

DETERMINANTS AND PROFITABILITY ANALYSIS OF GINGER TRADE IN IDEATO SOUTH IN IMO STATE, NIGERIA.

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ABSTRACT

This study analysed determinants and profitability of ginger trade in Ideato Imo State, Nigeria. The specific objectives were to: describe the socio-economic characteristics of the ginger traders, estimate costs and returns associated with the trade, analyse determinants of profitability of ginger, and identify constraints to ginger trading in the area. A multistage random sampling technique was adopted to select 3 communities, 5 villages across the 3 communities, and 10 ginger traders from each village making a total of 50 ginger traders for the study using a well-structured questionnaire. Data collected were analysed using both descriptive and inferential statistics. The results revealed that female traders (58.0%) dominated in ginger trade, with majority (60.0%) within the age range of 30-49 years, and 50% of them attended 6 years of primary school. Ginger trading was a high income generating business as the present net income for the traders was ₦102584.7. Level of education (1.0%), quantity sold (5.0%), experience (10.0%), gender (5.0%) and household size (5.0%) determined the profit of ginger trading. The major constraints were seasonality of commodity (1st), followed by remoteness (2nd) and storage (3rd). It was recommended that education must be continuously expanded in a manner that will make it easy for the traders to acquire the needed knowledge and experience for ginger trade.

Keywords: Determinants, Profitability, Ginger, Ideato South

INTRODUCTION

Ginger is a root plant with high medicinal and food value. It is an herbaceous perennial plant belonging to the order *Scitamineae* and the family *Zingiberaceae* (Ajibade and Kand, 2005). The plant is cultivated in large quantities by many farmers in Nigeria especially in the northern part (KADP, 2007). Ginger root is used in Nigeria mostly to produce herbal medicines and in homes to spice up food. The root can be found virtually in every local market in Nigeria either dried or fresh. Ginger oil extract is used as raw material for producing drugs, foods and confectioneries by companies in America, Canada, Japan, Morocco and some countries in Europe and these are the major importers of Ginger. Ginger is also used widely in the preparation of soft drinks and beverages such as ginger ale, ginger beer, ginger tea, ginger wine, bitters, cordials and liquors, and in candies, pickles, sauces, preserves and bakery products. The varieties

produced in Nigeria are 'TaffinGiwa' and 'YatsunBiri' which is higher in monoterpenoid oil, giving a more pungent aroma and pungency. Therefore, it is usually preferred for the production of oils and oleoresins (KADP, 2000 and Chukwu and Emehuite, 2003).

Nigeria ranked first in terms of the percentage of total hectares of ginger under cultivation but her contribution to total world output is too low compared to other countries. This can be attributed to the fact that most of production is undertaken by smallholder and traditional farmers with rudimentary production techniques and low yields. Ginger is a rhizomatous spice of culinary and medicinal importance (Amadi, 2012). It is well known for its peppery, pungent aroma due to the presence in its rhizomes of oleoresin and essential oils. Income from ginger business enhances productivity and standard of living by breaking the vicious cycle of poverty among ginger farmers and traders.

Despite the huge potentials of ginger in stimulating agricultural growth in Nigeria, it is surprising and unfortunate to note that the trend of ginger trading and production in Nigeria is not on a steady accent. Besides, there are reports of low productivities from ginger farms in the country among other problems (Daniel, 2009). There are indications that ginger traders are limited by a lot of factors which limit their scale of operation and invariably affect the level of profit accruing from the ginger business. Rigorous and inconsistent methods of production in addition to price fluctuations have an adverse effect on the level of profitability to ginger traders. In addition, the smallholder farmers are constrained by many problems like the farmers do not see it as a business enterprise, therefore are not adequately focused on profit maximizing motive.

Objectives of the Study

The broad objective of this study is to analyse determinants and profitability of ginger trade in Ideato Imo State, Nigeria. The specific objectives were to:

- i. describe the socio-economic characteristics of ginger traders in the study area,
- ii. Estimate costs and returns associated with ginger trading,
- iii. analyse determinants of profitability of ginger in the study area, and
- iv. identify constraints to ginger trading in Ideato South Imo State.

METHODOLOGY

The study was carried out in Ideato South Imo state, Nigeria. Ideato South is a local government area in Imo State. Its headquarter is in the town of Dikenafai, the source of Orashi River. Ideato South has an area of 88 km² (NPC, 2016). The location of the area within the tropical rainforest gives it the ecological basis for production of a wide range of tropical agriculture crops with widespread potentialities for industrial convention. The rainfall pattern in the area gives rise to two distinct seasons namely, the rainy season and dry season (Ukoha, 2015). Their system of farming is mixed cropping and shifting cultivation. Extensive, semi-intensive and intensive form of animal rearing especially in sheep, Goat, Snail and poultry are predominant among the subsistence farmers in the areas who equally produce for sale in small scales. Their cash crops include oil palm, raffia palm, groundnut, melon, cotton, cocoa, rubber, maize, etc. Food crops such as yam, cassava, cocoyam, breadfruit, three-leaf yam and ginger are also produced in large quantities. As traders, the people trade on their various farm products, food stuff, animals and palm wine.

