

EFFECT OF DEMOCRATIC CONTROL AND OWNERSHIP DIMENSIONS ON PERFORMANCE OF AGRICULTURAL COOPERATIVES IN RURAL NIGERIA

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ABSTRACT

This study investigates the effect of cooperative structure on its performance in the rural sector. It focuses on democratic control and ownership structure of Agricultural cooperatives which dominates the rural areas. Primary data collected through structured survey instrument were obtained through multi-stage sampling procedure. The data were fitted to multi-linear regression model after descriptive and Pearson correlation analysis. The regression results suggests that one-member, one-vote principle is not related to performance of agricultural cooperative societies in the rural area. The extent to which control right is tied to members' capital contribution has positive and significant effect on performance of cooperatives in the rural areas. The individual economic strength of cooperative members also exerts positive and significant effect on cooperative performance at 5% level. The cooperative members' economic strength could provide opportunity for investments to generate more surpluses for the members. Thus, membership dimension in cooperatives could be a requisite for positive outcome of cooperative enterprise most especially in the rural areas.

Keywords: *Agricultural Cooperatives; Cooperative Principle; Rural Development; Performance*

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INTRODUCTION

In spite of the relevance of cooperative groups to the development agenda for rural communities, its traditional structure is considered too limiting to achieving broad based performance (Mikami, 2018). Historically, cooperatives have exclusively existed on member-ownership of equity which occurs in the form of direct investment and refund of retained patronage which is proportional to capital retained by members on per-unit basis (Kryiakopoulos, Meulenberg and Nilsson, 2004). Traditionally, rural based cooperatives are set up to assist member-patrons raise profits accruable from farm and non-farm businesses. Consequently, cooperatives hold the outlook of an enterprise that exists based on 'user-owned, user controlled' structure. By implication, business and non-business activities of cooperatives are co-owned and co-managed by all members under democratic platform. Furthermore, resulting benefits from transactions that largely occurs among the members or occasionally outside the 'within-structure' of the cooperatives are also distributed equitably among the members based on the patronage (Ortmann and King, 2007). In simplified form, a cooperative member whose contribution is 3% of the total volume of business will be entitled to only 3% of the net earnings from the chain of business activities carried out by the cooperative group. Thus, cooperatives work by pulling together financial strength of individual members as well as their commitment to achieve broad economic, social and cultural advantages.

Primarily, cooperatives are associations of members with specific interest in promotion of member-patrons through provision of best possible services at minimum price (cost). Although surpluses in cooperative system are distributed in proportion to transactions of members, shares in the system are held exclusively by members and are not transferable unlike investors owned firms. These descriptions of cooperatives are summarized by International Cooperative Association (ICA) as "an autonomous association of persons united voluntarily to meet their common economic, social and cultural needs and aspirations through a jointly owned and democratically-controlled enterprise" (ICA, 2005). Similar to other business organizations, cooperatives will only be more related to its principles in the presence of improved performance. Farmers, who constitute the most of the rural populace, are instinctively inclined to cooperative formation due to expectation of greater returns; reduce cost of operations and shortages, farm operational support and better livelihoods. Consequently, understanding between the structure of cooperatives and the performance outcome is crucial. If the existing structure of cooperatives in all its forms drives performance, it will be of greater policy benefit to stakeholders who are interested in development agenda from 'bottom to up'. Otherwise, policy recommendations on cooperatives and their attendant benefit may need to be reviewed. Kassali, Adejobi and Okparaocha (2013) listed some of the basis for cooperatives to include common interest in business activities, aspirations and objectives of individuals, benefit in social interaction and good performance outcome.

In relation to the growing business competition in the capitalists' world, the performance of cooperative organization could to a larger extent, depends on the nature of structure being operated. Thus, an understanding of cooperative structure is crucial to establishing whether in the presence of increasing 'investor owned' firms, cooperatives can allocate or distribute resources provided by members at an optimal level while providing needed stability to address the social needs of patrons. Parts of the important aspect of cooperative structure are the extent of democratic control and ownership dimensions. An important argument justifying the importance of democratic control in cooperative structure is that any deviance from one member-one vote (democratic principle) is linked to variation in patronage of the cooperative rather than the differences in members' capital investment. Consequently, the relevance of voting principle adopted by cooperative group to exert democratic control, the extent of the control right exerted by members, openness of membership and individual economic strength are important in examining the performance of cooperatives, particularly capital accumulation capacity of cooperative association.

