies of this nature have been done in some part the country but not in Kogi state.

1.2 Objectives of the Study

The main objective of the study is to determine marketing margin at different level of distribution and to investigate factors affecting yam marketing in Idah Local Government Area (LGA) of Kogi State. However, the specific objectives are as follows:

- i. To ascertain the marketing margin of wholesalers and retailers in the area.
- ii. To ascertain factors affecting marketing margins in the area.
- iii. To identify major constraints affecting marketing of yam in the area.

1.3 Research Questions

With the guide of the objectives the following research questions were generated:

- i) What are the marketing margins of yam to wholesalers and retailers in the area?
- ii) What are the factors that affect the profitability of yam marketing in the area?
- iii) What are the major constraints to yam marketing in the area?

1.4 Research Hypotheses

The following are hypotheses derived from the objective of the study.

- i. There is no significant marketing margin of yam to retailers and wholesalers in the area.
- ii. There are no significant factors that affect the profitability of yam marketing in the area.
- iii. There are no major constraints to yam marketing in the area.

1.5 Scope of the Study

Marketing margin can be affected by countless factors, each with different degree of influence. In this work only cost of purchase, cost of transportation, storage cost and commission cost shall be considered. Other factors to be investigated in relation to marketing functions are some of the socio-economic characteristics of yam marketers (retailers and wholesalers) Idah Local Government Area (LGA) of Kogi state.

1.6 Significance of the Study : Emphasis has been on production aspect of agriculture, the same attention should be given to marketing of agricultural produce. This work would be of benefit to policy makers in government, the would-be investors and teeming unemployed youth in the area and beyond. To government policy makers, they would find the work useful in that the peculiar problems of the local people involved in the marketing of yam is discussed with recommendations on how to solve them.

Persons interested in investing agricultural marketing facilities would find this research work useful in that they would be better informed about the many prospects in yam marketing and production in the area.

And to the fleeing unemployed youth in the area, who may not have known about the job opportunities or and economic reward in the marketing of yam, this work would serve as a morale booster to them.

1.7 Limitations of the Study

There exist only a few numbers of related literatures on agricultural marketing in Nigeria with focus on marketing margins in an attempt to measure the effectiveness therein. Only measurable and obvious factors (i.e. transportation, storage, commission, and other socio-economic factors) were discussed in this work.

II. Review of Related Literature

2.1 Conceptual Framework

2.1.1 Concept of Agriculture

According to Ejionueme and Nebo (2014:5), agriculture is a purposeful work through which the elements in nature are harnessed to produce plants and animal to meet human needs. They also described agriculture as a biological production process which depends on the growth and development of selected plants and animals within the local environment.

2.1.2 Concept of Marketing

According to Panda (2007), marketing is part and parcel of the modern production process. Marketing plays the active role of bridging the gap in number of ways including the provision of information on the needs of the consumers, value interpretation, educating the consumers on the dynamics of the exchange process, etc (Ekeke, 2009:20).

2.1.3 Concept of Marketing Process

According to Bose (2010), marketing is the kingpin that rotates the economy. Production and consumption are the two wheels of the economy which is linked by the powerful belt of marketing. Bose (2010:5), citing Clark explained that marketing machinery of today involves three major processes namely: (i) concentration goods, (ii) dispersion goods (iii) equalization of goods. Firstly, the process of marketing is concentration, which is bringing the good at a single point to facilitate convenience and economical distribution; asserting that the agricultural produce and raw materials need assembling or concentration before they are marketed. He further explained that in agricultural marketing, assembling or concentration is very much required as there are a number of farmers scattered throughout the country. This point has players such as producers, wholesaler and agents involved. The second process is the dispersion of goods; here goods are dispersed to parties who need them. This process describes activities which involve carrying of raw materials to the producers and finished goods to from the producers to consumers. The wholesale first store the goods and sell to the retailers in small quantities, and in turn the retailers sell the goods to actual consumers. And another process of marketing is equalization which occurs between the activities of concentration and dispersion. He explained that the process involves the proper adjustment of supply at all centres of distribution in the light of prevailing marketing conditions. He further explained that transportation brings about equalization of supplies time-wise, standardization, branding and grading ensures equalization of supplies quality-wise.

2.1.4 Concept of Agricultural Marketing

According to Thomsen (1951), the study of agricultural marketing comprises all the operations, and the agencies conducting them, involved in the movement of farm-produced foods, raw materials and their derivatives, such as textiles, from the farms to the final consumers, and the effects of such operations on farmers, middlemen and consumers. A more comprehensive concept for agricultural marketing was that opined by Panda (2007), observing that Thomsen's definition neglected the input side of agriculture, that agricultural marketing is the study of all the activities, agencies and policies involved in the procurement of farm inputs by farmers and the movement of the agricultural products from the farms to the consumers. Therefore, in the broadest sense, agricultural marketing entails the aggregate socio-economic, which includes all the primary activities of production, interactions geared towards the utilization of natural resources for human welfare.

2.1.4 Concept of Utility

Utility can be defined as the amount of satisfaction that can be derived from a commodity or service at a particular time. It is also seen as the consumer's estimate of the product's overall capacity to satisfy his or her needs. Utility is subjective in that it depends on the individual's estimate of the value of the product or service to him. It follows from this that the utility of a given product or service to different individuals varies. Scholars agree that utility can also vary for the same individual at different points in time and at different places. (Hanson, 1991:200; Udeagha, 1995:08; Kotler, 1988:05 all cited in Ejionueme and Nebo, 2014:58).

