Comparative Analysis of Local and Imported Rice Marketing in Ogun State Nigeria

By

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Abstract

The demand for rice in Nigeria has been estimated at 5 million tons per annum with domestic production only accounting for 3 million tons, resulting in a deficit of 2 million tons. The increasing importation of rice to bridge the demand-supply gap has exposed local rice to stiff market competition in terms of quality and other market characteristics. Thus, this paradox points to the issue of marketing efficiency as the culprit. This could be linked to the variation which exists in market prices of both local and imported rice due to quality improvement of the product, transportation and transaction cost as price variability increases cash flow variability and also its marketing margin, thereby affecting the profit earned by marketers. The study objectives are to describe the characteristics of local and imported rice marketers; estimated marketing margin of both local and imported rice marketers; determined and compared the efficiencies of marketing local and imported rice and determined the factors affecting marketing efficiencies of local and imported rice with a view of comparing the efficiencies of local and imported rice marketing in Ogun State, Nigeria. The study adopted descriptive survey design of research. Using multi-stage sampling technique, a total of one hundred and sixty local and imported rice marketers were selected in Ogun state for this study. Primary data were collected with the aid of well-structured questionnaire. The data collected were analyzed using descriptive statistics, marketing margin analysis, marketing efficiency index and multiple regression analysis. The findings indicated that local rice marketers and imported rice marketers earned 7% and 23% from the amount paid by the consumer respectively. The marketing efficiency of the local rice marketers was 130.57% while that of the imported rice marketers was 405.3%. The findings of the study revealed that packaging and transportation costs accounted for the larger percentage of the total marketing cost of local rice. Selling price significantly improve the marketing efficiencies of both local and imported rice. Quantity of rice sold significantly improved the marketing efficiency of local rice. Since the age of local rice
marketers negatively affects their marketing efficiency. Hence, it was recommended that effort should be directed towards reducing marketing costs through provision of subsidized packaging materials and improved transport system. Also, in order to enhance the competitiveness of local rice, both in terms of quality and price, there is need to improve the quality management along the entire marketing chain. Efforts should be made to expand the business size of local rice marketers. Youth participation in local rice marketing should be encouraged.

Introduction
Rice is an annual crop and the most important staple food crop in the tropical countries. It is the second most important cereal in the world after wheat in terms of production (Longtau, 2003). In Nigeria, rice is one of the few food items whose consumption has no cultural, religious, ethnic or geographical boundary. In some rural areas, it commands ceremonial consumption as it is eaten only on Sundays and sometimes on market days (Omofonwan and Kadiri, 2007). The production and consumption of rice can provide the population with the nationally required food security minimum of 2400 calories per person per day (FAO, 2000), thus making it a commonly consumed food crop for household food security.

Before the advent of crude oil, Nigeria produced almost enough rice for local consumption, however, with the discovery of crude oil in the 70’s, its production declined steadily over the years in relation to consumption and the country is currently a net importer of rice (Ohen and Ajah, 2015). However, since the mid-1970s, rice consumption in Nigeria has risen tremendously (Ayinde et al., 2013). After a season of steady drop in rice importation from 66.6% prior to 1974 to 10% between April 1975 and April 1978 it has risen to high proportions (Akande, 2003). This is reflected in an annual per capita consumption of 3kg in 1960 to an average of 18kg in the 1980s, reaching 22kg between 1995 and 1999 and 29kg in 2000 (Akpokoje et al., 2001; UNEP, 2005). It is estimated that total consumption stands at 5 million tonnes and annual consumption per capita at 78kg (FAO, 2016a; Ogundele, 2013).
On the average Nigeria spends one billion naira on rice daily. In 2010, alone Nigeria spent N365 billion on imported rice (Ogunsumi et al., 2013; Akinwumi, 2012). Yet, rice is one of the crops in Nigeria where the gap between potential and actual production in terms of hectarage is wide. Several government interventions have gone into meeting up with the demand for rice in the country in order to prevent the excessive dependence in importation. For instance, in 1985, the Nigerian government imposed a ban on rice importation, which saw to a severe reduction in rice importation (Figure 1) (Akande et al., 2003). During this period, local rice production soared and was well above the importation trend until 1995 when the ban was lifted and the country adopted a more liberal trade policy towards rice, largely because the local supplies could not meet the demand for the commodity (Akinwumi, 2013).
Consumption of local rice has gained more prominence possibly due to the health awareness of educated Nigerians who now associate its positive taste and natural flavour, higher nutritive value of critical significance to their health compared to the polished imported rice varieties. The local rice variety has been reported through research results to have higher fibre content and better health consideration. Consequently, it now commands the highest market price given its scarcity relative to other rice varieties including the imported varieties (Adejobi et al., 2008). Currently, rice importation into the nation has been banned (Omonobi and Bivbere, 2016) although this has led to high rates of rice smuggling but also promoted cultivation of local rice.