The objective of this paper is to analyse the effect of cooperative structure on the performance of Agricultural cooperatives in the rural areas. This is expected to provide policy makers in the areas of cooperatives, rural development, and agriculture development with adequate insights into the issues of cooperatives structure and its attendant effect. Rural communities located in the less developed countries like Nigeria has been considered due to pervading economic disadvantage among her rural populace. The next section provides literature review on cooperatives, its structure and the existing link with performance. In the third section, methodological approach employed is presented. The fourth section presents the results of the analysis of data. The last section contains discussion and conclusions based on the findings.

LITERATURE REVIEW

Earlier literature on cooperatives considered three defining principles of cooperative structure to be "user-owner, user-control and user-benefit" (Cook, 1995). The central point of these principles is that cooperatives are user-based. Iliopoulos and Cook, (1999) opined that the benefit of this structure is to internalize important transactions thereby avoiding hold-up. This benefit could however be overshadowed by a number of problems specifically the horizon problem which arise due to the structure that is defined on the rights to residual claims by members which could indeed be shorter than productive life generated by the assets in the cooperative environment. Most studies considered the cooperative structure to be more of issues surrounding ownership and contribution to cooperative equity and its allocation among users-patrons.

Cooperative structure based on "user-owner" is conceptualized to mean that individuals who join cooperatives finance it while expecting return to ownership share (Zeuli and Radel, 2005).

Intuitively, cooperative membership becomes active with financial commitment of members. Hence, the principle of joint ownership in cooperatives is derived from the joint investment of equities by members. This does not imply that cooperatives may not obtain equity from non-members, rather, such equities from outside attract limited returns on investment as well as absence of voting rights on cooperative decisions. The cooperative structure based on 'user-control' suggests the governance of cooperative is vested in the hands of members (Zeuli and Cropp, 2004). The principles governing a particular cooperative (bye-laws) are approved and amended by the members who also have the exclusive rights and privileges to determine the executives, and enterprise decision. The cooperative structure built on 'user-benefit' also called patronage refund refers to the distribution of cooperatives annual net profits to all members in proportion to individual's patronage.

Redemption of ownership equity also attracts scholars' attention (Cobia & Brewer, 1989). The cooperative equity allocation is based on the assumption that cooperatives do have 'fund reserves' that typically came from retained funds from cooperatives member-patrons. Traditionally, redemption of equity emanates from cooperatives' members benefit from the nominal value of member's certificate in case of discontinued participation (Kryiakopoulos et al., 2004). Conventionally, cooperative equities are individualized implying that members are positioned to embrace profit or loss arising from change in the equity of the cooperative firms. These are expected to occur in a number of ways including regular remittance of equity to member on a pre-agreed schedule or through opportunity for members to directly trade their gains through shares. Another possible option is consideration of patronage refunds at the end of every financial year, mostly through price adjustment process.

In cooperatives, the principle of control stipulates that members are empowered to direct all its activities and that such control is not tied to capital contribution by members. This implies that cooperative control is vested in the hand of all members irrespective of the share contribution of participating members. However, the control is expected to be democratic on the premise of 'one-member, one vote' in line with Rochdale principle (Adegeye and Dittoh, 1985). This principle suggests that traditionally, cooperatives societies are expected to be based on service at cost and not profit driven in contrast to investment owned firms. Issues of voting concern have generally been centered on admittance of new members, approval of reports, new business acquisition and durations of patronage refunds. However, the principle of control in cooperatives does not imply that savings made by members are non-proportional to their share contributions.

The ownership structure of cooperatives relative to other organizations is defined according to the way residual returns are assigned, separation between ownership and other functions, rights of control, residual claims and possibility to transfer and also redeem residual claims (Fabio, Chaddad and Cook, 2003). For traditional cooperatives, returns are primarily assigned to member-patrons, which in other cases are meant for customers, proprietor or even investors. Like most other organizational structure except in corporations, ownership is not separated

from other functions. The rights to control are non-proportional to investment in traditional cooperatives while it is proportional to shareholdings in corporation, and possess completely by proprietor in proprietorship. The scope of residual claims is along as the patron in cooperatives, unlimited in corporation and as long as the life span in proprietorship. Residual claims could also not be transferred but could be redeemed in cooperative subject to cooperative board discretion. The structural difference in cooperatives relative to other forms of cooperation makes it not amenable to governance and broad investment (Vitaliano, 1983; Staaz, 1987; Cook, 1995).