2.1.6 Concept of Agricultural Marketing Utility

Marketing creates five kinds of utilities, as discussed by Ejionueme and Nebo (2014:58), but summarized thus:

1. Time Utility: Agricultural products such as wheat, soybeans, corn, yam, fruits, vegetable, etc. are produced at certain seasons but consumption is throughout the year. The storage function performed by agricultural marketers helps in keeping the products until when needed, doing so ensures time utility, and this value is added when products are stored from harvest until they are desired for consumption. Time utility is important in

understanding “carrying cost” on storable commodities. They dictate to the farmer “when” to sell the product. It provides marketers with longer time than would have been possible if left untouched.

2. Place Utility. Agricultural products are sometimes produced in the rural areas but are highly consumed in urban areas. Because of various absolute and comparative advantages, areas of specialized production have evolved across Nigeria. For example climatic conditions and soil fertility limit onions, carrot cabbage and millet production to Northern parts of Nigeria palm nuts and wine to the East, timber, plantain and rubber to the West and aquatic products to the South East region specializes in the production of commodities most appropriate to its resource base. But consumers’ baskets are filled every day with products from all regions. Place utility is added to commodities by railroad, airline or truck companies that move goods from one point where they are surplus to another point where utility is maximized. Transportation companies are not the only ones who contribute place utility to farm products farmers and ranchers who incur transportation charges in transferring goods from point to point also contribute to place utility. In order to move products from areas of surplus to areas of deficit, price differentials must be sufficiently wide to pay the assembly costs, dispersion costs and transportation costs. Place utility is important when we investigate commodity prices in determining “where” farmers should sell their products.

3. Possession Utility: The farmer who produces agricultural products from his farm is the first owner of the product. The farmer transfers this ownership to the merchant wholesaler who transfers this to the retailer and the retailer to the ultimate consumer. This transfer of ownership is what we refer to as possession utility. It is created by exchanging or transferring of product title (ownership) from the seller to the buyer.

4. Form Utility: Agricultural marketing creates form utility by changing the product in some ways desired by consumers. This is achieved by sorting, grading, standardization, packaging and processing of agricultural product in order to enhance its appeal to the consumer. This utility is important to farmers because it determines in “what” form they sell their products. Will it be grain or hogs, grass-fat or grain-fed beef, bulk or bottled milk?

5. Information Utility: Agricultural marketing creates information utility by informing and educating the consumer on the products’ features, how, where and when to use them in order to derive maximum benefits from the product. The same is true of the wholesalers, retailers and farmers who are involved in the marketing of agricultural products.

2.2.7 Concept of Wholesaler

A wholesaler is an intermediary entity (person or enterprise) in the distribution channel whose role is to buy in bulk and sell to resellers (also known as retailers) rather than to consumers. Wholesalers obtain large quantities of products from producers, may store them, and may break them down into cases or sets and other smaller units more convenient for retailers to buy; this process is best described as “breaking bulk”.

2.2.4 Concept of Retailer

A retailer is an intermediary entity (person or enterprise) in the distribution channel that buys products from wholesalers, agents, or and producers and then sell them to consumers. Retailers obtain certain quantities of products from producers, agents, or wholesalers with the intent of reselling them to end users even in smaller quantities. They may store them, and may further break them down into cases or sets and other smaller units more convenient for consumers to buy.

2.3.9 Marketing Margin

Marketing margin is a popular tool for analyzing and measuring the performance of marketing systems. Marketing costs and marketing margins can be both indicators of efficiency or inefficiency of marketing systems. Marketers (wholesalers and retailers) play very important roles in the marketing of farm produce. Through them, time, place and possession and information utilities are added in order to maximize customer satisfaction (Kotler, 2003). In economic and marketing literature, marketing margin refers to the difference between the price paid by the customers and the price paid to the farmer. Therefore, the criterion to determine the marketing margin is the difference between the prices of customers paying and farmers/producers receiving (Kazemnezhad and Sadroleshraghi, 2000). Thus, margins reflect the aggregate processing and retailing firm behavior which influence the level and variability of farm prices and may influence the farmer’s share of the consumer food Naira. (Marsh and Gary, 2004).

2.1.9 Marketing of Yam

Phillips, Ogonna, Etudaiye, Mignouna and Siwoku (2013) explained that in Nigeria, yam tubers are sold on cash and carry basis and prices based on perceived size and quality of tubers. There is normally no grading system in place and a lack of formal contacts and arrangements between farmers and traders. From district markets yam tubers are transported to major urban centres such as Lagos for sale at larger urban markets. They summarized the principal yam selling routes with figure 2.1 below:

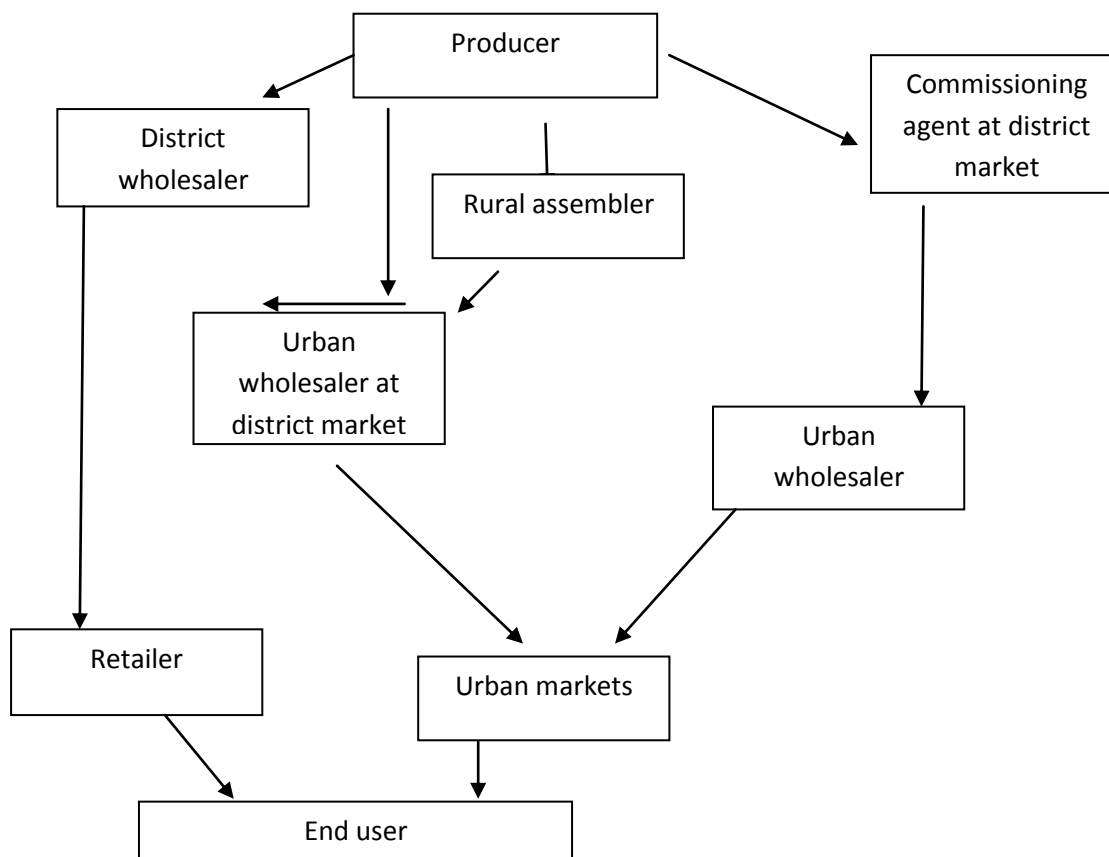


Figure 2.1: Ware Yam Selling Routes

Source: Phillips, D., Ogbonna, M., Etudaiye, H., Mignouna, D., and Siwoku, B. (2013) Nigeria: Detailed Yam Value Chain Analysis. *Yam Improvement for Income and Food Security on West Africa (YIFSWA)*, pp 14. According to Phillips et al., (2013), there are a number of different types of trader involved in the purchase and sale of yam tubers. Rural assemblers and local wholesalers (also known as shed owners in some states) purchase yam from local farmers to sell on to individual consumers but principally to larger urban traders (wholesalers) who visit district markets. The local wholesalers serve as collection centres for farmers.

2.2 Theoretical Framework

2.2.1 Cobweb Model

According to Pashigian (2008), the cobweb theory was propounded independently by Henry Schultz and Umberto Ricci, but Kaldor (1934) analyzed the model and coined the term ‘cobweb theorem’. The economic model explains why prices might be subject to fluctuations in certain types of markets. It describes cyclical supply and demand in a market where the quantity produced must be chosen before prices are observed. Here, producers’ expectations about prices are assumed to be based on observations of previous prices. Ejionueme and Nebo (2014:252), affirm thus: The biological nature of agricultural production gives rise to production cycles, and production cycles leads to price cycles. They went further to explain that price cycles run counter to production cycles. When supplies increase, prices fall; when supplies decreases, prices rise. Price changes are much greater in magnitude than production changes because of the inelastic nature of demand and supply of farm products. The classical cobweb model is a partial equilibrium model describing commodity price fluctuations of perishable goods, such as corn or vegetable that takes one time period to produce. Farmers form price expectations one period ahead and derive their optimal production decision from expected profit maximization. Therefore, cobweb model is based on a time lag between supply and demand decisions. Agricultural markets are a context where the cobweb model might apply, since there is a lag between planting and harvesting. Suppose for example that as a result of unexpectedly bad weather, farmers go to market with an unusually small crop of corns. This shortage, equivalent to a leftward shift in the market's supply curve, results in high prices. If farmers expect these high price conditions to continue, then in the following year, they will raise their production of corn relative to other crops. Therefore when they go to market the supply will be high, resulting in low prices. If they then expect low prices to continue, they will decrease their production of strawberries for the next year, resulting in high prices again. This process is illustrated by the diagrams on the below.

