Effect of Cooperative Type and Age on Profit Performance: A Study of Cooperative Societies in Awka North LGA in Anambra State, Nigeria

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Abstract
The objective of the study was to determine the effect of cooperative type and age profiles on profit performance, as measured by the gross margin in Awka North LGA, Anambra State. The main research instrument was the questionnaire, which was used to obtain data from registered 35 farmers’ multipurpose cooperative societies (FMCS). Descriptive statistics such as means, tables, frequency count etc., were extensively used while inferential statistics like correlation and regression analyses were used to test formulated hypotheses. After collating and analysing the data, it was seen that FMCS was not only the dominant cooperative type but was also the oldest. It was also found that type and age profiles had significant influence on gross margin. The study therefore recommends a deepening of activities of FMCS in the area, through increase in government assistance and establishment of more FMCS in communities where they do not exist at the present.

Key Words: Cooperative societies, financial performance, gross margin, regression analysis

Introduction
In such situation cooperatives represent a strong and viable economic alternative. Cooperative organization offers the best machinery for reaching the masses of the small scale farmers. International Cooperative Alliance (ICA) (2010), defines cooperative as an autonomous association of persons unified voluntarily to meet their common economic, social and cultural needs through a jointly-owned and democratically controlled enterprise. It is a business voluntarily owned and controlled by its member patrons and operates for them and by them on a non-profit basis. It is also a business enterprise that aims at complete identity of the component factors of ownership control and use of services (Nweze, 2001).

Cooperative societies are very popular in Nigeria. Onuoha (2002) in his study of cooperative history in Nigeria state that there are traditional and modern cooperative societies. The modern cooperative societies started in the country as a result of the Nigerian cooperative society law enacted in 1935 following the report submitted by C. F. Strickland in 1934 to the then British colonial administration on the possibility of introducing cooperatives into Nigeria.

Cooperatives Societies in Nigeria like their counterparts all over the world are formed to meet people’s mutual needs. Cooperatives are considered useful mechanism to manage risks for member in agriculture. Through cooperatives, farmers could pool their limited resources together to improve agricultural output and this will enhance socio-economic activities in the rural areas (Ebonyi & Jimoh, 2002). Arua (2004) viewed cooperatives as an important tool of improving the living conditions of farmers.
According to Bhuyan (2007) cooperatives are specially seen as significant tools for the creation of jobs and for the mobilization of resources for income. But cooperatives may not be able to serve its members or to be able to expand its service unless they are viable. Viability can only be achieved only when cooperative products and services attract profits. It is a statement of fact and supported by conventional wisdom that businesses can only be sustainable if they make adequate returns on investments. Cooperative businesses are technically not different from other businesses when comes making sufficient returns on investments in order to remain viable and sustainable.

A cooperative can be viewed ideologically in two opposing fashions. First, as an integral part of a capitalist society. Second, as an organization that is in some manner the antithesis of a capitalist firm. Cooperative legislation, in Nigeria in many countries with Anglophone colonial background, effectively (and possibly unintended) assumes the latter view by making it difficult for a cooperative to raise funds on market-determined terms. The government often steps in to make available funds to cooperatives on concessional terms. However, there has always been a view that it is good for a cooperative to raise funds from its operations by way of profits, thereby preserving its autonomy and independence.

Clearly, one obvious factor that is essential for cooperative survival is sound financial performance (Fulton, Popp, and Gray, 1996; Vandeburg, Fulton, Hine, and McNamara, 2000). Given the importance of this factor, it is particularly important for a system of profitability benchmarks to be used on various cooperative types to help cooperative committees and managers better position themselves in the ever challenging business environment (Pritchett and Hine, 2007). Financial benchmarks such as the gross margin are particularly useful for diagnosing opportunities for improving business performance, although they are not well suited to describing the unique characteristics or all of the advantages of cooperatives relative to other organizational forms. Gross margin when related to type and age profiles of cooperatives could reveal a clearer picture of their roles in profit performance of cooperatives. Unfortunately, much of what is in the literature on profit performance is bereft of these type and industry effects. Thence, the focus of this paper.

