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An Investigation into the Cash Balance Management Approaches in Saving and Credit Cooperative Societies (SACCOs) in Nakuru County, Kenya

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Abstract

Saving and Credit Cooperative Societies (SACCOs) are seen as vehicles for resources mobilization and gateways to economic prosperity for families especially those in lower and middle income category. These enterprises handle large sums of member funds in the form of deposits, shares ad interest. The management of SACCO funds is as such a topical issue in the cooperative movement and among policy makers. This study explored the cash management approaches in SACCOs given that cash management is considered a core ingredient for any business survival. The population consisted of 143 SACCOs in Nakuru County. A sample of 38 SACCOs was selected through stratified random sampling. The study's findings indicate that though a majority of SACCOs were conscious about the need to manage their cash balances very few had policies on cash balance management. SACCOs were found to manage cash in a haphazard manner and no one cash management model was found to be used entirely. The study concluded that there was no significant difference in the cash management approaches used by the employee based and association based SACCOs

Keywords: Cash balance, Employee based SACCO, Association-based SACCO

Introduction

Cash management is concerned with the managing of cash flows into and out of the firm, cash flows within the firm and cash balances held by the firm at a point in time, by financing deficit or investing surplus cash. There is a consensus among authors on the reasons for maintain some level of cash balances, this may be attributed to the following three motives: the transactions motive, the precautionary motive and the speculative motive. Though informed by earlier works, these motives have been documented in various classical works; see for instance Baumol (1952) and Pigou (1970).

The aim of cash balance management is to maintain adequate control over the cash position, to keep the firm sufficiently liquid and to use excess cash in profitable way. Cash balance management is important because cash constitutes the smallest portion of the total current assets, yet management's considerable time is devoted to managing it. Studies on cash balance management in Kenya have concentrated on companies especially publicly quoted

companies see and Mugera (1998) Ouma (2001). The cooperative sector has remained unexplored as far as cash balance management is concerned. According to the Cooperative Bank of Kenya Report (2008), there are 5000 registered SACCOs. The Movement has a membership of over 7 million making it the largest in Africa. It impacts directly and indirectly on 72 percent of Kenya's population. SACCOs have mobilised over Ksh.150 billion (USD 2.14 billion) in savings i.e. more than 30 percent of the National Domestic savings. Loans amount to Ksh. 120 billion (USD 1.5 billion). With this kind size and reach of SACCOs in Kenya it is very necessary to investigate the cash balance a management approaches.

In 1997, SACCOs began diversifying from their traditional Back Office Service Activity (BOSA) products to Front Office Service Activity (FOSA) products. BOSA products include: Long term loans granted for development purposes, usually for a period of 24 - 48 months and short term loans granted for school fees or emergency purposes with interest rate for both types of loans charged at 12 percent per annum on a reducing balance while FOSA products range from deposit facilities such as fixed deposit accounts, savings accounts, short/call deposit, special accounts e.g. children, holiday, medical, school fees etc to credit facilities such as advances, short term loans, emergency loans. Interest rates for these products range from 1.5 percent per month to as high as 5 percent per month. Other products offered by FOSA include: Cheque clearing facilities and banker's cheques through Cooperative Bank of Kenya, safe custody, standing orders salary processing, electronic funds transfer and automated teller machines through SACCO Link facility with Cooperative Bank of Kenya.

With the diversification in financial services offered by SACCOs, the borderline between the services offered by commercial banks became more and more blurred. It therefore became necessary over time to provide specific regulatory framework for SACCOs. The SACCO Societies Act No. 14 of 2008 whose commencement date was *26th September 2009* and the Sacco Societies (Deposit Taking Sacco Business) Regulations, 2010 whose commencement date was 18th June 2010, is the legal framework informing SACCO sector in Kenya. Before 2009, the cooperative movement in Kenya was guided by the Co-operative Act (Co-operative Societies Rule Number 12 of 1997) as amended in 2004.

The diversification also meant that the cash balance management function in SACCOs became more and more critical in the provision of efficient services. According to Microfinance House Limited (2006), the average loan waiting period in the SACCOs, is ranges between 6 and 12 months due to poor cash flow position. There is need for socially responsive and profitable SACCOs and good cash balance management approaches are necessary to enhance the performance of the SACCOs. Poor cash balance management leads to high opportunity costs of holding cash, where large amounts of funds lie idle in the firm and also cash-out costs where the firm is unable to meet its financial obligations as and when they fall due. Yet there is little knowledge of research on cash balance management in the co-operative sector.