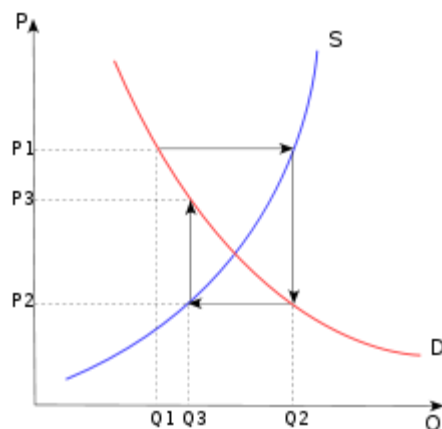


Figure 2.2 The convergent case: each new outcome is successively closer to the intersection of supply and demand.

Source: Wikipedia (2012). Cobweb Theorem. Retrieved on the 12th December, 2015 from https://en.wikipedia.org/wiki/Cobweb_model.

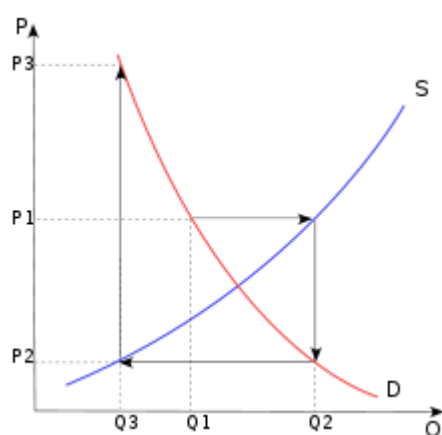


Figure 2.3 The divergent case: each new outcome is successively further from the intersection of supply and demand.

Source: Wikipedia (2012). Cobweb Theorem. Retrieved on the 12th December, 2015 from https://en.wikipedia.org/wiki/Cobweb_model.

The equilibrium price is at the intersection of the supply and demand curves. A poor harvest in period 1 means supply falls to Q_1 , so that prices rise to P_1 . If producers plan their period 2 productions under the expectation that this high price will continue, then the period 2 supply will be higher, at Q_2 . Prices therefore fall to P_2 when they try to sell all their output. As this process repeats itself, oscillating between periods of low supply with high prices and then high supply with low prices, the price and quantity trace out a spiral. They may spiral inwards, as in the top figure, in which case the economy converges to the equilibrium where supply and demand cross; or they may spiral outwards, with the fluctuations increasing in magnitude.

The cobweb model can have two types of outcomes:

- i. If the supply curve is steeper than the demand curve, then the fluctuations decrease in magnitude with each cycle, so a plot of the prices and quantities over time would look like an inward spiral, as shown in the first diagram. This is called the stable or convergent case.
- ii. If the slope of the supply curve is less than the absolute value of the slope of the demand curve, then the fluctuations increase in magnitude with each cycle, so that prices and quantities spiral outwards. This is called the unstable or divergent case.

Two other possibilities are:

- i. Fluctuations may also remain of constant magnitude, so a plot of the outcomes would produce a simple rectangle, if the supply and demand curves have exactly the same slope (in absolute value).
- ii. If the supply curve is less steep than the demand curve near the point where the two curves cross, but more steep when we move sufficiently far away, then prices and quantities will spiral away from the equilibrium price but will not diverge indefinitely; instead, they may converge to a limit cycle.

In either of the first two scenarios, the combination of the spiral and the supply and demand curves often looks like a cobweb, hence the name of the theory.

2.2.2 Theory of Experienced Utility

Daniel Kahneman's theory of experienced utility is based on the belief that there is a 'measurable' good that is separable from the choices people make. The premises of the theory are summarized in a few propositions as follows (Kahneman, Wakker and Sarin: 1997):

1. At every moment we are experiencing utility, meaning pleasure or pain. This is referred to as instant utility.
2. Utility has quantity and valence with a neutral point on the boundary between desirable pleasure and pain.
3. That utility is all that makes an experience good or bad.
4. That integrating instant utility over a period of time we obtain the total utility for that period.
5. An optimal decision is one that maximizes total utility for that period.
6. And finally, to make a workable theory, instant utility must be measurable, up to at least an ordinal and ultimately a ratio scale.

Kahneman (2000), emphasizes there is no logical requirement for experienced utility and decision utility to coincide, and that if the two utilities differ in their prescription, we may want to favour experienced utility. For example, intuition about a yam wholesaler: who may decide to supply his goods to a nearby village (decision utility), yet be better off supplying to a distant city (experienced utility).

2.3 Empirical Review

In their study titled as "Nigeria: Detailed Yam Value Chain Analysis", Phillips, Ogonna, Etudaiye, Mignouna and Siwoku (2013), acknowledged that studies of yam production and marketing systems have been carried out in the identified project locations of Oyo, Nasarawa, Benue, Kogi, Edo, Lagos states and the Federal Capital Territory. According to Phillips, et al., (2013), yam production is a profitable business and farmers are able to generate substantial income from the production of tubers. At the same time, production costs tend to be high (in particular for seed yam and hired labour) and prices depend on the season. Also discovered is significant price variability between the new yam season (August to October), the peak season (November to April), and the slack season (May to July). Calculations demonstrate that gross margins can be negative if farmers get the timing of their harvest wrong, or are unable to sell at times when prices are higher due to lack of good storage capacity, and when production costs are very high. Issues regarding post-harvest losses, and in particular storage, have been discussed with research institutes and other stakeholders such as the International Institute for Tropical Agriculture (IITA), National Root Crop Research Institute (NRCRI), Yam Improvement for Income and Food Security in West Africa (YIIFSWA), and International Fund for Agricultural Development (IFAD). The concerns and challenges raised re-emphasise the need for the YIIFSWA project to focus on storage of both seed and ware yam. Investments were witnessed in some places to improve storage facilities at some markets, but on the whole storage practices remain rudimentary and cause both physical and economic losses to yam value chain actors (maybe 30% on average). They recommended that the Yam Improvement for Income and Food Security in West Africa (YIIFSWA) project to review identified yam storage projects to assess the relative costs and benefits to obtain empirical data to aid understanding of what forms of storage may or may not be appropriate or worth pursuing in different locations.