Interestingly, Fabio, Chaddad and Cook (2003) argue for new perspectives on cooperative structure based on the emergence of non-traditional cooperatives. The concept of ownership according to them is centralized on residual returns and the residual rights of control. Grossman and Hart (1986) contend that ownership of asset rests on residual rights because contracts and transactions are characteristically incomplete due to gross impracticality of shaping, implementing and enforcing a total contract. Thus, the theory of incomplete contract of economic firms, ownership is defined by investment incentives-*ex ante*. This perspective put up an assumption that traditional cooperatives are constrained by investment and governance issues (Vitaliano, 1983; Staaz, 1987; Cook, 1995). Provision for extended cooperative structure is indicated in cooperative principles outlined by ICA (2005). These principles are voluntary and open membership; cooperative autonomy; democratic member control; member economic participation; education, training and information; cooperation among cooperatives; and concern for community development.

Studies on performance of cooperatives are spread between absolute and relative indicators. Measures such as earning capacity has been used as a proxy for cooperative performance has been considered to be absolute while profit, growth and target rate have considered relative in performance terms (Ganesan, 1994). But, cooperative performance could be context specific since there are variations in the cooperative pattern and forms such as producer cooperatives, marketing cooperatives, consumer cooperatives, credit and thrift and multipurpose cooperatives. Performance measures are likely to be varied along the types of cooperatives being measured; hence, study like Kryiakopoulos et al., (2004) used multidimensional constructs of performance. Since the ownership dimensions and democratic control are currently viewed in terms of capital investment of members, performance in this study is measured in terms of capital accumulation capacity of cooperatives. Although, achieving performance objective in an organization has been linked to share and transfer of resources through cooperative (Hill, Hitt and Hoskinsson, 1992). The path to firm performance in a cooperative set up as noted by Contractor, Lorange and Ghauri, (2002) is contingent upon social exchange benefit inherent among cooperative members and its behavioural structure.

Evidence from extant empirical studies on cooperative structure and performance is limited and inconclusive. Most of the existing studies tend towards mixed effect of structure on cooperative performance while focusing largely on non-rural based cooperative systems with

enlarged system. Kyriakopoulos et al. (2004) found negative effect of “proportional voting” on performance and a positive effect of individualized ownership. Earlier studies such as Staaz, (1984) and Hakelius (1996) found cooperative rule of one member one vote is not suitable for large cooperative farms due to diversity of size and values. Nilsson (2001) also contends that cooperatives could be risk averse thereby limiting their business opportunities. Kassali et al., (2013) examined the financial performance of agricultural cooperatives in urban centres while focusing on financial ratios. But the study did not take advantage of the series nature of the ratio data thereby producing results that are limited in policy scope.

METHODOLOGY

Quantitative research design was adopted for the study. We selected cooperative societies in rural communities in Osun State, Nigeria. Our sample of cooperatives firms were drawn from the list of registered Agricultural cooperatives organizations in the three agricultural zones in the study area; Iwo, Ife-Ijesa and Osogbo zones. Using multi-stage sampling procedure, we selected cooperative groups from three Local Government Areas (LGAs) in each of the three zones and four rural communities from each LGA. At the last sampling stage, 30 members from each cooperative group were randomly sampled. The random selection of 30 members is chosen to reflect distribution of cooperative members in the rural areas. In addition, an average population of 60 members is observed in each of the cooperative group in the area. Thus, the selection of 30 members represents 50% of the average population of cooperative members in the study area. Thus, a total of 360 cooperatives members constituted our sample. Due to the agrarian nature of the rural communities, nearly all grown adults are members of cooperative group. The democratic nature of the existing cooperatives make it possible to randomly select members for data collection as information on all areas of cooperative activities are not hidden with existing freedom of expression on cooperative matters. This approach removes the possibility of response bias. The sample cooperatives typified farmers’ producer cooperatives with primary responsibility of capital accumulation to solve production challenges faced by members.

Primary data were collected using structured questionnaire. The data covered information on cooperative arrangement with members, cooperative structure in practice, general characteristics of cooperatives firms in the rural communities and cooperatives firm performance indices. Multi-item scale measurement was used to measure performance following Deshpande et al. (1993). The performance scale was modelled on a 5-point Likert scale and combines capital accumulation capacity of the cooperative groups in the sampled rural communities and access to productive inputs to ease production challenges by farmers.

