Determinants of Investment Capacity among Yam Production Entrepreneurs in Benue State, Nigeria

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Abstract

The determinants of investment capacity among yam entrepreneurs in Benue State were examined. The specific objectives were to describe the types of investment prevalent among yam entrepreneurs and to identify and analyse the determinants of investment decision among yam entrepreneurs. Data were collected from 288 yam entrepreneurs in six local government areas and 24 wards using multi-stage sampling technique. The sample comprised entrepreneurs that engaged in yam production, distribution/marketing of yam, yam chips production, and yam flour production. Structured interview schedule was used to collect the data. Data collected were analysed using frequency distributions table, percentages, and logit model. The findings reveal that socio-economic characteristics of yam entrepreneurs significantly influence their investment. It was recommended that policies to improve investment should include the socio-economic characteristics of these entrepreneurs in the formulation; campaigns to promote the benefits of investing and dangers of not investing in yam activities should be encouraged.

Key words: Determinants, Investment Capacity, Yam Entrepreneurs, Benue State

1. Introduction

The economic importance of yam as a food crop to the people of West Africa and in Nigeria in particular cannot be over emphasized. IITA (1998) reported that yam is a preferred food and a food security crop in most Sub-Sahara African countries, and Babaleye (2003) opined that it is an important source of income and also a socio-cultural crop in Nigeria.

Yam production is regarded as a source of food security and employer of labour in many areas where it is cultivated (Verter and Becvarova, 2014) and has potential for livestock feed and industrial starch production (Ayanwuyi *et.al*., 2011). In addition, CBN (1998) showed that yams constituted an average of 32% of farmers' gross income derived from arable crop.

In spite of the socio-cultural and economic importance of yam, there has however, been a general decline in yam production in Nigeria over the years especially area under cultivation and total output (Zaknayiba and Tanko, 2013; Madukwe *et.al*.,2000; Agwu and Alu, 2005 and IITA, 2009). The decline in average yield per hectare has been more drastic as it dropped from 14.9% between 1986-1990 to 2.5% between 1996-1999 (CBN, 2002; Agbaje *et.al*., 2005 and FAO, 2007). This declining trend has continued as reports show that as at 2006, the national output stood at 39.3million tons (FAO, 2007) which fell to 37.3million tons in 2010 (NBS, 2012).

Sequel to this decline, there has been an increasing gap between the levels of supply and demand for yam (Amujoyegbe and Bamire, 2005) and as a result of which the commodity has become more expensive particularly in the urban areas (Kushwaha and Polycap, 2001). Also, more young and able bodied youths have continued to leave these yam producing areas for better opportunities offered by the cities leaving behind an aged population to produce the nation's food (Oluwasola *et.al*., 2012).

The poor investment decision among yam entrepreneurs may not be unconnected to this decline in yam production. According to Ani *et.al*. (2014), investment decision involves the allocation of capital to package investment proposal so desired and also include the decision by a firm to divest from an existing investment profile and reinvest proceeds in another investment profile which is considered more rewarding.

The yam entrepreneurs are those who create or develop a new yam related business in the face of risk and uncertainties in the business environment for the purpose of wealth creation by identification of wealth

opportunities and assemblage of the necessary factors of production to actualize the opportunities (Agbaeze, 2007). They include the yam farmers, yam chip producers, yam flour producers, and yam marketers/distributors.

The capacity to invest among yam entrepreneurs plays a significant role in the growth and development of the yam sector of the nation as growth attained in the sector will largely depend upon what these entrepreneurs do with the seasonal additional incomes generated from their farm activities (Ogheneuemu *et.al*., 2014). This stems from the fact that the growth rate in the farming economy largely depends on the stock of capital built in a farm organization and the re-investment of such stocks in form of savings for further improvement of the farm organization (Akerele and Ambali, 2012).

 In an effort to maintain the nation's status as the largest producer of yam and ensure the productivity as well as the profitability of the yam enterprises in the country, there is need to investigate what determine the investment capacity among yam entrepreneurs in the nation. There seems to be a dearth of knowledge on what drives the yam entrepreneurs on their investment decision in Nigeria. Thus, this study attempted to bridge this knowledge gap.