Local rice is cultivated in virtually all ecozones in Nigeria although the brands differ from one zone to another (Akande, 2003). Ofada rice is the local swampland variety grown in Ogun State; it has gained more prominence in social circle more than any varieties, despite its highest market price. Although, among the incessant challenges which have made the importation of rice expedient is poor quality of the local rice which has been known to contain pebbles and hard objects through the use of obsolete and inefficient processing technology, making the rice to have unattractive smell and unappealing to consumers even within the country (Akinwumi, 2013). However, part of the proffered solutions include production of more paddy rice, enhancement of rice milling at industrial quality grade in order to effectively substitute imports and protect the investors (Akinwumi, 2013). The rising demand for local rice makes it a significant food item in the marketing scene and has strongly influence the choice, preference and marketing of local rice.

Rice marketing is the performance of all business activities in the flow of paddy and milled rice from the point of initial production until they are in the hands of the ultimate consumers (Ihene, 1996). The role of marketing in developing any economy including agriculture cannot be over emphasized.
Marketing involves all those legal, physical and economic services which are necessary to make products from the producer available to the consumers (Olukosi and Isitor, 2004). The more efficient the marketing functions are performed, the better the marketing system for both the farmers, food marketing firms, consumers and the society at large. Marketing efficiency is the maximization of the ratio of the output to input in marketing (Olukosi and Isitor, 2004). Despite the significant roles of marketing in agriculture development, over the two decades, the world has witnessed a land slide movement towards market liberalization and this movement has affected both international and domestic markets (Onu and Iliyasu, 2008).

Rice marketing entails all the activities involved in moving rice from the point of production to where it is needed by the final consumer (Bassey et al., 2013), in the desired form and at the appropriate time. Rao et al. (2012) stated that agricultural marketing plays an important role in stimulating production and consumption and in accelerating economic development. According to Onu and Okunmadewa (2001), market performance includes the relative efficiency of production (that is, price relative to the average cost of production).

The rice market in Ogun state consists of not only the local rice but also various brands of imported rice. The State is very close to Lagos state and thus is able to receive large influx of imported rice but it also witnesses a significant market share for the local rice brand. Imported rice is consumed more than the local rice (Odusina, 2008) and one of the major reasons for this was availability of the imported rice which indicates that the choice of rice consumption might be linked to the activities of marketers.

**Statement of Research Problem**
Rice consumption *per capita* in Nigeria has been increasing over the years due to increasing population, changing taste and migration among other
factors, making demand for rice to out-weigh local production. The demand for rice in Nigeria has been estimated at 5 million tons per annum with domestic production only accounting for 3 million tons, resulting in a deficit of 2 million tons (RIMT, 2009). The increasing importation of rice to bridge the demand-supply gap has exposed local rice to stiff market competition in terms of quality and other market characteristics (Akande, 2013).

Expectedly, the rice market is flooded with imported brands while the locally made rice remains limited in its availability. This has made imported rice to enjoy higher patronage due to availability (RIMT, 2009). As part of government intervention to promote local rice production and marketing, importation of rice was banned in the country. Also, in their effort to boost local rice production and marketing, other stakeholders provided farmers with improved local rice varieties for cultivation while processors were also provided better milling and bagging machines to enhance quality processing, packaging, transportation and marketing (RIMT, 2009), yet the local rice remains limited in availability. Even with the ban on importation of foreign rice to restrict its availability, the product still finds its way into the local market through the activities of smugglers.

Thus, this paradox points to the issue of marketing efficiency as the culprit. This could be linked to the variation which exists in market prices of both local and imported rice due to quality improvement of the product, transportation and transaction cost as price variability increases cash flow variability and also its marketing margin, thereby affecting the profit earned by marketers (Basorun, 2012).