Cooperative structure is operationalized on three basic dimensions; control, ownership, and cost and pricing policy following Kyriakopoulos et al. (2004). The variables of democratic structure are captioned using binary and continuous measures. Measures of control were captioned on

binary scale and highlights the voting right of members and the link between control and capital contributions by members. Measurement of ownership was also tied to a number of questions. Also, the volume of cost allocation and the quality of pricing policy were used to proxy cost structure of the sampled rural cooperatives. The data collected are analyzed using descriptive statistics –means, standard deviation and correlation measure. Multi-linear regression was used to model the effect of the independent variables on the performance of cooperatives. The data analysis was carried out with the aid of STATA 13.0. The empirical model is specified as:

$$Y = \beta_0 + \beta_1x + \beta_2w + \beta_2z + \varepsilon_1 \quad (1)$$

where Y = performance, $x = x$ = control, w = ownership and z = cost, $\varepsilon = \text{error term}$
 $\varepsilon = \text{error term}$, β_0 – β_4 = parameters to be estimated. The variable description, its measurement and expected sign are presented in Table 1. *A priori*, it is expected that democratic structure of cooperatives should enhance its performance outcome; hence, positive sign is assigned. Possibility for members to have right of one-member, one-vote is expected to boost commitment to cooperative enterprise. The extent to which the control right of members is tied to their capital accumulation could hypothetically return either negative or positive performance outcome. Other included independent variables are described and presented in Table 1.

Table 1: Description, Measurement and a Priori Expectation of the Study Variables

VARIABLE	DESCRIPTION	MEASUREMENT	EXPECTED SIGN
Dependent variable			
Performance	Capital accumulation capacity of coop	Likert 5-point scale	-
Independent variables			
A. Democratic Control Structure			
1. Voting principle	Is it based on one member, one vote?	Binary (Yes = 1, No = 2)	+
2. Control right	Extent of control right based on capital contribution	Likert 5-point scale	+/-
B. Ownership Dimension			
3. Coop membership	Openness of membership	Binary (Yes = 1, No = 2)	+
4. Individual economic strength	Role of economic strength in membership aspirations	Binary (Yes = 1, No = 2)	+
5. Extent in member aspiration	Extent of item 4 above	Likert 5-point scale	+/-
6. Types of Coop	Types of cooperatives	Continuous	+

RESULTS AND DISCUSSION

Descriptive analysis of data

The descriptive analysis of the data is presented in Table 2. The data on the control structure of the cooperatives show that voting principle of the sampled cooperative group is based on one member, one vote principle. The results further suggest that the control right of members is tied to members' capital contribution to a large extent (2.09). The statistics on ownership dimension indicate that the cooperative membership is not open to all aspiring members (1.66). But, financial strength of individuals plays a role in aspirations of members (1.20) to a large extent (2.20). All the values of the standard deviation are also appropriately relative to the mean values of the variables. The correlation between the independent variables was also examined to detect the existence of multicollinearity (Table 3).

The results show absence of high correlation among the variables. For example, the highest coefficient of correlation was between extent of control right among members and extent of members' aspirations and the value stood at 0.427. Furthermore, variance inflation factors (VIF) was conducted to ascertain the existence of collinearity prior to regression analysis. Also, the VIF results show values that range between 1.02 and 1.32 with a mean VIF value of 1.15 (collinearity exists if VIF equals or greater than 10) to suggest that collinearity do not exist among the independent variables (Table 3).

Table 2: Descriptive Statistics and Correlation Matrix of the Study Variables

Variables	Mean	Std. Dev.	1	2	3	4	5	6
Control structure								
1. Voting principle	1.426	0.495	1					
2. Extent of control right	2.092	0.866	-0.026	1				
Ownership dimension								
3. Coop membership	1.66	0.474	0.004	-0.187	1			
4. Individual strength	1.20	0.401	-0.118	0.122	-0.194	1		
5. Extent in member aspiration	2.029	1.008	-0.041	0.427	0.040	0.022	1.000	
6. Types of Coop	2.077	0.906	-0.009	0.164	0.105	-0.135	0.215	1