The study explored cash balance management approaches of SACCOs, in Nakuru County of Kenya. According to the National Census Report of 2010 Nakuru County had a population of 1.6 million people in 2009. Nakuru County has 205 registered SACCOs however only 143 of the registered SACCOs are active. Of the 143 SACCOs, 117 SACCOs are employee based SACCOs while 26 are association based.

Categorization of SACCOs Based on Nature of Cash Receipts

The study categorized the SACCOs into employee based and association based depending on the pattern of cash receipts. Employee based SACCOs have certain, predictable

and controllable cash receipts. This is due to the fact that cash receipts are mainly done through a check-off system. On the other hand association based SACCOs may not be able to adequately predict the cash receipts because of the lack of a check-off system. In light of this fact the different categories of SACCOs may be best suited to apply the different models due to their unique characteristics. This study's objective was to find out the extent of use of these cash management approaches. The study hypothesized as follows: *Employee based SACCOs use significantly different cash balance management approaches compared to those used by association based SACCOs.*

Theoretical Framework

Models on cash balance management have been proposed by Baumol (1952), Archer (1956), Beranek (1963), Miller and Orr (1966), (Pogue, 1970), Lockyer (1973), and Gibbs (1976) among others. William Baumol (1952) was the first person to provide a formal model of cash management. This model applied the economic order quantity (EOQ) to cash. Brokerage fees and clerical work form order costs while foregone interest and cash out costs from the costs of holding cash. Baumol's model has the following limitations: The model assumes the firm has a constant disbursement rate. The model assumes there are no cash receipts during the projected period; No safety stock is allowed for. Baumol's model is however probably the simplest and most striped down sensible model for determining the optimal cash position (Ross, 1990). It's chief weakness is that it assumes discrete and certain cash flows.

Miller and Orr (1966) developed a cash balance model to deal with cash inflows and outflows that fluctuate randomly from day to day. In the Miller-Orr model both cash inflows and outflows are not included. The model assumes that the distribution of daily net cash fows is normally distributed. The model operates in terms of upper (H) and lower (L) control limits and a target cash balance (Z). The cash balance is allowed to wander randomly between H and L. The firm only makes a cash balance transaction when the cash balance reaches H, when the firm buys H-Z marketable securities or when the cash balance reaches L, when the firm sells Z- L marketable securities. The firm sets L depending on how much cash shortfall it is willing to bear. The cost of selling and buying marketable securities (F) are assumed to be fixed. The percentage opportunity cost per period of holding cash (K) is the daily interest rate on marketable securities. Unlike Baumol's model the number of transactions per period is a random variable that varies from period to period, depending on the pattern of cash inflows and outflows.
The implications of the Miller-Orr model is that the manager must fulfill four conditions: Set the lower limit for the cash balance; Estimate the standard deviation of daily cash flows; Determine the interest rates and Estimate the trading costs of buying and selling marketable securities.

Beranek (1963) came up with a different approach to cash management. This approach hinges upon optimal allocation of funds between cash balance and marketable securities. Beranek contends that in so far as cash flows are controllable and recur in a cyclical manner, the financial manager can predict cash needs over the planning period and invest the amount considered surplus. In his approach however Beranek does not give light of what constitutes the critical minimum balance. This approach also assumes predictable cash inflows.

Lockyer (1973) modified Baumol's model to incorporate overdraft facilities. According to Lockyer's approach the total annual cash policy cost attributable to the use of overdraft facilities is given by the sum of total annual cash transfer cost, total annual overdraft cost and the total annual holding cost. Lockyer's model is critiqued for assuming overdraft facilities, which

are not automatic especially for firms with poor credit rating. The model also assumes disbursements are even over the planning period.

Archer (1956) contends that apart from providing a cash balance for transactional purposes, a cash balance should be provided for precautionary purposes, especially for seasonal activities that are unpredictable. In Archer's approach costs related to overdraft facilities and capital costs of precautionary balances are compared to determine the optimum. Archer's approach is advantageous for it recognizes the cyclical nature of net cash flows of many firms. Gibbs (1976) argued that determination of optimal cash balance involves a combination of investment and financial decisions. In Gibbs approach, cases where demand for money is of a cyclical nature a combination of short and long term borrowing should be used to avoid the use of long term funds to cover peaks arising from idle cash balance during periods of low cash demand. Gibbs contends that the determination of buffer money to hold is seen as an investment decision. Gibbs approach emphasizes holding costs, costs of short and costs of long-term borrowing and the costs of investment in marketable securities. Despite their enormous limitation and lack of flexibility to incorporate all the information generated by financial managers, models perform effectively if they capture the critical elements in decision problems.