Various studies have focused on the production and performance of local rice in the markets. The focus has ranged from the marketing efficiency of local rice to its profitability and the factors affecting farmer’s market participation (Abah et al., 2015; Ohen et al., 2013; Mohammed-Lawal et al.,
2013). However, their findings did not address the differences existing between the marketing of both type of rice as there is limited empirical information existing on the marketing efficiency of both the local and imported rice. Therefore, this study is aimed at providing a comparative analysis on the marketing function of local and imported rice in Ogun State, Nigeria.

From the foregoing, the following research questions emanated; are the socioeconomic characteristics of local and imported rice marketers different; what are the marketing margin of the both local and imported rice marketers; are there differences in the efficiencies of marketing local and imported rice; and what are the factors affecting marketing efficiencies of local and imported rice in the study area?

**Objectives of the Study**
The broad objective of the study is to compare the efficiencies of local and imported rice marketing in Ogun State Nigeria while the specific objectives are as to

a) describe the socioeconomic characteristics of local and imported rice marketers;
b) estimate marketing margin of both local and imported rice marketers;
c) determine and compare the efficiencies of marketing local and imported rice; and
d) determine the factors affecting marketing efficiencies of local and imported rice in the study area.

**Justification of the Study**
In Nigeria, imported rice has a deep market penetration and acceptance and it is the main competitor of the local rice. Many studies have been conducted in this respect but they are limited in proffering ways to increase the market share of local rice. This study will not only make comparisons between the respective marketing processes of imported and local rice but
it will also help to provide information about the possible differences that exist between the marketing efficiencies of local and imported rice. This information will be useful to policy makers on how to boost the local rice market, which will in turn help provide solution to the problem of deficiency in local rice production, marketing and consumption.

With respect to research, the findings of the study will first add to the existing body of knowledge on rice production and marketing in Nigeria, it will also provide grounds for further research on the means of ensuring a sustainable environment for production, distribution and consumption of local rice in Nigeria.

**Methodology**
The study was carried out in Ogun State in the south-western part of Nigeria. The State lies within latitudes 6°30’and 7°5’ N and longitudes 2°80’ and 4°60’ E of the Greenwich meridian. The climate of the State follows a tropical pattern with the raining season approximately eight months (March – October) and four months (November – February) of dry season each year (Wikipedia, 2011). The main study areas are Lafenwa, Kuto, Osiele, Obafemi Owode, and Ifo.
Multistage sampling technique was used to select the respondents. The first stage was a purposive selection of two communities (rural and urban) in the State based on their predominance in rice marketing. The second stage was a purposive selection of two important rice markets in each of the communities. The third stage was snow ball selection of 20 each of local and imported rice marketers from the selected markets making a sample size of 160 respondents (80 each of local and imported rice marketers).

Primary data were used for the study. The data were obtained through well-structured and pre-tested questionnaire. Information were collected on socio economic characteristics of local and imported rice market and
marketers like age, gender, marital status, educational level, marketing experience, quantity of rice sold, marketing constraints, buying and selling prices, packaging cost including cost and return on marketing among rice marketers.

Data collected were analyzed with the use of descriptive statistics, marketing margin and marketing efficiency analyses and regression model. Descriptive statistics was used to describe the socio-economic characteristics of the respondents in the study area. This involves the calculation of percentages, frequency counts and means values for parameters such as marketers’ age, gender distribution, level of education, income level, and output level.

Marketing margin analysis was used to measure market performance of the rice marketers. According to Iheanacho, 2005, the general formula for computing marketing margin is:

Marketing margin (MM) = Selling Price – Purchase Price ...................(6)

This was used to calculate the market margin for both imported and local rice. The marketing margin is the difference between the price paid by the ultimate consumer and the price received by the producer. The number of middlemen involved in various channels of the marketing has strong effect on the marketing margin. The gross marketing margin model stated mathematically below is employed to estimate the marketing margins of all the wholesalers and retailers.

\[
GMM (₦) = \sum (SP - PP) \tag{7}
\]

\[
GMM \text{ ratio} = \sum \frac{SP - PP}{SP} \tag{8}
\]

Where,
GMM = Gross Marketing Margin
SP = Selling Price (₦)
PP = Purchase Price (₦)
∑ = Summation
NMM = GMM – TMC

\[
NMM = GMM - TMC \tag{9}
\]
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\[
NMM\% = \frac{GMM - TMC}{SP} \times 100
\]

Where:
- \(NMM\) = Net Marketing Margin or \(NI\) = Net Income
- \(GMM\) = Gross Marketing Margin (₦)
- \(TMC\) = Summation of total marketing cost (₦)
- \(MM\) = Market Margin (₦)

Total Marketing Cost: The total marketing cost include the following,
- Fixed costs: These are the costs that do not change with the marketing processes. They exist irrespective of the level of marketing and are cost of physical assets such as depreciation on chairs, tables, buildings and weighing scale.