The paper determined the types of cooperative societies in Awka North Local Government Area and their age profiles; and profitability of operations of the various types of cooperatives, using the gross margin analysis.

Hypotheses

The following hypotheses, which are in null forms, are postulated for study:
1. There is no significant difference between type and age profiles across the various cooperatives
2. Gross margin indices of cooperatives are not significantly influenced by their type and ages profiles.

One major limitation to this study is the non-availability of relevant empirical literature on the subject matter. There was also the problem of unwillingness of the respondents to supply needed data. Clearly, there was also the possibility that information by the respondents could be exaggerated or even outright false. Nevertheless, efforts were made to surmount these challenges.

**Review of Literature**

**Nature of Cooperatives**

Cooperative society is a voluntary association of free and independent persons for the betterment of their economic conditions has raised a great concern to both professionals in cooperative and also these days that there seem to be a great awareness of the importance to the economic development of Nigeria.

Cooperative society has been defined by the International Cooperative Alliance as an autonomous association of persons, united voluntarily to meet their common economic, social and cultural needs and aspirations through a democratically-controlled enterprise (Prakash, 2003). A Cooperative can also be seen as an association based on values of self-help, self-responsibility, democracy, equality and solidarity.

Cooperatives focus on serving members and communities (FAO, 2013). They help build a “solidarity economy” that emphasizes mutual self-help, inclusion, participation and concern for community, thereby reflecting the priority placed on goals beyond the profit motive. They help ensure decent, regular incomes to their members and enable local access to safe, affordable and nutritious food. For instance, by creating opportunities for employment and investment for rural populations, agricultural cooperatives contribute to stabilizing communities and preventing social conflict.

According to DGVR (2005) cooperative self-help institutions were originally founded out of deprivation or because of the need to optimize the economic position of the individual member by joint business activities - based on solidarity in line with the economic principles of self-help, individual responsibility and self-governance - as a result of better access to financial services and markets, while maintaining the member’s own capability to operate and compete in the markets. The existence of functioning cooperative societies leaves a positive mark on the economic and social structure of a country since cooperatives develop on the basis of local initiative and local economic strength; decentralized cooperative systems can operate in close proximity to markets and target groups.
In the context of globalization, DGVR (2005) further notes, cooperatives are particularly well-equipped to combine the advantage of local activities with regional and national networking within the system, provided they adapt their structures and operations accordingly, thus contributing considerably not just to strengthening their members but the local/regional economic structure in which they are operating.

The traditional form of cooperation involved working together on farms, hunting and gathering. All people have basic needs of food, shelter, security and belonging. People would invite neighbours to come and give a hand. Also people did not have money and resources, which enables individuals to employ people or machinery to do the work for them. In any community cooperation usually exists in the form of associations of people who come together as a group driven by their social and economic needs in order to cope with their problems and improve their conditions of living (Onugu & Nwankwo, 2013).

In pursuance of satisfying the socio-economic needs of their members, different types of cooperative societies have emerged, such as:

**Consumer Cooperative Societies:** The scarcity of consumer goods during the Second World War gave rise to the formation of many consumer societies in Nigeria in the past, but not long after the end of the most of these societies faded away. But recently, like all consumers, they end the chain of production. Goods are bought from the co-operators on wholesale basis, stored and sold to the consumers and members of the public at the current market price. At a given time, members are paid dividends calculated on the basis of their purchase.

**Producer Cooperative Societies:** producer cooperatives were formed to enhance the production of goods and services of various kinds. Indeed, the chief characteristic of producer cooperative society is its pronounced cooperative nexus. By this it means a strong functioning working relationship between the cooperative complex and the members. There is a very strong working relationship between a productive society and its members. Ijere (1986) classified producer cooperative in two: producer cooperatives for mutual work in the area of farming, livestock, fishing, forestry extraction (or mining), processing, industry, labour and handicrafts; and auxiliary cooperative for the marketing of product and the supply of professional goods, such as credit machinery, tools, input, storage, irrigation, accounting, insurance, technical guidance, etc.