A multi stage sampling techniques was adopted. In the first stage, three communities were randomly selected, namely: Obioha, Isiekenesi and Dikenafai. In the second stage, five villages were randomly selected across the three communities. While the third stage involved the random selection of ten ginger traders from each village to give a sample size of fifty ginger traders for the study. Data were collected only from the primarily source using a well-structured questionnaire administered to the respondents. Objectives 'i' and 'iv' were realized using descriptive statistics which included frequency tables, percentages and mean. Objective 'ii' was analysed using trade profit statement, while objective 'iii' was analysed using ordinary least squares estimators.

Models specifications

Gross Margin, a trade profit statement, was used in estimating costs and returns of the trade. This model was used by Nmadu and Marcus (2012), and is specified thus:

$$GM = GI - TVC \dots\dots\dots(1)$$

Where: GM = Gross Margin,
GI = Gross Income

TVC = Total Variable Cost

OLS regression model is implicitly stated as follows;

$$Y = f(X_1, X_2, X_3, X_4, X_5, X_6, X_7, X_8, u) \dots\dots(2)$$

Where Y = Profit from ginger trade (Naira).

- X₁ = Years of education (years)
- X₂ = Age of traders (years)
- X₃ = Trade capital (Naira)
- X₄ = Quantity sold (number of bags)
- X₅ = Experience (years)
- X₆ = Trading expenses (Naira)
- X₇ = Gender (female=1, male=0)
- X₈ = Household size (number of persons)
- u = Error term

RESULTS AND DISCUSSIONS

Socio- Economic Characteristics of Ginger Traders in Ideato South Imo State

The result on the socio-economic characteristics of the respondents is shown in table 1. The table revealed that female traders (58.0%) dominated in ginger trade in the area. The dominance of female could be due to the fact that female is more focused and organized when it comes to agricultural business. This finding is supported by Bernard, 2008). The age distribution revealed that majority of the traders (60.0%) were within the age range of 30-49 years. This showed that the traders were young, energetic and better positioned to contribute more to the business (Henri-Ukoha, 2015 and Nmadu and Marcus, 2012). Educational level of the respondents showed that 22.0% of the respondents never attended formal schools, 50% attended 6 years of primary school, 20% spent up to 12 years to attain secondary school while only 8.0% spent up to 16 years in attaining tertiary school. Going by the 6-3-3-4 system of education in Nigeria this implied that very few of the traders (8.0%) finished their secondary school, thus majority were not entirely literate to keep the records of their trading activities and take good business management decisions. According to Adenegan (2012), higher level of education contributes significantly to decision making of the traders and in participation in the marketing activities, and western education facilitates the adoption of modern technologies and improved farm practices (Nze, 2016). Most of them, 44%, had trading experiences of between 1-10 years, meaning that they were not well experienced and enhanced in the trade (Onubuogu, 2014).

Table 1. Distribution of the respondents according to socio-economic characteristics

Items	Frequency	Percentage (%)
Gender		
Male	21	42.0
Female	29	58.0
Age		
Below 30	6	12.0
30-49	30	60.0
50-69	14	28.0
71 and above	-	-
Educational Level		
Never attended	11	22.0
Primary	25	50.0
Secondary	10	20.0
Tertiary	4	8.0
Trading Experience		
1-10	22	44.0
11-20	21	42.0
21-40	4	8.0
Total	50	100.0

Source: Field survey, 2017.

Monthly Costs and Return Associated with Ginger Trading in the study area

The costs and returns associated with ginger trading on monthly bases in the study area is presented in Table 2. It showed that ginger trading was a high income generating business as the present net income for ginger traders was ₦102584.7. The total return

from the trade was ₦982500.00, while the total cost incurred was ₦933769.7. On the average, each ginger trader made a net monthly income of ₦48730.3. This is an indication that participation in ginger trade is very much profitable and viable.

Table 2. Estimated Monthly costs and returns associated with ginger trading

Variables	Ginger Quantity	Naira
Sales		982500.00
Fixed costs		
Depreciated implements	143292.7	
Scales	58500.00	
Total fixed costs		205779.7
Variable cost		
Purchases	529000.00	
Transportation	26275.00	
Shop rent	43325.00	
Tables and chairs	42700.00	
Loading and offloading	12090.00	
Packaging cost	58600.00	
Market charges	16000.00	
Total Variable cost (TVC)		727990.00
Total cost (TVC+TFC)		933769.7
Net income		102584.7

Source: field survey, 2017.