Variable costs: These are costs that vary with marketing processes. They rise as more output is marketed and fall as lesser outputs are marketed and are used up within a marketing period. The cost include transportation cost, nylon cost, labour cost, levy/due, cost of rodenticides and communication cost

The technique is expressed as:
\[
TC = TFC + TVC
\]

Marketing efficiency was used to ascertain the performance of both local and imported rice markets. Efficient marketing optimizes the ratio between inputs and outputs. Marketing inputs here include the resources used in rice marketing, such as: transport costs, loading and off-loading cost, commission, local government revenue, labour used, packaging, financing, and rice cost. Whereas marketing output is the benefits or satisfaction created or the value added to the commodity as it passes through the marketing system. In an attempt to examine the marketing efficiency of both local and imported rice in the study area, the following formula was adopted:
This is computed based on the work of Olukosi and Isitor (1990).

Marketing efficiency (ME) = \( \frac{\text{Value added by marketing}}{\text{Marketing cost}} \times 100 \) ............. (11)

Likewise,

\[ \text{ME} = \frac{\text{GMM}}{\text{MC}} \times 100 \] ............. (12)

Where:

ME = Marketing Efficiency
MC = Marketing cost (₦)

Erhabor et al. (2008) defined marketing efficiency index as the amount of profit that accrues to every one Naira spent on the marketing process. Value added by marketing for a participant along the marketing chain was calculated as the difference between the selling price and the purchase price along the marketing chain of both local and imported. When ME = 100%, it implies that the participant just recovered the cost incurred in carrying out the marketing services. This is breakeven point for the marketer. ME > 100% implies that the participant covered the cost of marketing and made a margin above the 100%. This is profit for the marketer. ME < 100% indicates that the participant is operating at a loss.

Multiple regression model was employed in determining the factors influencing the marketing efficiency of the rice marketers. The co-efficient of determination R square showed the percentage of the total variation of the dependent variable as explained by the independent variables. As formulated by Shepherd Futrell and adapted by Farayola et al., 2013 and Abah et al., 2015, the model is specified as:

\[ Y = f (X_1, X_2, X_3, X_4, X_5, X_6, X_7, X_8, X_9, X_{10}) \] ............. (13)

Where:

Yi = Marketing Efficiency
X1 = Age (year)
X2 = level of education (year)
The determinants of rice marketers were modelled on socio-economic and markets characteristics. Data collected were analysed using the Ordinary Least Squares multiple regression analysis. In line with the use of the Ordinary Least Squares regression (OLSR) technique and as used by Fakayode (2009), four functional forms (Linear, Double-log, Exponential and Semi-log) were fitted to the data. The equation that gave the ‘best fit’ was then selected as the lead equation based on its conformity with the a priori expectations (expected signs of the estimators, the magnitude of the coefficient of multiple determination ($R^2$), and the statistical significance of the parameter estimates). The four functional forms model are explicitly described thus:

**Linear function:**
$$Y = \beta_0 + \beta_1X_1 + \beta_2X_2 + \ldots + \beta_nX_n + \epsilon$$

**Semi-log function:**
$$Y = \beta_0 + \beta_1\ln X_1 + \beta_2\ln X_2 + \ldots + \beta_n\ln X_n + \epsilon$$

**Double –log function:**
$$\ln Y = \beta_0 + \beta_1\ln X_1 + \beta_2\ln X_2 + \ldots + \beta_n\ln X_n + \epsilon$$

**Exponential function:**
$$\ln Y = \beta_0 + \beta_1X_1 + \beta_2X_2 + \ldots + \beta_nX_n + \epsilon$$

The four functional forms were tested and the equation with the best goodness of fit was discussed as the lead equation.
A priori expectation of variables

$X_1$ = Age is expected to either have a positive or negative relationship with marketing efficiency.

$X_2$ = Level of education is expected to have a positive or negative relationship with marketing efficiency.

$X_3$ = Household size is expected to regress positively with marketing efficiency because the household members may help in providing some marketing functions at a reduced cost which is an incentive to an efficient marketing system (Quartey, 2005; Farayola et al. 2013).