The main objective of the study was to examine the determinants of investment capacity among yam entrepreneurs in Benue State. Specifically, the study aimed to achieve the following objectives:

- to describe the types of investment prevalent among yam entrepreneurs; and
- to identify and analyse the determinants of investment decision among yam entrepreneurs.

2. Methodology

2.1 Study area

The study was conducted in Benue State, Nigeria. The state lies between latitudes $6^0 25^/$N and $8^0 8^/$N and longitudes $7^0 47^/$E and 10^0E. Benue State is the nation's acclaimed food basket because of the abundance of its agricultural resources. The state is a major producer of food and cash crops (BNARDA, 2004). Yam entrepreneurs who are engaged in yam production, distribution/marketing of yam, yam chips production, and yam flour production abound in the state.

2.2 Sampling technique and data collection

The population for the study consisted of yam entrepreneurs in the state. As a result of the enormity of the population for the study, a sample of 288 yam entrepreneurs from six local government area and 24 wards known for yam production was purposely selected using multi-stage sampling technique.

The data for the study were collected using a well-structured interview schedule on the socio-economic characteristics of respondents as well as the types of investment prevalent among the respondents.

2.3 Data analysis

Descriptive statistics such as frequency distribution table and percentages were used to describe the types of investment prevalent among respondents while logit model was used to realize the determinants of investment decision among respondents.

2.4 Model specification

The model for the determinants of investment decision was explicitly expressed as follows:

$$P(Y=1) = \frac{exp^{(a+b_1x_1+b_2x_2+b_3x_3+\cdots+b_9x_9+b_{10}x_{10}+\mu)}}{1+exp^{(a+b_1x_1+b_2x_2+b_3x_3+\cdots+b_9x_9+b_{10}x_{10}+\mu)}}$$ where:

$P(Y=1)$ = the probability that a respondent deliberately invest

exp = the base of natural logarithm

a = the constant of the equation

b_1- b_{10} = the coefficients of the predictor variables

x_1 = gender (male = 1; female = 0)

x_2 = household size (number)

x_3 = educational status (years)

x_4 = years of experience (years)

x_5 = membership of cooperative (member = 1; non-member = 0)

x_6 = risk of capital loss (perceived = 1; do not perceived = 0)

x_7 = annual savings (Naira)

x_8 = annual income (Naira)

x_9 = age (years)

x_{10} = marital status (married = 1; single = 0)

μ = stochastic error term

The *a priori* expectation was that the coefficients of age, marital status, and household size would be negative while those of gender, educational status, years of experience, membership of cooperative, risk of capital loss, annual savings, and annual income would be positive.

Interest rate charged on borrowed fund was not included in the investment model as most of the respondents were members of informal groups like *isusu* which offered them opportunity to borrow fund for investment at no interest rate. This is supported by Orie (2011) who indicated that traditional financial institutions provide interest free credit to members while non-members seeking for loan are charged some interest.

3. Results and discussion

3.1 Types of investment prevalent among respondents

The distributions of respondents according to their most preferred investment option are presented in Table 1.

Analysis of Table 1 reveals that majority (66.7%) of yam entrepreneurs saw education and skill training for their children and themselves as their most preferred investment options. The preference of yam entrepreneurs to invest in their children's education can be attributed to their desire to have a secured future for their children and themselves. This agrees with Amu (2008) who in a study on the saving and investment behaviour of rural families in Ho municipality of the Volta region of Ghana, reported that most families invested in the human capital development of their children in terms of sending them to school or to learn a trade for the financial security of their children as well as for their own financial security because their children will look after them in old age when they (the parents) could no longer work.

In addition, analysis of Table 1 indicates that majority (85.4%) of the respondents rated investment in shares and bonds as their least preferred investment option. This poor rating of investment in shares and bonds by yam entrepreneurs could be attributed to their lack of idea of what shares and bonds are as well as their low literacy level. This finding is affirmed by Amu (2008) who observed that most families are ignorant of about what shares and bonds were as well as how they operate.

3.2 Determinants of investment decision

The logit model was used to investigate the effect of socio-economic characteristics of yam agribusiness entrepreneurs on their decision to invest. The estimated relationship is presented in Table 2.