**Marketing Cooperatives:** It is through the marketing cooperatives that the middlemen are eliminated and the unnecessary waste of products avoided. Oraeke (1986) noted that in the villages of old Anambra and Anambra States, for instance, piles of uncracked palm kernels are now left under sun and rain to waste away. If the owners
were in marketing cooperatives, it would have been simple for them to dispose of. Oraeke further noted that the cooperatives through their poled resources would be able, as producer merchants, to explore and harness all the possible avenues for efficient and profitable marketing of our products both internally and internationally.

**Housing Cooperative:** This emerged as a result of the system whereby people form a group for the purpose of building houses for one another on rotational basis. As at the time, this type of cooperative existed. Mud and that were used in building.

**Transport Cooperative Societies:** Transport cooperative societies cater for the transit problems of their members as well as the external transportation of their goods. Sometimes, they carry out some activities for non-members for a price.

**Input Service Cooperatives:** These societies exist to supply its members with seasoned inputs at reasonable costs. It is mostly operated on agro business line.

**Cooperative Thrift and Loan Societies:** The Roman Catholic teachers in Abeokuta started the first cooperative thrift and loan society in 1940. This type of society was designed for salary earners and primarily to take care of their old age and retirement. Members make regular thrift savings during the period they are under employment and an individual could also make other savings for special purpose if he wishes. Such savings could be children’s school fees, vacation, leave, etc.

### Financial Profitability and Performance

For a cooperative, measuring business success is more complicated than for an investor-owned business. For the latter, the objective is to maximize profit or rate of return on equity. For cooperatives, the objective simply may be to give members a better price or service. Three measures are used to determine profitability and performance:

1. Gross sales or other measure of the size of the business, e.g. gross revenues, such as billings, loans, premiums;
2. Gross expenses (the difference between sales and expenses is calculated as a measure of profit); and
3. Total administrative/operating cost (calculated as a percent of sales and as change over time.) For each of these measures, the data are collected for the past 10 years or the life of the cooperative, whichever is longer, in order to examine change over time. Inflation must also be taken into consideration. Accounting for inflation leaves an approximation of real change over time.
These data measure the size of the business. The resulting figure can be stated per member to see if the business is significant to the member. The data collected over time helps determine whether the cooperative is growing.

**The Concept of the Gross Margin**

Gross margin is the difference between revenue and cost before accounting for certain other costs. Generally, it is calculated as the selling price of an item, less the cost of goods sold (production or acquisition costs, essentially) (Wikipedia 2014).

Gross margin ratio is the ratio of gross profit of a business to its revenue. It is a profitability ratio measuring what proportion of revenue is converted into gross profit (i.e. revenue less cost of goods sold). Gross profit and revenue figures are obtained from the income statement of a business. Alternatively, gross profit can be calculated by subtracting cost of goods sold from revenue. Gross margin ratio measures profitability. Higher values indicate that more cents are earned per dollar of revenue which is favorable because more profit will be available to cover non-production costs. But gross margin ratio analysis may mean different things for different kinds of businesses. For example, in case of a large manufacturer, gross margin measures the efficiency of production process. For small retailers it gives an impression of pricing strategy of the business. In this case higher gross margin ratio means that the retailer charges higher markup on goods sold.

**Empirical Review of the Study**

A number of studies has been carried out on the financial performance of cooperatives in Nigeria and elsewhere. However, none of them links the type and age profiles of cooperatives as possible determinants of performance.

Pritchett and Hine (2007) studies the financial performance of local cooperatives over a 10-year period in USA. Cooperatives are ranked and categorized by profitability, and the differences between categories are discussed. They discover that source of differences between the highest rated cooperatives and the lowest most often comes from efficient use of assets and control of costs rather than size of the business or access to less expensive financing.

