

Determinants of Success of Micro-Finance Schemes Serving the Agricultural Sector in Akwa Ibom State, Nigeria

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Abstract: A good number of microfinance schemes target micro enterprises in agriculture, which vary considerably in their use of external finances. This study analyses the determinants of use of external finances by micro enterprises and their implications for the success of microfinance schemes. Data obtained from 244 micro enterprises were analyzed using simple statistical tools and the multiple regression analysis. The results show that micro enterprises whose operators have low knowledge, low managerial skills and low net worth use more external finances, whereas operators with better net worth, knowledge and managerial know how use little or no external finances. For success of micro-finance schemes, operators of micro-enterprises that have better managerial skills and net worth in investment should be adequately informed and encouraged to become members of finance groups that enlist in the micro finance schemes. This would be invaluable in strengthening the finance groups to behave predictably in their relationship with the micro finance schemes.

Key words: Micro finance schemes, external finance, micro enterprises, agriculture

INTRODUCTION

Micro finance has come to stay in Nigeria. A good number of the emerging microfinance schemes are targeting micro enterprises in the agricultural sector. Perhaps because informal groups have been widely acclaimed (Adams, 1990; Udry, 1990; Stiglitz, 1990; Igben and Eyo, 1994; Besley *et al.*, 1993; Aryeety and Udry, 1997; Olomola, 2000), for being able to utilize group pressure to ensure compliance of members, these micro-finance schemes adopt the group approach in reaching out to their clients. Unfortunately, several authors (Adams and Ladman, 1979; Oludimu, 1983; Reinke, 1998; Eyo, 2002) have indicated that formal finance schemes that reach out to their clients in groups do not automatically achieve satisfactory level of performance. In view of this, the emerging micro-finance schemes must ensure that they enlist viable groups in their lending programmes.

There is no gainsaying the fact that the viability of finance groups depends in part on the well being of members businesses. When group members have viable farm business they are better disposed to meet group financial obligations. However, one problem that the micro-finance schemes are likely to face is the slow response of the operators of the micro-enterprises in agriculture. This is particularly so because Akwa Ibom State farmers had not fared well in their demand for agricultural loans despite the introduction of the model for

linking self-help groups with commercial banks, which was introduced in 1991 under the Agricultural Credit Guarantee Fund Scheme (Etim, 1998). However, available literatures (Jerome, 1991; Calomiris and Himmelberg, 1993; Stiglitz, 1994; Yaron, 1994; Besley, 1994; Toluyemi, 1995; Dermiguc-Kunt and Maksimovic, 1996; Yaron and Piperk, 1996) identify the supply and demand side factors that can militate against an investors' use of external finances to include, information asymmetry, availability of collaterals, imperfections in the credit markets, credit market failure, poor outreach, quality of services provided by the financial market, underdeveloped complementary institutions, low literacy, distrust, cumbersome lending procedures, ignorance of the investor on the financial services of the lenders, low level of credit worthiness, apathy of lenders, poor timing of loan disbursement and poor repayment plans. Identifying specific factors that will predict the use of external finances by farmers in Akwa Ibom State would not be exhaustive but invaluable in enhancing the resilience of the micro-finance market. This study analyses the determinants of use of external finances by farmers in Akwa Ibom State, Nigeria.

MATERIALS AND METHODS

Study area, sampling and data collection: This study was conducted in Akwa Ibom State, the cradle of wetland agriculture in Nigeria. It occupies an area of approximately 7,081 km² between latitude 4°33' and 5°33' North and

Longitude 7°25' and 8°25' East. By the 1991 population census it has a population of over 2.4 million people; of which 80% work in the agricultural sector. Agriculture is characterized by sole proprietorship with some form of specialization. An individual crop farmer concentrates on the production of a mixture of crops whereas a pig or poultry farmer concentrates on the pig or poultry production. The stratified random sampling technique was used to select 244 respondents, including 97 artisanal fisher folks, 72 crop farmers, 42 poultry farmers and 33 pig farmers, who were interviewed by trained enumerators. Data analyses utilized simple statistical tools and the multiple linear regression analysis.