$X_4$ = Marketing experience is expected to be positively related with marketing efficiency because as more experience is gained over the marketers becomes more efficient (Farayola et al. 2013).

$X_5$ = Membership of cooperative is expected to positively influence the marketing efficiency as this will enable the marketers to have access to cooperative marketing and access to funds for business expansion (Farayola et al., 2013).

$X_6$ = Quantity sold is expected to be positively regressed with the marketing efficiency because as more quantities are sold the higher the marketing margin and efficiency (Akinwumi, 2012; Farayola et al., 2013).

$X_7$ = Selling Price is meant to positively influence the marketing efficiency as the higher the selling price, the higher the market margin and higher the market efficiency (Farayola et al. 2013; Omar and Hoq, 2014).

$X_8$ = Cost of transportation is expected to be negatively related to the market efficiency. This is because as higher cost is incurred in the marketing process, lower margin is recorded, hence lower market efficiency. (Farayola et al. 2013; Omar and Hoq, 2014)

$X_9$ = Cost of nylon is also expected to lower the market margin and as such negatively influence marketing efficiency (Lanzona and Evenson, 1997; Farayola et al. 2013).
X_{10} = \text{Access to credit} \quad \text{is meant to positively influence marketing efficiency as this will afford marketers access to funds to expand their business and enhance the transactional activities (Farayola et al., 2013). Variables such as age, level of education and marketing experience of respondents were measured in years. While all cost related variables such as cost of transportation, cost of nylon and selling price of respondents were measured in naira, household size were measured in number of people. Dummy variable was used to measured cooperative membership and access to credit and quantity sold was measured in kilogram. Furthermore, importance index was used to capture the constraints facing the marketing of local and imported rice. This was done by ranking the constraints which were seen as the most challenging by the respective marketers.}

\textbf{Findings and Discussion}

\textbf{Socioeconomic characteristics of rice marketers}
The socioeconomic characteristics of respondents including age, level of education, sex distribution of household heads, marital status, constraints to rice marketing and mode of acquisition of marketing place are discussed in this section.

\textbf{Age of rice marketers}
The age of rice marketers play important roles on their effective performance to work, relative to vigor and strength. From Table 2, it was observed that majority (52.5\%) of the local and 57.5\% of the imported rice marketers were between the ages of 31 and 50 years. It was further discovered that only 11.3\% of the respondents were above 60 years of age and marketed local rice while 7.5\% of the imported rice marketers fell within this group. The mean age of local rice marketers was 47.48 ± 10.70 years while that of the imported rice marketers was 42.89 ± 11.11 years. On the aggregate, the minimum and maximum age of the rice marketers was 17 and 68 respectively. The t-value of 2.66 was significant at 1\%, indicating
difference in the ages of local and imported rice marketers in the study area. The result showed that the majority of local and imported rice marketers fell within active and productive age, which portends better future for local and imported rice marketing. This study is in agreement with the findings of Bassey et al., (2013) and Agwu and Ibeabuchi (2011b) who posited that most rice marketers fell within the age bracket of 31 - 60 years and were economically active.

**Distribution of rice marketers by sex**
The distribution of respondents according to sex as shown in Table 3 reveals that female constituted 73.8% and 51.3% of local and imported rice marketers respectively while the other rice marketers were male. This is an indication that rice marketing is generally done by female in the study area and could be linked to the fact that female display a lot of passion and enthusiasm in marketing of good. Moreover, most female marketers carry out their activities in open market close to their houses in other to take care of the home unlike male who may travel occasionally to fend for the family. This implied that females are more in both local and imported rice markets. This agreed with the finding of Agwu and Ibeabuchi (2011a) who reported that women play active roles in marketing of agricultural produce.