Kassali, Adejobi and Okparaacha (2013) examined the financial performance of agricultural cooperative societies in Ibadan Metropolis, Oyo State as a way of ensuring impact on members and the communities of location. Primary data were collected from thirty (30) cooperatives through interview of principal officers using well-structured questionnaire while secondary data were from the cooperatives annual reports. The analytical techniques used include descriptive statistics applied to financial aggregates and ratios and regression analysis. The financial aggregates analyzed include current assets, current liabilities, cash and account receivable, and owners’
equity. The financial ratios were current ratio, acid test, equity to assets, debt to equity, debt to assets and current debt to equity. Cooperative’s structural and financial elements were hypothesized as determinants of cooperative financial performance. Results show that all variables except cooperative size had significant effect on financial performance. But years of operation, and number of loans beneficiaries only had negative effect on performance. The study concluded on appropriate measures needed to improve cooperative financial performance.

Onugu and Abdulahi (2013) appraise the performance of agricultural cooperative in the National food security programme. The study was carried out in Aniri Local Government Area of Enugu State. The specific objectives of the study are to ascertain the socio-economic characteristics of farmers; identify the services available to farmers in the NPFS; determine the extent agricultural services are accessible in the NPFS, appraise the effect of using agricultural cooperative societies in the implementation of NPFS as well as examine the challenges. Data were obtained from both the ADP staff and cooperative farmers using a structured questionnaire. Simple percentage and statistical package for social sciences (SPSS version 17) was employed in analyzing the data and correlation analysis was used to pair the two variables (farmers and extension workers) and t-test was used to test the hypothesis. The study revealed that agricultural cooperative societies are effective means of accessing agricultural services under NPFS.

Oduyo, Sdebola, and Binuyo (2013) evaluates the activities of the Ogun State Cooperative Federation Limited, in her bid to stem the failure of her constituent cooperative societies and by extension the survival of cooperative-financed small and medium scale enterprises in Ogun State, Nigeria between 2005 and 2010. Data were obtained from 108 respondents, who are owners of small businesses in the State; and analysed using inferential and descriptive statistics such as simple percentages, rating indices and the Students t distribution. The study revealed that the performance of the Ogun State Cooperative Federation Limited (OGSCOFED) did not significantly stem the cases of business failure among its constituent cooperative societies in Ogun State, Nigeria between 2005 and 2010.

Ifenkwe (2007) compares the performance of three categories of cooperatives, namely, farming, trading and agro-industrial. A multi stage stratified sampling technique was adopted in selecting twenty-five (25) cooperatives and one hundred and fifty (150) cooperators studied. Data were collected with standardized tests and personality inventories. Performance indicators investigated were the level of efficiency (interpersonal relationship, group cohesiveness) and effectiveness (members’ leadership behaviour and group task orientation). Although the three groups
investigated had above – average performance, agro-industrial groups emerged best in overall efficiency and effectiveness, followed by farming and trading groups.

Theoretical Framework

The present study is anchored on the collective action theory. Marshall (1988) defined collective action as an action taken by a group (either directly or on its behalf through an organization) in pursuit of members’ perceived shared interests. Members can contribute in various ways to achieve the shared goal: money, labour or in-kind contributions (food, wood).

The action can take place directly by members of a group, or on their behalf by a representative or even employee. The coordination can take place through a formal organization, through an informal organization, or, in some cases, through spontaneous action. Thus, an organization may contribute to collective action, but the two concepts are not the same. In the context of natural resource management, the collective action of deciding on and observing rules for use or non-use of a resource can take place through common property regimes or by coordinating activities across individual farms. Three major tenets of collection action are that (1) It requires the involvement of a group of people; (2) it requires a shared interest within the group; and (3) it involves some kind of common action which works in pursuit of that shared interest.

The nature of cooperative society is easily explained by the social action theory. Cooperatives are made up of individual who through a combination of resources are able to confront and overcome several socio-economic challenges confronting them. Putnam’s (1995) three components of social action as explained above appears to be the essential values on which cooperative societies thrive on and which to a large extent determine their success.

Clearly, the social action theory is relevant to this study since it enhances our understanding of the cooperative as a self-help organization that depends on member contribution, commitment and participation for its success.