A study by Arene (2003), Ojo and Imoudu (2000), on the problems and prospects of agricultural marketing systems in Nigeria have identified the following as marketing problems:

- i. Inadequate storage facilities or non-existent storage facilities
- ii. Lack of grades and standards
- iii. Inadequate transportation facilities
- iv. Inadequate market information leading to price inefficiency
- v. Adulteration of produce
- vi. Inadequate marketing research.

The principles of marketing are applicable to all types of product yet the special characteristics of agricultural products calls for a more refined marketing process. The chain that connects buyers and sellers of agricultural goods has so many links. Agricultural marketing entails all the arrangements made to collect the agricultural goods from the sellers in the rural area to the cities. The neglect of rural infrastructure affects the profitability of agricultural production. According to Agbarevo and Obinne (2010), low entrepreneurship skills and poverty among small-scale farmers in Nigeria are attributable to inadequate marketing extension training, poor distribution process and associated lack of adoption of other recommended farm practices. Problems associated with agricultural produce marketing as reported by Awoyinka (2009), include scarcity of agricultural marketing information, inadequacy of transport services in rural areas, poor marketing for agricultural produce,

and inadequate storage system among others. Hence, there is need to strategically restructure the agricultural marketing framework in order to meet customers' needs through modern mode of transaction, and invariably give farmers and by extension the rural communities a better economic status.

Citing Idachaba (1980), Ndangara (2005), asserted rural development efforts must be derived from the needs and aspirations of the rural people and not necessarily in response to the needs of the urban political economy such as unemployment, food shortage, and rural urban migration. In the words of Ndangara (2005), the process of rural development is therefore synonymous with agricultural development; but agriculture cannot develop unless other rural development amenities are present. Abah (2005), words supports this, succinctly put that: To many people, rural development simply means agricultural development; to some it is primarily concerned with welfare. In his view, this opinion is myopic because rural development should affect all aspect of the economics, social and political lives of the people who inhabit the rural areas and it should be relevant to the alleviation of all the conditions associated with the rural sector. It is true that economics base of the rural people is agriculture, but beyond food, they also need education, employment, decent housing, medical care, electricity, roads, other means of communication, entertainment, facilities for social interaction, etc. Therefore, each sector of the rural economy must support one another if they are to achieve high performance.

III. Research Methodology

3.1 Research Design

To make this study meaningful, data were analyzed using descriptive and inferential statistics, which included measures of central tendency, such as mean, mode, frequencies and percentages. In the study, a structured questionnaire was used as the recording instrument to collect data. The secondary information sources were those other than primary sources, such as magazines, journals, books, and internet that aided the study.

3.2 Area of Study

Purposive sampling technique was used to select Idah Local Government of Kogi which is one of the major yam supply routes and distribution centres in Nigeria see appendix II. In Idah lies an old river port on the eastern bank of the river Niger at $7^{\circ}05'00''N$ $6^{\circ}45'00''E$ / $7.08333^{\circ}N$ $6.75000^{\circ}E$. It has commercial routes on the river Niger linking Lokoja, the Kogi State capital, to the north of the country and Onitsha in Anambra state to the south, Agenebode in Edo state and across Niger state to the west. The population is primarily Igala. It has an area of 2,175 km² and a population of 79,815 at the 2006 census. Kogi state has workforce of 1,438,926 and of this number 403,565 are engaged in agriculture (National Bureau of Statistics: 2010). Therefore about 28% of Kogi workforce is engaged in agriculture.

3.3 Population of the Study

Population for this study are wholesalers and retailers of yam in Idah LGA of Kogi State. In all, from the database of Diocesan Development Services (DDS) 28 wholesalers and 32 retailers of yam are active in the area. Diocesan Development Services (DDS), an NGO that is the development arm of the Catholic Diocese of Idah which has operated since the 1970s in this region of Nigeria, working with farmers on producing clean seed yam, facilitating micro-credit provision, and has developed loan schemes among others (Phillips, Ogonna, Etudaiye, Mignouna and Siwoku :2013). According to Kenyon (2006), during the 2000s DDS participated in Department for International Development (DFID) funded projects to evaluate and promote crop protection practices for clean seed yam production systems in Central Nigeria and up-scale sustainable clean seed yam production systems for small-scale growers in Nigeria. To reach all yam wholesalers in the LGA, effort was made to contact them in person during peak period of 2:00pm at Ega market square, on the bank of River Niger, Idah being the largest market in the LGA area. All the sixty (60) yam marketers were contacted.

3.4 Sample Size Determination

According to Kent (2007:228), "If the number of cases in the population is relatively small, it may be possible for the researcher to study all of them". Therefore, responses were solicited from all the sixty (28) yam wholesalers contacted shall be studied and examined using SPSS tool to analyze the validity of the formulated hypotheses.