From the analysis, the model chi-square was 80.939 which were significant at 1% thus rejecting the null hypothesis that there was no difference between the model with only a constant and the model with independent variables. In other words, the existence of a relationship between the socio-economic characteristics of yam entrepreneurs and their investment decision was supported.

The Nagelkerke R square was 0.601 thus indicating a strong relationship of 60.1% between the predictors and the predictions. The analysis also revealed that none of the independent variables had a standard error (S.E) greater than 2.0 thus confirming the absence of numerical problem such as multicollinearity among the independent variables.

Analysis of the result shows that the coefficient of gender was significant at 5% and positively related to investment decision. The positive sign of the coefficient is in consonance with the *a priori* expectation, implying that if a yam entrepreneur is a male, he is 4.678 times more likely to invest part of his earning. Yam entrepreneurs that are male usually have opportunity for investment capital compare to women entrepreneurs who tend to devote more of their time and earnings into their families than men. This agrees with the finding of Nwibo and Alimba (2013) who pointed out that the high dominance of males in the agribusiness ventures can be attributed to the fact that males have greater access to investment capital than the females who have greater role in household domestic activities.

The coefficient of household size was significant at 1% and negatively related to investment decision. The negative sign of the coefficient is in agreement with the *a priori* expectation, implying that as the household size of yam entrepreneurs increases, they are 0.636 times less likely to invest part of their earnings. Entrepreneurs with large family size will find it difficult to save and invest owing to the high dependency ratio which translates to more consumption expenditure. This is corroborated by Adeyemo and Bamire (2005) who revealed that large household size increases the consumption pressure on the farmers and thereby reducing their levels of investment, savings and propensity to save.

The coefficient of educational status was significant at 10% and positively related to investment decision. The positive sign of the coefficient agrees with the *a priori* expectation, implying that as the educational level of yam entrepreneurs increases, they are 1.127 times more likely to invest part of their earning. Well educated entrepreneurs understands better the risks and uncertainties that are found in business and are scientifically equipped to understand the complexities of these eventualities. This finding is justified by Nwibo and Alimba (2013) who observed that formal education provides entrepreneurs with a greater capacity to learn about new production processes and product designs, offers specific technical knowledge conducive to firm expansion and increase owner's flexibility.

The coefficient of years of experience was significant at 5% and positively related to investment decision. The positive sign of the coefficient is in consonance with the *a priori* expectation, implying that as the years of experience of yam agribusiness entrepreneurs increases, they are 1.109 times more likely to invest part of their earnings. Relevant entrepreneurial and managerial experience confers upon an entrepreneur a greater sense of perceived behavioural control and a stronger belief in his own ability to target good investments and contribute to the growth of the food and agricultural sector. This finding agrees with Nwibo and Alimba (2013) who revealed that people with cognitive experience in self employment are more likely to invest than those who no previous knowledge in self employment.

The coefficient of membership of cooperative society was significant at 1% and negatively related to investment decision. The negative sign of the coefficient is at variance with the *a priori* expectation, implying that yam entrepreneurs who are members of cooperative society are 0.146 times less likely to invest part of their earnings. Cooperatives offer members the opportunity to increase their monthly income which translates to more savings and investment through the social networking platform it provides to members. However, yam entrepreneurs who are members of a cooperative society and are less likely to invest are those that have large household size. This large household size implies low savings and investment due to high consumption expenditure. This finding is corroborated by Giroh *et.al.* (2012) who pointed out that a farmer with a large household will likely channel more of his income to food consumption expenditure rather than to save and invest.

In addition, the coefficient of risk of capital loss was significant at 1% and positively related to the decision to invest. the positive sign of the coefficient conforms to the *a priori* expectation, implying that if there is perceived risk of capital loss by yam entrepreneurs, they are 22.614 times more likely to invest part of their earning. The perceived fear that idle capital might get lost in a particular investment option could spur entrepreneurs to channel such resources to other investment opportunities with less risk of capital loss. This finding is supported by Amu (2008) who reported that most families wanted a form of investment that the risk and uncertainty levels were low and also those that they thought they had a prior knowledge of in order to play it safe.