**Marital status of rice marketers**
Table 4 presents the marital status of both local and imported rice marketers. It reveals that majority (68.8%) and (60%) of local and imported rice marketers were married while the remaining 31.2% and 40% of the respective categories of marketers were either single, widowed or divorced. This indicates that married people dominate the rice marketing enterprise and this could be borne out of the need to secure sustained income and ensure good household livelihood. This result is in line with the findings of Bassey et al., (2013) and Agwu and Ibeabuchi (2011a), who posited that married people are more involved in marketing activities.
Level of education of respondents
The role of education in achieving better efficiency and effectiveness for any marketing enterprise cannot be overemphasized. According to Gilbert (2007); and Agwu and Ibeabuchi (2011b) who reported that education affords rice marketers the ability to read and write and influences the sharpening of his/her personality, attitude to life and adoption of new and improved marketing practice. The distribution of respondents according to the level of education is as presented in Table 5. The level of education varies from primary education to tertiary education. Among the local rice marketers, 61.2% had one form of formal education or the other while 70% of imported rice marketers also belong to this category. However, 33.7% and 22.5% of the local and imported rice marketers did not have any form of education while 5.1% and 7.5% of the marketers had informal education. This suggests that a larger proportion (65.7%) of the respondents had formal education and could comprehend improved packaging and marketing strategies. This agrees with the findings of Agwu and Ibeabuchi (2011b) and Bassey et al. (2013) who purported that majority of rice marketers were educated.

Mode of acquisition of displaying premises
The finding presents the frequency distribution of the marketer by the mode of acquisition of place of marketing. The mode of acquisition in the study area was classified into 5 different groups namely inherited, leased, constructed, purchase and gift. Among the local rice marketers, 45% acquires their marketing outlet free of charge while 32.5% got it via lease. Only 17.5% and 5% acquired their through construction and inheritance respectively. The table further shows that 66.3% of the imported rice marketers got their stall via lease, 13.8% through inheritance and another 13.8% construction of the stall. Only 6.3% purchased their marketing outlet. It was found that among all the respondents 49.4% got their place of marketing via lease while 22.5% got it as gifts. However, 15.6% constructed
their marketing stall while 9.4% inherited it. Only 3.1% had exclusive ownership on the marketing place through purchase.

**Quantity of rice sold by respondents per month**
The study also showed that about 500kg was sold by most (98.7%) of the local rice marketers while only 1.3% sold above this quantity. The average quantity of local rice sold was 86.36kg ± 82.04. On the contrary, 42.5% of imported rice marketers sold about 500kg of rice as 16.3% sold between 501 and 1000kg while 8.8% sold up to 1500kg. It was discovered that 4.9% sold between 1501 and 2500kg and 13.7% sold quantities ranging from 2501 to 3000kg. About 15% of the imported rice marketers sold above 3000kg of rice. The mean quantity of imported rice sold was 1,812.50 ± 2,262.43. The t-value of 6.79 shows that there is a significant difference between the mean quantities of local and imported rice sold.

**Quantity of rice bought by respondents per month**
According to the analysis, majority (98.8%) of the local rice marketers acquired quantities of local rice which was not more than 500kg while 1.2% bought high quantity of rice which was between 501 and 1000kg by weight. For the imported rice marketers, 42.5% bought about 500kg of rice while 13.8% bought between 501-1000kg of imported rice. This was closely followed by 11.2% of the imported rice marketers who bought about 3000kg of imported rice. This could be due to the fact that local rice production is yet to be done on a large scale in the country. The t-value of 6.81 suggests that there is a significant difference between the average quantities of rice bought by the two groups of marketers. This implied that the demand for local rice even though it is increasing is still low when compared to the imported rice.

**Constraints to rice marketing**
There are various problems facing the marketing of local and imported rice in the study area, Table 18 shows that for local rice marketers, 37.5%
identified high interest rate on capital invested in the business as a problem while 7.5% experienced low customers patronage. It was also discovered that 15% stipulated poor quality of rice as a constraint, 40% identified rigorous process of securing place of marketing as a constraint while 16% pointed that lack of governmental support on credit scheme was a constraint. Furthermore, 26.3%, 21.3% and 80% identified sales of rice on credit to customer, lack of uniform selling price and scarcity of local rice during dry season as constraints to its marketing respectively.

However, for the imported rice marketers 57.5% identified high interest rate on capital invested as a constraint while 92.5 stated that their marketing enterprise was affected by rice importation policy. In addition, 22.5% and 97.5% of imported rice marketers cited rigorous process of securing place of marketing and lack of governmental support as inhibitor to their marketing activities whereas only 17.5 identified sales of rice on credit to customer as a constraint.

On a general note, it could be deduced that lack of governmental support scheme was identified as the most challenging constraint by both rice marketers. However, the least stipulated constraint was low customer patronage and this was typical among the local rice marketers. This is an indication that the presence of imported rice in the market has little effect on the patronage of local rice.