Methods

The survey research method was employed in carrying out this research since the study is limited to all the cooperative societies in Awka North Local Government Area. A sample of respondents was drawn from thirty-five (35) registered cooperative societies. A total of thirty-five (35) questionnaires were administered to societies to be filled by secretaries/competent officials of the societies.

The data collected from the above sources will be analysed using simple descriptive statistics such as averages, percentages and frequency counts. Also tabular analysis was extensively employed to present data and make comparisons of data.
To test hypothesis one, the Pearson correlation analysis (Pearson product-moment correlation coefficient) was applied. The Pearson product-moment correlation coefficient (r) assesses the degree that quantitative variables are linearly related in a sample. In this case, type and age profiles of cooperatives

In order to test the hypothesis and/or to ascertain the effect of type and age on the financial performance of cooperative, as captured by the net-margin, a regression models was estimated. The estimation technique involved the classical linear regression technique using the ordinary least square (OLS) approach. The implicit specification of the model as shown below:

\[ GM = f(TYP, AGE) \]  
Where GM = Gross margin in 2013 in %.

\[ TYP = \text{Cooperative type: agricultural production cooperative 1, otherwise 0}. \]

\[ AGE = \text{Age of cooperative in 2013 in years}. \]

The model is further explicitly specified as follows:

\[ GM = \alpha + \beta_1 TYP + \beta_2 AGE + \varepsilon \]  
(2)

The \( \alpha \) and the \( \beta \)s are the parameters to be estimated and the \( \varepsilon \) is error term designed to capture the effects of unspecified variables in the models.

The regression analysis was run using SPSS package so as to determine the order of importance of the explanatory variables in explaining the variations observed in the three dependent variables. The t-test was performed to test the significance of each of the explanatory variables at the alpha levels of 5%.

**Results and Discussion of findings**

**Types/Classification of the Societies**

Information from the returned questionnaires and presented in table 1, indicate that our respondents were drawn from four different types of cooperatives in the area.

**Table 1: Classification of Cooperative Societies**

<table>
<thead>
<tr>
<th>S/N</th>
<th>Type of Society</th>
<th>Number</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Farmers Multipurpose Cooperative (FMCS)</td>
<td>21</td>
<td>60.00</td>
</tr>
<tr>
<td>2.</td>
<td>Multipurpose Cooperatives (MCS)</td>
<td>10</td>
<td>28.58</td>
</tr>
<tr>
<td>3.</td>
<td>Industrial Cooperative</td>
<td>2</td>
<td>5.71</td>
</tr>
<tr>
<td>4.</td>
<td>Cooperative Thrift and Credit Societies (CTCS)</td>
<td>2</td>
<td>5.71</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>35</td>
<td>100.00</td>
</tr>
</tbody>
</table>

Source: Survey 2014.
From the table above, it can be seen that the cooperative societies in Awka North LGA Local Government Area are classified under four categories. Farmer Multipurpose Cooperatives were 21 in number constituting 60% of the total number of societies. There were also 10 Multi-purpose cooperatives constituting almost 28% of the total. The rest were industrial cooperative 2 or 5.7% and Thrift and credit cooperatives, 2 or 5.7% of the total.

**Types/Classification of the Societies**

The age profiles of the societies are presented in table 2 below.

**Table 2: Age Profile of the Societies**

<table>
<thead>
<tr>
<th>S/N</th>
<th>Type of Society</th>
<th>1-5</th>
<th>6-10</th>
<th>11-15</th>
<th>16-20</th>
<th>20-</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Farmers Multipurpose Cooperative (FMCS)</td>
<td>3</td>
<td>2</td>
<td>9</td>
<td>3</td>
<td>4</td>
<td>21</td>
</tr>
<tr>
<td>2.</td>
<td>Multipurpose Cooperatives (MCS)</td>
<td>6</td>
<td>-</td>
<td>4</td>
<td>-</td>
<td>-</td>
<td>10</td>
</tr>
<tr>
<td>3.</td>
<td>Industrial Cooperative</td>
<td>1</td>
<td>-</td>
<td>1</td>
<td>-</td>
<td>-</td>
<td>2</td>
</tr>
<tr>
<td>4.</td>
<td>Thrift &amp; Credit Cooperative</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>1</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td>10</td>
<td>2</td>
<td>14</td>
<td>4</td>
<td>5</td>
<td>35</td>
</tr>
</tbody>
</table>