Source: Data Analysis, 2018

Table 3: Results of Multicollinearity Analysis

Variables	VIF	1/VIF
1.Voting principle	1.32	0.759
2. Extent of control right	1.27	0.786
3.Coop membership	1.10	0.908
4.Individual strength	1.09	0.915
5.Extent in member aspiration	1.08	0.922
6.Types of Coop	1.02	0.984
Mean VIF	1.15	

Source: Data Analysis, 2018

Estimated effects of cooperative structure on performance

The results of the regression analysis are shown in Table 4. The diagnostics criterion, such as F value is significant at conventional level (5%). The R-square was however found to be low at 0.19. This indicates existence of other measures of cooperative structure aside democratic governance and ownership dimensions. The voting principle of the cooperative was negative and not significant to affect the performance of rural based enterprises. This suggests that one member-one vote principle is not related to performance of cooperative based organizations. The extent of control right is positive and significant ($\beta = 0.382$, $t = 5.01$). The positive sign indicates direct relationship between extent of control right and performance. The result suggests that the extent to which capital contribution drives control rights of members determines whether performance of cooperative firms will rise.

Openness of membership in cooperative organizations has no significant relation to performance. This suggests that performance drive is distinct from aspirations of membership in cooperative settings. However, individual economic strength was positive and significant ($\beta = 0.415$, $t = 2.54$) at 5% level. The results strongly indicate that one of the most important traits in being a member of cooperative with higher performance drive is members' economic strength. The extent to which a member can put up strong economic potential is also found to be a positive and significant ($\beta = 0.176$, $t = 2.14$) factor in cooperative performance in the rural areas. The parameter estimate of the type of cooperatives in operation also exerts a positive and significant effect on performance of cooperatives in the rural areas. ($\beta = 0.239$, $t = 3.31$).

Table 4: Estimated Effects of the Hypothesized Relationships

Variables	Coef.	Std. Err.	T	P > t
1. Voting principle	-0.112	0.129	-0.87	0.386
2. Extent of control right	0.382	0.076	5.01	0.000
3. Coop membership	-0.086	0.139	-0.61	0.541
4. Individual strength	0.415	0.164	2.54	0.012

Variables	Coef.	Std. Err.	T	P > t
5. Extent in member aspiration	0.176	0.082	2.14	0.033
6. Types of Coop	0.239	0.073	3.31	0.001
Constant	0.145	0.521	0.28	0.781

F (6, 256) = 10.22

Prob > F = 0.000

R-squared = 0.193

Adj R-squared = 0.174

Root MSE = 1.028

CONCLUSIONS

Development of most rural areas in Nigeria depends on a large extent, on the performance of its cooperatives group. A number of rural dwellers have great expectations of improved livelihood and enhanced socio-economic characteristics through cooperatives. Also, the opportunity to pool resources together, improves agricultural output and produce marketing are centre of attractions for cooperatives in the rural communities. However, the extent of cooperative performance in these areas could rest largely on its structure. But, the extent to which this has been evaluated is lacking in the extant literature. Most especially, democratic control and ownership structure of a cooperative society could have effect on the contributions of members to the success of the group. The influence of democratic control should expectedly emerge from requirement of members to be independent, participative in decision making of cooperatives. This expectation comes with the implication that members, while taking decision should be open, objective in their voting procedures resulting in 'one-member, one vote' with all its due implications. The ownership dimensions usually come with non-discriminatory attributes which is necessary for confidence boosting and commitment of members to positive outcome of cooperative activities.

The finding suggests that one member-one vote has no relationship with performance of cooperative. The results agree with Kyriakopoulos et al. (2004) indicating that cooperative organization could be fairly homogenous to neutralize the effect on its management procedure. The findings of the study clearly suggest direct effect of the extent of democratic control right of cooperative members on performance of the group. It is of importance to note that contribution of members to performance drive of their cooperatives rest upon the extent to which the members can exercise their rights. The result indicates a positive and significant (5%) effect of such extent on increased capacity of the cooperatives to provide help for the members. The findings underscore the need to avoid dictatorship in the management of cooperative organization contrary to implicit suggestions of Nunez-Nickel and Moyano-Fuentes

(2010). Furthermore, economic capacity of members in the cooperative group was found to increase performance. This is expected since economic strength of cooperatives could provide opportunity for investments in income generating activities which could imply more surpluses for the members. Thus, membership dimension in cooperatives could be a requisite for positive outcome of cooperative enterprise most especially in the rural areas.

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