**Analysis Marketing Margin of both local and imported rice marketers per month.**

The result of the analysis of the marketing margins of both local and imported rice marketers is presented in the Table 19 shows that the weighted average cost of purchasing nylon was ₦1305.31 for local rice marketers and ₦1,944.80 for imported rice marketers, accounting for 10.41% and 11.21% of the total cost. The result further shows that the average cost of labour was ₦4,714.2 for local rice marketers while that of
the imported rice marketers was about ₦5,173 representing about (32.58%) and (29.82%) of the total cost respectively. This suggests that marketers of imported rice employed lesser number of paid labour which is intuitive given the greater economies of scale. On the purchase of rodenticide, local rice marketers spent ₦315 averagely per month as imported marketers spent ₦502.50. This showed that imported rice marketers incurred more cost on rodenticide than local rice marketers. On communication, local rice and imported rice marketers spent 3.71% and 3.42% respectively of their total marketing cost.

The result further revealed that imported rice marketers’ monthly market due and transport overheads were greater than local marketers by ₦635.23 and ₦5275 respectively. In all, the t-value of 6.55 showed that there is a significant difference between the two marketing groups at 1% as the average marketing cost of local rice was ₦9,707.41 and that of imported rice was ₦16,464.98. It was discovered that the gross margin accruable to local and imported rice marketer were ₦13,214.56 and ₦105,240.63 respectively. The t-value of 4.06 indicated there is a significant difference between the gross margins of the two groups.

On the fixed cost, ₦145.25 (1.16%) was spent on depreciation of chair by the local rice marketer while imported rice marketers spent ₦342.00 (1.97%). While local rice marketers incurred ₦109.80 (0.87%) as depreciation on table, imported rice marketers incurred ₦222.05 (1.28). It was found that ₦123.6 (0.98%) and ₦146.15 (0.86%) were incurred as depreciation on bowls by both local and imported rice respectively. Furthermore, the depreciation on wheel barrow of local rice marketers was ₦37.75 (0.30%) while imported rice marketers did not incur any cost. On the aggregate, the average fixed cost for marketing local rice was ₦2,836.62 while it was ₦879.11 for imported rice. This represented 22.61% and 5.08% of the total expenditure on the respective groups’ marketing activities. The t-value of 11.45 showed that there is a significant difference between the total fixed expenditure
made by the two groups at 1%. The average total marketing cost incurred by local rice marketers was ₦12,522.03 and ₦17,344.09 for imported rice marketers. The t-value of 6.56 showed that there is a significant difference between the total cost incurred by the two rice marketers.

The Net Marketing Margin Ratio (NMMR) of local and imported marketers was 0.07 and 0.23 respectively. This indicates that, local rice marketers and imported rice marketers earned 7% and 23% from the amount paid by the consumer respectively. However, given the higher unit price of locally produced rice over imported price, the observed greater value of the NMMR of imported rice highlights the problem of a relative poor demand for locally produced rice despite the marketing cost incurred and also the stiff competition from imported rice due to porous Nigerian boarder. Further, it also raises concerns about the comparative disadvantage of local rice production with subsistence technology in the study area. It can be concluded from the t-value (2.14) that the net marketing margin of local rice is significantly different from the net marketing margin of imported rice and is statistically significant at 5% level of significant in the study area.

Marketing efficiencies of local and imported rice marketing in Ogun State
The marketing efficiencies of both local and imported rice marketing in the study area is presented in Table 20. The marketing efficiency was expressed as a ratio of marketing margin to marketing cost among the rice marketers. Erhabor et al. (2008) defined marketing efficiency index as the amount of profit that accrues to everyone naira spent on the marketing process. The results of the analysis showed that the marketing efficiency of the local rice marketers was 130.57% while that of the imported rice marketers was 405.3%. This implied that 130.57% of the amount spent in the marketing process was realized as profit among the local rice marketers. In other words, for every ₦1 spent in the marketing process among the local rice marketers, ₦130.57 was realized as profit while ₦405.3 was realized as
profit at the end of sales by imported rice marketers. The t-value of 16.8 shows that there is a significant difference between the marketing efficiencies of local and imported rice marketers at a confidence level of 90%. This could be as a result of the wide value added differential per unit of imported rice to locally produced rice. Consumers thus form a perception that is favourable to the catalogue of different varieties of imported price with their varying prices, creating an expanded choice spectrum for themselves. Furthermore, since locally produced rice in the study area often suffers from the prevalence of a single rice variety or specie, the marketing function is significantly undermined if the majority of buyers favour multiple choices.