IV. Presentation of Data Analysis and Discussion of Findings

The focus of this section is the presentation and analysis of data generated from questionnaire administration. Tables were used in presenting the data generated; the descriptive statistics, marketing margin analysis, and multiple regression analysis were used to analyze the data collected.

4.1 Descriptive statistics of Responses

Table 1: Socio-economic characteristics of Respondents

Variables	Frequency	Percentage
Age		
21-30	11	18.33
31-40	26	43.33
41-50	16	26.67
51-60	7	11.67
Total	60	100
Level of education		
No formal education	24	40.20
Primary education	12	20.00
Secondary education	14	23.33
Tertiary education	4	6.67
Adult education	6	10.00
Total	60	100
Marketing Experience		
1-10	13	21.67
11-20	24	40.00
21-30	12	20.00
31-40	11	18.33
Total	60	100
Source of Market Information		
Fellow marketers	33	55.00
Wholesales	9	15.00
Retailers	7	11.67
Agents	9	15.00
Self	2	3.33
Total	60	100

Source: Field Survey, 2016.

Socio-economic Characteristics

Table 1, showed that majority of the sample marketers (70%) were between the ages of 31 and 50 years. The table also showed that 18.33% of sampled agro-marketers lie between the age bracket of 21-30. This implies that yam marketing in the area is dominated by middle-age individuals.

On education 40% of sampled marketers had no formal education. The table 1 also showed that 55% of sampled agromarketers had formal education. According to Awoyemi (1999) as cited by Adeniji, Adebayo and Ajayi (2012), human capital development in agriculture holds the key for highly productive and sustainable agriculture. According to them the level of education has implication on marketing activities and marketing margin, information gathering of agro-marketers.

The table, on marketing experience of respondents showed that 78% of sampled marketers had more than 10 years marketing experience. According to Njoku and Odii (1991) as cited by Adeniji, Adebayo and Ajayi (2012), experience has been observed to have influence on practitioners' ability to enhance scarce resources by small holders in Nigeria.

On sources of market information, from table 1, majority (55%) of the yam marketers obtained information about their operations from fellow marketers. Wholesalers and agents represent 30% of respondents' source of market information. The result indicates that there is collaboration among marketers in their individual category.

Table 2: Level of Marketing Margin for Yam Wholesalers in Idah LGA

Variable	Mean value	Percentage of Total Cost	Percentage of Total Sales
Cost of Purchase	23,455.12	86.50%	47.91%
Transportation Cost	2,661.02	9.81%	5.44%
Storage/Warehousing Cost	700.19	2.58%	1.43%
Commission Cost	300.00	1.11%	0.61%
Total Marketing Cost	27,116.33		
Total Sales	48,955.36		

Source: Field Survey, 2016

Table 3: Level of Marketing Margin for Yam Retailers in Idah LGA

Variable	Mean value	Percentage of Total Cost	Percentage of Total Sales
Cost of Purchase	28,998.41	87.69%	50.38%
Transportation Cost	2,809.71	8.50%	4.88%
Storage/Warehousing Cost	960.25	2.90%	1.67%
Commission Cost	300.00	0.91%	0.52%
Total Marketing Cost	33,068.37		
Total Sales	57,558.39		

Source: Field Survey, 2016

Marketing Margin

Table 2 presented the obvious cost incurred by wholesalers in Ega market in Idah LGA of Kogi state. The mean value for cost of purchasing yam was estimated at ₦23,445.12 representing the largest share of percentage per cost of 100 set of yam (86.50%). Mean value of total cost estimated at ₦27,116.33 while the mean value of sales was estimated at ₦48,955.36, hence the marketing margin in the study area was estimated at ₦21,839.03.

Table 3 on the other hand presented the various cost incurred by retailers in Ega market situated in Idah LGA of Kogi state. The mean value for cost of purchasing yam was estimated at ₦28,998.41 for every set of 100 yam tubers. This figure represents the largest share of percentage (87.69). Mean value of total cost was estimated at ₦33,068.37, hence marketing margin in the study area was estimated at ₦24,490.02.

Therefore, total marketing margin = ₦21,839.03 + ₦24,490.02 = ₦46,329.05. Although, many factors account for cost incurred in marketing of yam by wholesalers and retailers, transport accounted for the highest (₦2,661.02 and ₦2,809.71 respectively) on the average, an indication that transportation is a major problem encountered yam marketers in Idah LGA of Kogi state.

Multiple Regression Analysis of Possible Factors Affecting Marketing Margin in Idah LGA

Table 4: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.554 ^a	.307	.214	.03117

a. Predictors: (Constant), Quality of yam Sold, Capital Investment, Age (Years), Years of Experience, Storage cost (N), Transportation cost (N), Level of Education

Table 5: ANOVA^b

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	.022	7	.003	3.295	.005 ^a
	Residual	.051	52	.001		
	Total	.073	59			

a. Predictors: (Constant), Quality of yam Sold, Capital Investment, Age (Years), Years of Experience, Storage cost , Transportation cost , Level of Education

b. Dependent Variable: Marketing margins

Table 6: Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	.919	.149		6.145	.000
	Storage cost X ₁	.004	.006	.079	.636	.527
	Transportation cost X ₂	-.025	.012	-.257	-2.038	.047
	Age (Years)X ₃	-.021	.006	-.491	-3.747	.000
	Level of EducationX ₄	.019	.008	.310	2.442	.018
	Years of ExperienceX ₅	.011	.008	.159	1.278	.207
	Capital InvestmentX ₆	-.002	.014	-.020	-1.158	.875
	Quality of yam SoldX ₇	.028	.033	.103	.838	.406