The empirical model: In this study it is postulated that the use of external finance by farmers and fisher folks is a function of their net worth, knowledge of sources and lending practices, attitude towards the use of external finance, age of the sole proprietor and the managerial know-how. Consequently, $E = \phi (N, K, A, \Gamma, M)$. The explicit form of the model is given as:

$$E = \alpha + \beta_1 N + \beta_2 K + \beta_3 A + \beta_4 \Gamma + \beta_5 M + \varepsilon$$

Where:

- E = Measure of farmers use of external finance.
- N = Net worth of business in Naira.
- A = Attitude
- K = Knowledge of sources as lending practices of lenders.
- Γ = Age of the sole proprietor in years.
- M = Measure of management.
- α = Constant.
- $\beta_1 - \beta_5$ = Regression coefficients.
- ε = Error term.

Farmer's use of external finance was estimated by means of the index of capital rationing, constructed by dividing the farmer's indebtedness the 2004 production period with the largest amount of money he could obtain if he mortgaged all the farm property and the quotient subtracted from one. With this approach an enterprise that obtained no loans for operation has an index of 100 and a farm with a potential credit of seven thousand, Naira (N7, 000.00) but obtained three thousand Naira loans (N3, 000.00) has an index of 5.7. The more the index tends towards zero, the more use of external finances. The proprietor's attitude towards the use of external finance was estimated by means of the Guttman scaling technique while the Likert scaling technique was used to quantify the respondent's knowledge of sources of loans and the lending practices of the lenders. The farmers

managerial ability was assessed using the proxy approach; 15 questions that border on the quality of management were formulated each with three responses. The option selected by the respondents was scored 3 for the best option 1 for the least option and the total score was rated on a scale of 100%.

RESULTS AND DISCUSSION

This study involved sole proprietors of farms and artisanal fishing ventures. They majority of them were male, married and in their active years of age. They had a mean age of 42 years. The eldest respondent was 66 years of age and the youngest was 24 years old. However, Table 1 shows that respondents in the crop production sub-sector had the highest age of 46 years whereas respondents in the poultry sub-sector had the lowest mean age of 35 years. Comparatively crop, farmers were generally older, followed by the fisher folks, pig farmers and poultry farmers, respectively.

The respondent had an average of 14 years of on-the-job experience. The mean number of years of experience was lowest for the poultry farmers and highest for the fisher folks. Table 1 shows that the most experienced respondent had 43 years of on-the-job experience whereas the least experienced respondents had only 2 years of experience. However, the fisher folks had mean years of on-the-job experience of 18.5 years; crop farmers had a mean of 15.0 years of on-the-job experience; pig farmers had a mean of 14.5 years of experience and the poultry farmers had an average of 9 years of on-the-job experience. The mean investment of the respondents was lowest for crop farmers and highest for the artisanal fisher folks. The mean investment of the respondents was N77, 340.00. The maximum investment is N282, 600.00 thousand and minimum is N1, 300.00, respectively. The respondents' attitude towards the use of external finances was lowest for the artisanal fisher folks (0.96) and highest for the poultry farmers (3.10), even though their mean attitude score was 2.42. On the other hand the respondent's knowledge of sources and lending practices of lenders was generally below average. According to Table1, respondent's knowledge, rated on a scale of 1 to 20, was on the average 6.94. The highest knowledge score was 14.0 while the lowest was 1.0. Whereas the fisher folks had a knowledge score of 7.0, the crop farmers had a knowledge score of 7.4, the pig farmers had a knowledge score of 6.38 and the poultry farmer had a knowledge score of 6.98. Finally, Table 1 shows that the net worth of the respondents was lowest for the crop farmers and largest for the poultry farmers. However, the mean net worth in the respondents' investment was N148, 260.00.

Table 1: Average characteristics of respondents

Characteristics	Mean	Maximum	Minimum	Sub sector means			
				Fisher-folks	Crop farmers	Pig farmers	Poultry farmers
Age (Years)	42.00	66.0	24.0	44.00	46.00	43.00	35.00
Experience (Years)	14.00	43.0	2.0	18.50	15.00	14.50	9.00
Investment (Naira'000)	77.34	282.6	1.3	100.95	41.72	86.19	76.48
Attitude Score	2.42	4.0	0.0	0.96	2.78	2.85	3.10
Knowledge Score	6.94	14.0	1.0	7.00	7.40	6.38	6.98
Net worth (Naira'000)	148.26	321.0	2.8	183.41	55.16	148.51	205.97

Source: Filed survey, 2004

Determinants of use of external finances: This study used the multiple regression analysis to analyze the effects of respondents net worth (N), knowledge (K), attitude (A), age (T) and managerial ability (M) on their use of external finances. The result of the regression analysis is shown below:

$$Y = 71.1 + 9.9 \times 10^5 N - 1.39K + 3.37A - 0.2T + 0.33M$$

($t_N = 8.67^*$) ($t_K = -2.46^{**}$) ($t_A = 1.87$) ($t_T = -1.34$) ($t_M = 2.36^{**}$)

$R^2 = 48\%$; St. Error of Estimate = 15.3; F-value = 44.04*
 (*: Significant at 1%; **: Significant at 5%).