Application of the Models by SACCOs

For the purposes of this study the unique characteristics of these models were identified. These characteristics assisted the study in assessing the prevalence of these models in the SACCOs.

Table 1: Unique Characteristic of Cash Management Model

Model	Unique Characteristics/Variables
Baumol Model	Cash balance based on the need for transactions balance
Miler-Orr Model	Cash balance based on existence of specific amount of transfer to and from marketable securities.
Beranek Model	Cash balance based on certain cash receipts and expenditures.
Lockyer Model	Cash balance based on existence of credit facilities.
Archers Model	Cash balance based on the need for transactions and precautionary balance
Gibbs Model	Cash balance based on the risk of cash outs

MATERIALS AND METHODS

Methods

This study employed a survey as its research design. The purpose of a survey is to explore and describe observed phenomena, (Kathuri and Pals, 1993). Surveys are effective in obtaining information relating to people's thoughts feelings and opinions. Surveys are suitable where the population under study is relatively large and the phenomenon under investigation can be observed directly by the researcher, (Borg and Gall, 1983). The target area was Nakuru County. The target population consisted of the 205 SACCOs in the County, However 62 of the 205 SACCOs are dormant thus the study was based on the 143 active SACCOs.

A sample of 38 SACCOs was taken. Stratified random sampling was used to ensure proportionate representation of the two categories of SACCOs (employee and non employee based SACCOs) in the sample. Each of the 143 SACCOs formed a sampling unit. The stratification was based on; employee based SACCOs and association SACCOs. This was in order that each stratum or category formed a sampling frame. Items in each stratum were arranged alphabetically and numbered. Computer generated random number were then used to select the 38 SACCOs to be included in the sample. Given that n=38 and N=143, the sampling fraction was more than adequate. Borg and Gall, (1983) recommend a sampling fraction of at least 0.25.

Materials

The study used of both primary and secondary data. Questionnaires were used to collect data pertaining to the extent of use of the cash balance management approaches by SACCOs. Questionnaires were also used to identify factors influencing the choice of the cash balance management models, Data relating to the level of cash planning was obtained from the County Co-operative records and the Kenya Union of Saving and Credit Societies (KUSCCO) records. The items in the instruments were standardized for validity using Cronbach's Alpha procedure. The instruments were pre-tested in three SACCOs in Baringo County and two SACCOs in Nakuru County which were not included in the sample. Appropriate modifications were made on the questionnaires after pre-testing for the purpose achieving the objectives the study. Questionnaires were administered personally. Data on cash balance management approaches employed by the SACCOs was analyzed using descriptive statistics. The study hypothesis was tested using the t-test.

FINDINGS AND DISCUSSION

Specific Policy on Cash Balances

The results indicate that 70 percent of the SACCOs are conscious about the need to control cash balances and have put in place specific policies on the cash balances 21 percent of the SACCOs have however not put in place specific policies on cash balances. In comparison Ouma (2001) found out that only 67 percent of quoted companies on the NSE had specific policy on cash balance.

Specific Maximum Cash Balance Level

Only 21 percent of the SACCO specified the level above which cash balances were allowed to exceed. Ouma (2001) found that 70 percent quoted companies specified a ceiling above which cash balances are not allowed to exceed. This could be because SACCOs usually lend excess cash to members.

Specific Optimal Cash Balance Level

Only a paltry 13.2 percent of the SACCOs have a specific cash balance level they regard as optimum. This is an indication that majority of the SACCOs do not make a deliberate effort to set optimal cash balance level. The results indicate that only 5.3 percent of the SACCOs considered investment opportunities and cash cycle size in determining the optimal cash balance 2.6 percent of the SACCOs considered benefits forgone in setting their optimal cash balances. 86.8 percent of the SACCOs did not have a specific optimal cash balance. Lumbasyo (1976) and

Ouma (2001) found out that the objective of holding cash was to avoid cash outs. The findings in the co-operatives however indicate that cash cycle size and taking advantage of investment opportunities are the main objectives of holding cash.

Table 2: Pattern of Receipts and Expenditure

Pattern	Receipts	Expenditure
Certain	25.7%	75%
Uncertain	74.3%	15.9%
Continuous	-	6.1%
Seasonal		3.%

Baumol's and Beranek's models assume that receipts are predictable. As indicated in table 2, 74.3 percent of the SACCOs do not satisfy this assumption since indicated that receipts were uncertain. These could be attributable to the fact that some of the SACCOs do not have a check off system. 75.7 percent of the SACCOs said their expenditure were certain. This is attributed to the fact the funds collected must be loaned to members. Results also indicate that there was a weak negative correlation (- 0.270) between the pattern of expenditure and receipts (see table 2). This an indication that receipts and expenditures moved in relatively opposite directions.