Table 5: ANOVA^b

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	.022	7	.003	3.295	.005 ^a
	Residual	.051	52	.001		
	Total	.073	59			

a. Predictors: (Constant), Quality of yam Sold, Capital Investment, Age (Years), Years of Experience, Storage cost , Transportation cost , Level of Education

a. Dependent Variable: Marketing margins

Table 4-6 presented multiple regression results for yam wholesalers and retailers in the area. The R² value .307 revealed that 30.70% of dependent variables were explained by the independent variables included in the model. The constant, X₁ (storage cost), X₃(age) and X₄ (capital investment) were significant at 5% level of probability.

V. Summary Of Major Findings Conclusion And Recommendation

5.1 Summary of Major Findings

- The findings show that there are marketing margins for retailers and wholesalers in the area.
- Analyzed data revealed that there are factors that affect marketing in the area at various degrees, storage and capital investment stands out among others.
- Major constraint to yam marketing in the area was high cost of transportation and lack of storage facilities.

5.2 Conclusion

A closer look at the estimated marketing margin calculation revealed that the sampled respondents had a marketing margin estimated at ₦21,839.03 and ₦24,490.02 for wholesalers and for retailers respectively. The regressors (i.e. storage cost, transportation cost, level of education, years of marketing experience, capital investment, age and quantity of yam sold) explained about 30% of variation of factors affecting marketing margin of respondents.

5.3 Recommendations

Based on the findings of the study it is recommended that:

1. There should be increased local capacity to make the quantity offered for sale large enough to influence market performance; this can be done through a well thought-out credit scheme for agribusinesses, and marketing players in particular.
2. Effort should be directed towards addressing transportation problems by regular maintenance of roads, provision of alternative means of transportation, as this would reduce the pressure on the road and cost incurred in moving the farm produce.
3. Provision of up-to-date storage facilities and other necessary facilities to aid and advance the business of marketing of yam in the area; this can be done through public private partnership arrangement.