Source: Survey 2014

The table above shows that a total of 35 cooperative societies existed in the local government area. Out of this, 10 were between the age range of 1-5 years, 2 were between 6-10 years and 14 between 11-15 years old. Four (4) were also between 16-20 years and finally 5 cooperatives were 20 years and above. FMCS, which constitute the core agricultural cooperatives appear to have the oldest societies with 4 being more than 20 years old; 3 between 16 and 20 years old and 9, 11-16 years old. One CTCS was aged over 20 years. The MCS are also relatively old with 4 societies being 11 to 16 years old. There was also one industrial cooperative that was aged between 11 to 16 years.

**Analysis of Amount of Business Operations**

**Financial Performance of Cooperatives**

Financial performance of cooperative was assessed in terms of net margin on business operations in 2013. The outcome of the necessary profitability analysis is presented in table 3 below.

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Table 3: Profitability Analysis of Cooperative Societies’ Business Operations

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Sum</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Revenue (N)</td>
<td>35</td>
<td>9950000.00</td>
<td>284285.7143</td>
<td>214397.72983</td>
</tr>
<tr>
<td>Fixed Cost</td>
<td>35</td>
<td>2758000.00</td>
<td>78800.0000</td>
<td>53996.62299</td>
</tr>
<tr>
<td>Gross Profit (N)</td>
<td>35</td>
<td>6460000.00</td>
<td>184571.4286</td>
<td>142030.29621</td>
</tr>
<tr>
<td>Gross Margin (%)</td>
<td>35</td>
<td>2245.91</td>
<td>64.1688</td>
<td>10.00416</td>
</tr>
<tr>
<td>Variable Cost (N)</td>
<td>35</td>
<td>3490000.00</td>
<td>99714.2857</td>
<td>77440.13681</td>
</tr>
<tr>
<td>Net Profit (N)</td>
<td>35</td>
<td>3702000.00</td>
<td>105771.4286</td>
<td>112698.99674</td>
</tr>
<tr>
<td>Net Margin (%)</td>
<td>35</td>
<td>1186.54</td>
<td>33.9013</td>
<td>14.93324</td>
</tr>
<tr>
<td>Valid N (listwise)</td>
<td>35</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Source: Own calculation*

The gross margin ratio is an indicator of a firm’s financial health. It tells investors how much gross profit every Naira of revenue a firm is earning. Compared with industry average, a lower margin could indicate a firm is under-pricing. A higher gross margin indicates that an organization can make a reasonable profit on sales, as long as it keeps overhead costs in control. Investors tend to pay more for a company with higher gross profit.

From our profitability analysis table, the gross profit margin is 64.17. A gross margin of approximately 64% indicates that the business of the cooperatives in the area was very healthy.

**Test of Hypothesis One**

H₀: There is no significant difference between type and age profiles across the various cooperatives.

H₁: There is significant difference between type and age profiles across the various cooperatives.

To test the above hypothesis that says that there is no significant difference between type and age profiles across the various cooperatives. The result of this analysis is presented below.
Table 4: Correlation Table for Test of Hypothesis Two

<table>
<thead>
<tr>
<th></th>
<th>TYPE</th>
<th>AGE</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pearson Correlation</td>
<td>1</td>
</tr>
<tr>
<td>TYPE</td>
<td>Sig. (2-tailed)</td>
<td>.038</td>
</tr>
<tr>
<td>N</td>
<td>35</td>
<td>35</td>
</tr>
<tr>
<td>AGE</td>
<td>Pearson Correlation</td>
<td>0.352*</td>
</tr>
<tr>
<td>N</td>
<td>35</td>
<td>35</td>
</tr>
</tbody>
</table>

*. Correlation is significant at the 0.05 level (2-tailed).