Factors affecting marketing efficiencies of local and imported rice
The results of the multiple regressions analysis of the factors affecting marketing efficiencies of local and imported rice are presented in Table 21. The linear, double-log, semilog and exponential functional forms were tested for each of the regression analysis and the exponential functions, which exhibited the best goodness of fit for both markets was chosen as the lead equation. For the local rice, the coefficient of multiple determination was 0.440, indicating that the explanatory variables in the model explained about (44%) of the variation in marketing efficiency of local rice markets in the study area. For the imported rice, the coefficient of multiple determination was 0.791, indicating that the explanatory variables in the model explained about 79.1% of the variation in marketing efficiency of imported rice markets in the study area.

Age of local rice marketer was statistically significant at 1% and negatively related to marketing efficiency. This indicates that as age of respondent increases, the level of marketing efficiency decreases. Although more advance age is related to more experience in taking marketing decision, older rice marketers lack the physical strength required to source for their market produce hence, the lower their marketing efficiency. The findings
contradicted Anyoha et al. (2010) who posited that older marketers are more experienced and efficient in taking decision regarding agricultural production and marketing.

Furthermore, the results revealed a strong positive effect of marketing experience on efficiency for both locally produced and imported rice at 5% level of significance, with a coefficient of 0.549 and 0.072 respectively. This implies that the acquisition of relevant marketing skills is closely associated with effective sales promotion and sales turnover. This observation thus supports the findings of Ojogho et al. (2012), that with increasing experience, marketers acquire more business skills that enhance their profit. Although membership in cooperative society was not significant for the local rice marketer, but it has a positive relationship with the marketing efficiency of imported rice marketing. For the imported rice marketers, the coefficient of cooperative societies was positive and statistically significant (p < 0.10) indicating direct relationship and is consistent with the result of Okike (2000) in Northern Nigeria which showed that cooperative members have more access to market information, credit and other production inputs as well as more enhance ability to adopt innovations which increase the level of efficiency in both the production and marketing of agricultural produce.

For both the local and imported rice marketers, quantity of rice sold was statistically significant at 1% and positively related to their respective marketing efficiencies. According to Evan (2004), an increase in the price per unit of the quantity supplied for the market will motivate both production and marketing of such commodity which can enhance efficiency. When farmers are selling more products at higher price, they are better off. Craig et al. (2006), also say that when the quantity of the commodity supplied increases and if the price increase the production becomes more efficient.
Selling price per kilogram of rice sold is positive and statistically significant among both the local and imported rice marketers at 5% and 1% levels of significant respectively. It can be implied from this that the level of marketing efficiency will increase as selling price increases.

The cost of transportation as a major component of marketing cost is negative and significant related to the marketing efficiency among the local rice marketers. However cost of transportation was not significantly related to marketing efficiency among the imported rice marketers. Also the cost of nylon as a major component of marketing cost is negatively and significantly related to marketing efficiency among the imported rice marketers.

Furthermore, access to credit was positive and significantly (p < 0.05) related to imported rice marketing efficiency. This indicates that credit accessibility by imported rice marketers tends to increase their marketing efficiency, while the variable had no effect on local rice marketing.

**Conclusion**
Most of the rice marketers studied were middle aged women. They were married and with a mean household size of six. An average marketer had the basic skills of reading and writing. The marketing margin and marketing efficiency of imported rice market were higher than that of the local rice. Furthermore, the study revealed that age and cost of transportation negatively affect local rice marketing efficiency while marketing experience, quantity sold, selling price and cost of transportation positively affected the local rice marketing efficiency. On the other hand, marketing experience, quantity sold, selling price and access to credit had positive effects on imported rice while cooperative membership and packaging cost had negative influence on imported rice marketing efficiency.
Recommendations

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

i. The study revealed packaging and transportation costs accounted for the larger percentage of the total marketing cost of local rice, hence, effort should be directed towards reducing marketing costs through provision of subsidized packaging materials and improved transport system.

ii. Selling price significantly improve the marketing efficiencies of both local and imported rice. Therefore in order to enhance the competitiveness of local rice, both in terms of quality and price, there is need to improve the quality management along the entire marketing chain.

iii. Quantity of rice sold significantly improved the marketing efficiency of local rice. Therefore efforts should be made to expand the business size of local rice marketers.

iv. Since the age of local rice marketers negatively affects their marketing efficiency, therefore, youth participation in local rice marketing should be encouraged.

References


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