Reference

- [1]. Abah, N. C. (2000); Development Administration: A Multi-Disciplinary Approach. Enugu: John Jacob's Classic Publishers Ltd.
- [2]. Adeniji, O. B, Adebayo, C. O, and Ajayi, O. P. (2012), "Analysis of marketing margin of yam in selected rural areas of Niger State, Nigeria" Basic Research Journal of Agricultural Science and Review. Vol. 1(3) pp.58-62.
- [3]. Agbarevo, M.N.B; and C.P.O Obinne; (2010), Agricultural Marketing Extension; Elements of Rural Sociology and Agricultural Extension; Uwani-Enugu, Teo Publishers; pp.190-198.
- [4]. Amusa, N.A. Adegbite, A.A., Muhammed, S. and Baiyewu, R.A. (2003) Yam diseases and its management in Nigeria. African Journal of Biotechnology 2, 497-502.
- [5]. Arene, C.J. (2003), Introduction to Agricultural Marketing Analysis and Policy, Nsukka: Full adu Publishing Company.
- [6]. Awoyinka, Y.A. (2009). Cassava Marketing: Option for Sustainable Agricultural Development in Nigeria, Ozen Journal of Applied Science, Vol.2 (2): in pp.175-183
- [7]. Bose, C. D. (2010), Modern Marketing – Principles and Practice: PHI Learning Private Limited, New Delhi
- [8]. Canagarajah, S. and Thomas, S. (2001), "Poverty in a Wealthy Economy: The Case of Nigeria". Journal of African Economies, Vol. 10 No.2, pp. 143-173.
- [9]. CBN (2000), The Changing Structure of the Nigerian Economy and Implications for Development. Realm Communications Ltd. Lagos.
- [10]. Ekeke, J. N. (2009). International Marketing. Anambra: Rex Charles & Patrick Limited
- [11]. Ejionueme, N., Nebo, N. G. (2014), Understanding Agricultural Marketing: Immaculate Publication Limited.
- [12]. Eze, S.O., Onwubuya, E.A., Ezeh, A.N. (2010). Women Marketers' Perceived Constraints on Selected Agricultural Produce Marketing In Enugu South Area: Challenges of Extension Training for Women Groups in Enugu State, Niger Agro. Sci. J. Trop. Agric., Food,Envir. Exten., 9(3): 215-222
- [13]. Hanson J.L (1991). A Textbook of Economics 3 edition, London: Macdonald and Evans Ltd.
- [14]. Idachaba, (1988). Issues in Developing a National Policy on Agricultural Extension Service in Nigeria. <http://www.medwelljournals.com/fulltext/?doi=aj.2009.22.26>
- [15]. Kahneman, D. (2000a). Experienced utility and objective happiness: A moment based approach. In Kahneman, D. &Tversky, A. (Eds.) Choices, valuesand frames. Cambridge: Cambridge University Press.
- [16]. Kahneman, D., Wakker, P. &Sarin, R. (1997). Back to Bentham? Explorations of experienced utility. The Quarterly Journal of Economics, 112, 375-406.
- [17]. Kaldor, N. (1934). A Classificatory Note on the Determinant of Equilibrium. Review of Economic Studies, Vol. I 122-36.
- [18]. Kazemnezhad, M and Sadrol-eshrafi, M. (2000), The Economic Analysis of Marketing Margin Using Economic Models: A case study of rice. The Third Iran Agri-economics Conference Articles. Meshed, 163-180
- [19]. Kenyon, L. (2006) 'Up-scaling sustainable seed yam production systems for small-scale growers in Nigeria'. Final Technical Report, Crop Protection Programme, NRI
- [20]. Kent, R. (2007). Marketing Research: approaches, methods and applications in Europe. London: Thomson Learning.
- [21]. Kogi State Government (2012), Blueprint For Transformation on Kogi State (2012-2016). Retrieved on 4th August, 2015 from www.kogistate.gov.ng. Volume 1
- [22]. Kotler, P. (1988), Marketing Management. Analysis Planning Implementation and Control, 6thediton; Englewood Cliffs, New Jersey: Prentice-Hall Int.
- [23]. Kotler, P. (2003), Marketing Management, 11th Ed. New Delhi: Prentice-Hall of India Private Limited
- [24]. Kuboye B. M. and Ogunjobi S. B. (2013), "Emarketing for Agricultural Product" Journal of Innovative Research in Engineering and Sciences 4(1), February, 2013. ISSN: 141-8 (Online)<http://www.grpjournal.org/Journal/Category/JOIRES.aspx>
- [25]. Marsh, J.M, and Gary, W.B (2004), Wholesale-retail marketing margin behavior in the beef and pork industries, Journal of Agriculture Resource Econ., 29: 45–64
- [26]. National Bureau of Statistic (2010). National Manpower Stock and Employment Generation Survey. Retrieved March 17th, 2016 from
- [27]. Njoku JE, Odii MACA (1991). "Determinants of Loan Repayment Under the Special Emergency Loan Scheme (SEALS) in Nigeria; A case study of Imo state". African review of money, finance and banking in Africa, Milano, Italy.
- [28]. Ojo,S.O. and Imoudu, P. B. (2000), "Efficiency measurement of palm oil marketing in Ekiti State of Nigeria", African Journal of Business and Economic Research, Vol. No2
- [29]. Oye, B. (2003), Dimension of Rural-Urban Migration in Nigeria. NISER ,Nos 4 & 5. Pp 27
- [30]. Panda, S. C. (2007), Famer Management and Agricultural Management: Kalyani Publishers, New Delhi-110 002.
- [31]. Pashigian, B. P. (2008). "Cobweb Theorem". The New Palgrave Dictionary of Economics. 2nd Edition.
- [32]. Phillips, D., Ogonna, M., Etudaiye, H., Mignouna, D., and Siwoku, B. (2013). Nigeria: Detailed Yam Value Chain Analysis. Yam Improvement for Income and Food Security on West Africa (YIIFSWA) Pp 28
- [33]. Rees, D. and Bancroft, R. (2003) Development of integrated protocols to safeguard the quality of fresh yams R7582 (ZB0234). Final Technical Report. 1 Feb. 2000-31 Mar. 2003. Natural Resources Institute, University of Greenwich
- [34]. Thomsen, F. L. (1951), Agricultural Marketing, McGraw-Hill Book. Co. New York
- [35]. Udeagha, A. O. (1995), Principles and Process of Marketing. Enugu: J.T.C and Company.
- [36]. Wikipedia (2012). Cobweb Theorem. Retrieved on the 12th December, 2015 from https://en.wikipedia.org/wiki/Cobweb_model.
- [37]. World Bank, (1999), Understanding and responding to poverty. Retrieved September, 2015. Available from: <http://www.WorldBank.org/Poverty/Mission>.

Appendix I

**QUESTIONNAIRE FOR THE YAM MARKETERS
SECTION A**

Please [√] as appropriate in the following questions

1. Sex: Male [] Female []
2. Age: 21 - 30 [] 31 - 40 []
41 - 50 [] 51 - 60 []
3. Level of Education: No formal education [] Primary []
Secondary [] Tertiary []
Adult education []
4. How long have you been in the business of marketing yam?
1 - 10 [] 11 - 20 [] 21 - 30 [] 31 - 40 []
5. What is your major source of market information?
Fellow marketers [] Agents [] Wholesalers [] Agents []
Self []
6. What is your average cost of purchase for a set of 100 yam tubers?
Answer:
7. What is your average cost of transportation for a set of 100 yam tubers?
Answer:
8. What is the average commission paid for a set of 100 yam tubers?
Answer:
9. What is the average sales made from a set of 100 yam tubers?
Answer:

SECTION B

HA= Highly Affected (4), SA= Significantly Affected (3), MA= Moderately Affected (2), LA= Lowly Affected and NA= Not Affected

S/N	QUESTIONS	HA	SA	MA	LA	NA
10	To what extent does lack of storage facilities affect marketing of yam?					
11	To what extent does high transportation cost affect marketing of yam?					
12	To what extent does age affect marketing of yam?					
13	To what extent does level of education affect marketing of yam?					
14	To what extent does marketing experience affect marketing of yam?					
15	To what extent does lack of access to formal credit affect marketing of yam?					
16	To what extent does quantity of yam traded affect marketing of yam?					

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