Determinants of Profitability of Ginger Trade in the Area

Multiple regression result on determinants of ginger profit is shown in table 3. The double-log functional form was chosen as the lead equation based on the number of significant variables, the magnitude of the coefficient of multiple determination (R^2) (0.907) as well as the high significance value of the F-ratio. The coefficient of multiple determination implies that

90.7% of the variations in the ginger profit was explained by the explanatory values included in the model. Level of education (1.0%), quantity sold (5.0%), experience (10.0%), gender (5.0%) and household size (5.0%) were the significant variables that determined the profit of ginger trading. The coefficient of level of education significant at 1.0% level of significance and positively related to the profit of ginger trading in the study area. This implied

that the higher the level of education, the higher the profit of a ginger trader. According to Nze (2016), education is an investment in human capacity which is able to raise the skills and qualities of an individual, increase his allocate ability thereby leading to more productive performances. Quantity sold had a positive coefficient and was significant at 5.0% level of significance, indicating that as the quantity of ginger sold increased, its profit also increased. This conformed to a priori expectation.

Experience was statistically significant at 10.0% and positively related to profit, meaning that as the experience of the traders increased, profit equally increased. Increased experience raises human knowledge and skill to adopt to new marketing techniques which increases efficiency in the

business thus increases their net income. Gender was significantly 5.0% and positively related to profitability of the ginger trade. More women involvement in the trade boasted the profit. Household size's coefficient was positive and statistically significant at 5.0% level, suggesting that large household size increased the profit level of the trade. This is desirable, consistence and of great importance in agricultural businesses as rural household may rely more on their members than hired workers for their shops. This becomes realistic when family members are not made up of the aged and very young people, otherwise scare capital resources that should have been employed for agricultural business would be channelled for upkeep of these dependent members.

Table 3. Regression result on the Determinant of Profitability of Ginger Trade.

Variables	Linear	Exponential	Double log+	Semi log
Intercept	14542.776 (0.162)	12.033 (55.184)***	4.260 (6.383)***	-2880758.276 (-7.099)***
Year of education (X ₁)	1995.607 (2.008)**	0.003 (1.097)	0.039 (3.651)***	64119.902 (1.778)*
Age (X ₂)	3703.234 (1.386)	0.008 (1.290)	0.022 (0.691)	23874.246 (1.214)
Capital (X ₃)	7.085 (8.765)***	1.665E-005 (8.473)***	0.813 (1.227)*	273065.097 (8.415)***
Size in bags (X ₄)	24211.546 (2.644)***	0.042 (1.876)*	0.161 (2.325)**	121416.052 (1.892)**
Experience(X ₅)	-3334.447 (-1.511)*	-0.004 (-0.736)	0.050 (1.917)*	-36479.681 (-2.305)**
Labour cost (X ₆)	-2.091 (-0.928)	-2.273E-005 (-4.148)***	-0.028 (-1.169)	17389.753 (1.183)*
Gender (X ₇)	40189.910 (2.175)**	0.107 (0.388)	0.078 (2.714)**	23348.816 (1.328)
Household size (X ₈)	3382.243 (1.015)	0.018 (2.256)**	0.060 (2.249)**	-5510.676 (-0.339)
R ²	0.783	0.778	0.907	0.805
R ⁻²	0.751	0.744	0.891	0.777
F-ratio	24.442***	22.406***	61.065***	26.675***

Source: field survey (2017).

+ lead equation, *** Significant at 1%, ** Significant at 5%, and *significant at 10%.

Constraints to Ginger trading in Ideato Imo state

The constraints faced by ginger traders in Ideato were summarized in Table 4. From the result, Seasonality of commodity (1st), remoteness (2nd) and storage (3rd)

were the major constraints to the trade in the study area, while weak advisory services (13th) was the least constraint.

Table 4. Major constraints of Ginger Trading in the Area.

Constraints	Mean*	Rank
Market remoteness	3.18	2 nd
Poor access road	2.46	6 th
Inadequate capital	2.6	11 th
Lack of credit facilities	2.36	8 th
Low demand for products	2.45	7 th
Weak advisory services	1.7	13 th
Poor access to labour	3.06	4 th
Damage due to animals and theft	3.04	5 th
Poor environmental conditions	2.8	9 th

Seasonality of commodity	3.28	1 st
Price instability	2.7	10 th
Storage	3.16	3 rd
High cost of transportation	1.8	12 th

Source: Field survey (2017.)

*= Multiple responses recorded.

CONCLUSION AND RECOMMENDATIONS

Based on the finding of the results, it could be concluded that ginger trade in Ideato south Imo State is dominated by energetic females who were not educated up to tertiary educational level, but were making the sum of ₦48730.3 each on monthly bases, and having level of education, quantity sold, experience, gender and household size as their profit determinants, with Seasonality of commodity with mean (1st), remoteness (2nd) and storage (3rd) as their major constraints to the trade in the study area. It was recommended that education must be continuously expanded in a manner that will make it easy for the traders to acquire the needed knowledge and experience for ginger trade.

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