4. Conclusion and policy implications

Evidence from the study reveals that socio-economic characteristics of yam entrepreneurs significantly influence their decision to invest and their preference to invest their money in the education and training of their children and themselves.

In view of these findings, the following recommendations were made:

- Policies aimed at enhancing the investment capacity of yam entrepreneurs should include the socio-economic characteristics of these entrepreneurs in their formulation.
- The cost of acquiring formal education should be subsidized in the localities of these yam
- entrepreneurs by giving their children scholarship on session basis.
- Campaigns aimed at promoting the benefits of investing one's resources and the dangers of failing to invest should be encouraged in the yam producing areas.

References

Adeyemo, R. and Bamire, A.S. (2005). Saving and Investment Patterns of Cooperative Farmers in South Western Nigeria. *J.Soc.Sci*. 11(3): 183-192.

Agbaeze, E.K. (2007). *Development of Entrepreneurship: The Nigerian Perspective*. Precision Publishers Limited, Enugu.

Agbaje, G.O.L., Ogunsunmi, O.L., Oluokun, J.A. and Akimloju, T.A. (2005). Survey of Yam Production System and Impact of Government Policies in South-Western Nigeria. *Journal of Food Agricultural and Environment*. 3(2): 222-229

Agwu, A.E. and Alu, J.I. (2005). Farmers' Perceived Constraints to Yam Production in Benue State, Nigeria. Proceedings of the 39th Annual Conference of the Agricultural Society of Nigeria, 2005. Pp. 347-50

Akerele, E.O. and Ambali, O.I. (2012). Consumption and Saving Pattern among Rural Farming Households in Abeokuta Local Government Area of Ogun State. *Journal of Agriculture and Veterinary Services* 4.

Amu, M.E.K. (2008). *Saving and Investment Behaviour of Rural Families in the Ho Municipality of the Volta Region of Ghana*. M.Sc. Thesis, University of Cape Coast, 152 pages.

Amujoyegbe, B.J. and Bamire, A.S. (2005). Economic Analysis of Land Improvement Techniques in Smallholder Yam-Based Production Systems in the Agro-Ecological Zones of SouthWestern Nigeria. *J. Hum. Ecol*. 18(1): 1-12

Ani, W.U., Mba, J.I. and Njoku, B. (2014). Fundamentals of Business Finance. EMC Publishers, Enugu State, Nigeria.

Ayanwuyi, E., Akinboye, A.O. and Oyetoro, J.O. (2011). Yam Production in Orire Local Government Area of Oyo State, Nigeria: Farmer's Perceived Constraints. *World Journal of Young Researchers*. (2): 16-9

Babaleye, T. (2003). "West Africa: Improving Yam Production Technology". ANB-BIA Supplement Issue/Edition Nr 463.

BNARDA (2004). *The Impact of Benue State Agricultural and Rural Development Authority*. Pp. 42.

CBN (1998). Central Bank of Nigeria Statistical Bulletin, Abuja. 9(2): 114-117

CBN (2002). Central Bank of Nigeria Statistical Bulletin, Abuja. 9(20): 114-117

FAO (2007). Food and Agricultural Organization. FAO STAT. Statistics Division of Food and Agriculture Organization. www.faostat.org.

Giroh, D.Y., Gal, T.N. and Minampah, C.J. (2012). Analysis of the Determinants of Savings among Gum Arabic Collectors in Selected Local Government Areas of Adamawa State, Nigeria. *New York Science Journal*. 5(11): 1-6.

IITA (1998). International Institute for Tropical Agriculture, 2005 Annual Report, 2005, IITA, Ibadan, Nigeria. Pp 29-30.

IITA (2009). International Institute for Tropical Agriculture. http//www. iita.org

Kushwaha, S. and Polycap, I.M. (2001). Economic of Small Scale Yam Production in Qua'an Pau Local Governmnet Area of Plateau. In: Abubakar, M.M; Adegbola, T.A. and Butswat, L.S.R.(eds). The Role of Agiculture in Poverty Alleviation. Proceedings of 34th Annual conference of Agricultural Society of Nigeria, held at Abubakar Tafawa Balewa University (ATBU), Bauchi, October 15-19, 2001, pp 69-79

Madukwe, M.C., Ayichi, D. and Okoli, E.C. (2000). Issues in Yam Minisett Technology Transfer to Farmers in SouthWestern Nigeria. African Technology Policy Studies Working Paper no. 4, Nairobi, Kenya. 200;52.