Table 2: Correlation of Pattern of Receipts and Expenditure

		Receipts	Expenditure
Receipts	Pearson Correlation	1.000	-.270
			.128
	Sig.(2-tailed)	35	35
	N		
Receipts	Pearson Correlation	-.270	1.000
		.128	
	Sig.(2-tailed)	35	35
	N		

Investment in Marketable Securities

None of the SACCOs studied was found out to invest in marketable securities. SACCOs have instead concentrated on giving loans to members rather than investing surplus cash in marketable securities. This contradicts Baumol, Miller-Orr and Baranek models that recommend, investing surplus cash in marketable securities to avoid the opportunity costs of holding excess cash.

Buffer Money

6.7 percent of SACCOs kept some cash as buffer money that was attributed to emergency loans. 33.3 percent of the SACCOs did not keep some cash as buffer cash. 92 percent of those SACCOs that kept buffer money considered expected expenditure levels while 12 percent considered the cost of borrowing in determining the amount of buffer money.

Costs of Holding Cash

82.2 percent of the SACCOs said they considered benefits foregone as the cost associated with the holding of cash while 17.8 percent said they considered possibility of loss as the cost associated with the holding of cash. This is consistent with the study by Ouma (2001).

Costs Associated With Cash Outs

80.6 percent of the SACCOs considered borrowing costs as the costs associated with cash outs while 9.4 percent, considered the deterioration of credit rating as the costs associated with cash outs.

Overdraft Facilities

91.9 percent of the SACCOs did not have overdraft facilities while 8.1 percent of the SACCOs had overdraft facilities. This is inconsistent with the study by Ouma (2001) which found out that 89 percent of the firms quoted at the NSE had overdraft facilities and may not find it necessary to have specific cash balance levels.

Motives for Keeping Cash Balances

The results indicated that 91.9 percent of the SACCOs kept cash balances for a combination of transactional and precautionary motives. The transactional motive constituted normal loans while precautionary motive was attributed to emergencies and contingencies.

Financing of Cash Balances

97.3 percent of the SACCOs indicated that the financing of cash balances came from combination of member's deposits, shares and interest from loans while 2.7 percent said the financing came from long term loans.

Opening Balances for Each Planning Period

48.6 percent of the SACCOs said they had specific opening balances for each planning period while 50.4 percent of the SACCOs did not have any opening balances for each planning period. Among the 48.6 percent that had specific opening balance in each planning period 83.3 percent said they considered expected receipts in setting the opening balance for the each planning period.

Extent of Use of Cash Management Models

Findings indicated that none of the SACCOs satisfied the key features of the models fully This indicated that those that managed their cash balances did so not by adopting specific models but by borrowing features of a combination of models in a haphazard manner. It was found that there was no significant difference in cash management approaches between the employee based and association based SACCOs. Table 4 below shows the t-test output.

Table 4: t-test Output of the use of Cash Balance Management Approaches in Employee and Association Based SACCOs

Levene's Test for Equality of Variances			t-test for Equality of Means						
	F	Sig	t	df	Sig tailed	2-Mean Difference	Std. Error Difference	95% interval of the difference Lower	Confidence of the Upper
Equal variances assumed	**1.384**	**.253**	.789	36	**.438**	.2917	.3695	-.4577	1.0410
Equal variances not assumed			.582	8.313	.576	.2917	.5008	-.8556	1.4390

CONCLUSIONS

This study set to find out the cash management approaches used by SACCOs in Nakuru County. Based on the unique features delineated from each of the models, it was found out that SACCOs used a combination of approaches in managing cash balances. No one model was found to be used entirely. This suggests that SACCOs find it worthwhile to use a multiple of strategies order to manage their cash balances effectively. This finding was found to be consistent with Ouma, (2001) study of NSE quoted companies. The study's findings indicate that though a majority of SACCOs were conscious about the need to manage their cash balances very few had policies on cash balance management, very few SACCOs had set optimum cash balance levels. This pointed to a haphazard management of cash balances.

The study hypothesized that employee based SACCOs use significantly different cash balance management approaches compared to those used by association based SACCOs. Findings indicate that there was no significant difference in the cash management approaches used by the employee based and association based SACCOs. This conclusion is an indicator that the cash balance management approaches used by employee based and non employee based SACCOs do not differ despite the nature of uncertainty of receipts of cash in the two categories of SACCOs.

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