This result shows a coefficient of multiple determinations of 48% with an F-value of 44.04, which declares the model acceptable at a 1% confidence level. More so, the t-test confirms net worth, knowledge and managerial ability have significant effects on the respondent's use of external finance. However, judging from the magnitude of the coefficients, it is clear that the respondent's net worth in investment is the most important while age is the least important determinants of the respondent's use of external finances. The result of the multiple regression analyses shows that respondents with larger net worth use fewer external finances, whereas those with lower net worth actually go for external finances. On the other hand, respondents with better knowledge of the sources of credit and lending practices of the lenders actually used more external finances and those with better managerial skills use fewer borrowed funds. Although, age of the respondents and their attitude towards the use of external finances were not significant in their effects, the use of external finances notably increased with increases in age whereas respondents with better attitude towards the use of external finances use less external finances.

IMPLICATIONS FOR SUCCESS OF THE MICRO FINANCE SCHEMES

This study reveals that respondents use external finances early in the business when they have low managerial ability, poor attitude towards the use of external finances, low knowledge of sources of credit and low net worth in investment. As they grow older and

become more experienced in the business, their managerial ability, knowledge and attitude improves; they earn larger net worth and become indifferent in their use of external finances. Given this scenario, group formation is likely to be greatly enhanced by low net worth. If the majority of farmer and fisher folks earn lower net worth in their investments, they would be more willing to form finance groups in order to benefit from the finance schemes of the micro-finance institutions. Finance groups comprising members who generally earn lower net worth in investment is likely to be high-risk groups. This is so because it will become increasingly difficult for members to repay erring members' loans due to their low net worth in investment. This study confirms that the respondents who earn larger net worth do not use external finances and are not likely going to be interested in becoming members of micro finance groups on their own volition. This category of farmers and fisher folks should be encouraged to join microfinance groups. By doing this, members with better net worth would be better disposed to repay erring members' loans thereby strengthening joint liability in meeting group financial obligation to the microfinance institution.

This study also reveals that the respondents mean rating for attitude towards their use of external finances is below average. The attitude score was poor for a crop and pig farmers but poorer among the artisanal fisherman. However, since respondents with better attitude towards the use of external finances actually use fewer borrowed funds, the enlisting of groups with members having comparatively better attitude towards the use of external finances would be invaluable in ensuring the success of micro-finance schemes.

CONCLUSION

The result of this research confirms that respondents generally have low knowledge of sources of micro credit as well as the lending practices of the lenders. The regression analysis confirms that those respondents with better knowledge score actually use more external finances. Consequently, microfinance schemes should make efforts to increase people's awareness on their activities. This would be invaluable in increasing the number of farmers and fisherman groups that enlist in the microfinance programmes.

Microfinance schemes should also be particular about the managerial skills of individual group members. This research reveals that farmers and fisherman with low managerial skills go for external finances whereas those with relatively better managerial skill use fewer borrowed funds. As much as possible, farmers and fisherman with good managerial skills should be encouraged to join self-help groups and enlist with the microfinance schemes. This would encourage proper use of borrowed fund and strengthen the self-help groups to behave predictably in their relationship with the microfinance institutions.

The success of a finance group in repaying group loans and in other group activities depend, in part, on the quality of group members. Outside the personal characteristics of group members upon which social pressure is affirmed, their net worth in investment, managerial know how and knowledge of sources as well as lending practice of the lenders are variables that affect their use of external finances vis a vis their willingness to join and become members of finance groups. This research reveals that farmers and fisher folks with better knowledge of source and lending practices of lenders, better net worth and managerial skills do not use much of external finances. Invariably only operators with low net worth, knowledge and managerial ability constitute themselves into groups to enlist in the microfinance schemes. For the success of the microfinance schemes, small farmers and fisher folks with better net worth in investment and better managerial skills should be adequately informed and encouraged to form or join informal groups and enlists in the microfinance schemes. This would be invaluable in enhancing the success of the micro finance institutions.

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