Decision

The correlation estimates in the table above shows that the Pearson correlation of 0.352 was significant at 0.05 levels. Thus, the null hypothesis is rejected and the alternative is accepted, hence the conclusion that there is indeed a significant relationship between cooperative type and age profiles. This, of course, equally affirms the fact that historically, FMCS has been the cooperative of choice here, largely because of the agrarian and rural nature of the economy of the area. The import of this finding lies in the fact that because it is negative, it suggests that the FMCS which is clearly the majority cooperative type are also the oldest.

Test of Hypothesis Two

H₀: Gross margin is not significantly influenced by cooperative type and ages profiles.

H₁: Gross margin is significantly influenced by cooperative type and ages profiles.

To test the above hypothesis that says gross margin is not significantly influenced by cooperative type and age profiles, a multiple regression analysis was undertaken as specified in the table below.
Table 5: Regression Estimates (determinants of Gross Margin).

<table>
<thead>
<tr>
<th>Model</th>
<th>Coefficient Estimates</th>
<th>T-Value</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>(CONSTANT)</td>
<td>2.183</td>
<td>13.526</td>
<td>0.000</td>
</tr>
<tr>
<td>AGE</td>
<td>0.026</td>
<td>2.267</td>
<td>0.030</td>
</tr>
<tr>
<td>TYP</td>
<td>-1.560</td>
<td>-9.463</td>
<td>0.000</td>
</tr>
</tbody>
</table>


\[
R^2 \quad \text{0.740}
\]

\[
Adj \ R^2 \quad \text{0.723}
\]

\[
F \quad \text{45.420 (Sig. @ 0.001)}
\]

**Dependent Variable: Gross Margin**

The estimates of $R^2$ and Adj. $R^2$ suggest that two the variables in the model collectively accounted for over 72% of the variations in net margins as reported by the various cooperatives (see table 5 above). F ratio was significant at 1% level. Both variables are significant at 5% and 1% levels respectively. Age has a positive sign thereby suggesting that the older societies recorded a better performance. Cooperative type has a negative sign and this suggests that the core agricultural cooperatives, the FMCS might have been outperformed by the other types of cooperatives (including MCS and CTCS) in profitability.

**Decision**

The regression analysis shows that the F ratio which measures the strength of the independent variables in explaining variations in the dependent variable was 45.42 which is significant at 0.00 levels. Thus, hypothesis two is rejected and we conclude that cooperative types and age have significant influence on cooperative financial performance as was measured by net margin.

**Conclusions and Recommendations**

Cooperatives Societies in Nigeria like their counterparts all over the world are formed to meet people’s mutual needs. Through cooperatives, farmers could pool their limited resources together to improve agricultural output and this will enhance socio-economic activities in the rural areas. Cooperatives are specially seen as significant tools for the creation of jobs and for the mobilization of resources for income. But cooperatives may not be able to serve its members or to be able to expand its service unless they are viable. Viability can only be achieved only when cooperative products and services attract profits. It is a statement of fact and supported by conventional
wisdom that businesses can only be sustainable if they make adequate returns on investments.

Findings from this study has shown that cooperatives in Awka North LGA, especially the FMCS are viable as was inferred from the gross margin estimates and other indices of profitability. It was equally revealed age and type of cooperative are important influences on the profit performance of cooperatives. It is then the contention of this study that through this profit performance, cooperatives in Awka North has shown that cooperative businesses can do more if given appropriate support.

Based on the findings of this study, the following recommendations are hereby made:

(1) The government through the Divisional Cooperative Council (DCC) should organise workshops and symposia from time to time in various communities on the benefits of agricultural cooperative membership as a way of getting more people into the membership of FMCS.

(2) Since, the cooperatives in the area has shown that their societies are profitable which is an important indicator of sustainability, the government can help them to improve on this by offering further assistance by way of farm inputs supply and access to credit.

(3) Another important area the government could assist the cooperative could be in the area of management training, including keeping of adequate and proper accounts. This way, it will be seen that their profit performance as seen above was not imaginary but real with a prospect of being sustained.

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