NBS (2012). Draft Report of National Bureau of Statistics/Federal Ministry of Agriculture and Rural Development. Collaborative Survey on National Agriculture Sample Survey (NASS), 2010/2011.

Nwibo, S.U. and Alimba, J.O. (2013).Determinants of Investment Decisions Among Agribusiness Investors in South-East, Nigeria. *Journal of Business and Management.* 8(6): 60-67.

Ogheneruemu, O.E., Olubunmi, O.A. and Adetutu, E.S.(2014). Savings Determinants among Rural Households in SouthWest Nigeria. *World Rural Observations* 2014; 6(4): 6-11.

Oluwasola, O., Kassali, R. and Amusan, C.A. (2012). Factors Enhancing Investment and Farm Capitalization in Small Holdings in Nigeria: Policy Implications for Transforming the Agricultural Sector. *International Journal of Agriscience*. 2(3): 265-279

Orie, J.B. (2011). Business and Development Finance: Theory, Application and Methods. Urgent Computers (Press), Ohafia Street, Umuahia, Abia State.

Verter, N. and Becvarova, V. (2014). Yam Production as Pillar of Food Security in Logo Local Government Area of Benue State, Nigeria. *European Scientific Journal*. 10(31): 27-42

Zaknayiba, D.B. and Tanko, L. (2013). Costs and Returns Analysis of Yam Production among Small Scale Farmers in Karu Local Government Area, Nasarawa State, Nigeria. *PAT*. 9(1): 73-80

Table 1. Types of investment prevalent among respondents

Types of investment	Frequency total	0 (%)	1 (%)	2 (%)	3 (%)	4 (%)	5 (%)	6 (%)	7 (%)	Total
Trading	245	3.3	29.0	28.2	10.2	3.7	1.2	4.5	20.0	100.0
Shares and bonds	246	5.7	0.4	2.4	2.0	0.8	0.4	2.8	85.4	100.0
House	245	5.3	4.5	13.9	11.8	15.5	11.8	15.9	21.2	100.0
Jewelry	244	4.9	5.3	16.8	15.6	7.4	12.7	7.8	29.5	100.0
Farm enterprise	250	4.4	13.2	23.2	14.4	16.0	6.0	4.8	18.0	100.0
Transport business	243	6.2	2.5	9.1	12.3	12.8	17.7	12.8	26.7	100.0
Education and skill training for children and self.	264	0.8	66.7	10.6	4.2	1.5	1.1	2.7	12.5	100.0

Source: Field survey, 2015.
Scale: 1 is the investment option the respondents most preferred while 7 is the investment option the respondents least preferred.

Table 2. Determinants of investment decision

Variables	B	Sig	S.E	Wald	Exp (β)
Gender (1)	1.543**	0.018	0.650	5.639	4.678
Household size	-0.453***	0.002	0.147	9.542	0.636
Educational status	0.120*	0.055	0.062	3.689	1.127
Years of experience	0.104**	0.034	0.049	4.518	1.109
Membership of cooperative (1)	-1.926***	0.001	0.587	10.748	0.146
Risk of capital loss (1)	3.119***	0.007	1.153	7.319	22.614
Annual savings	0.000^{NS}	0.102	0.000	2.678	1.000
Annual income	0.000^{NS}	0.773	0.000	0.083	1.000
Age	-0.030^{NS}	0.561	0.051	0.338	0.971
Marital status (1)	-0.407^{NS}	0.647	0.888	0.210	0.666
Constant	-2.630^{NS}	0.229	2.184	1.450	0.072
Model Chi-square	80.939***	0.000			
Nagelkerke R square	0.601				
Percentage correct	85.8				

Source: Field survey, 2015. * Significant at 10.0% level; ** Significant at 5.0% level;
*** Significant at 1.0% level; NS = Not significant.

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