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ABSTRACT

This study sought to examine the influence of liquidity management on profitability of deposit taking SACCO in Kakamega County. The study focused on establishing the influence of liquidity risk practices on profitability of deposit taking SACCO in Kakamega County to determine the influence of liquidity monitoring practices on profitability of deposit taking SACCO in Kakamega County and to determine the influence of liquidity decision practices on profitability of deposit taking SACCO in Kakamega County. The study adopted descriptive survey design. The study targeted 11 (eleven) Deposit taking SACCOs in Kakamega County. These were SACCOs which were allowed to take deposits from their members in Kakamega County. Forty seven (47) respondents which comprised of accountants, risk and audit managers, finance managers, credit managers and Front Office Services Activity managers were sampled using census sampling methods. Primary data was collected using structured questionnaire. Validity was achieved through expert opinions of the supervisors while reliability was achieved through Cronbach alpha (>0.7). Quantitative data was analysed descriptively using frequencies, Mean, Standard deviation and percentage while Pearson's Product Moment Correlation Coefficient and Multiple linear regression analysis with aid of SPSS version 23 to generate inferential statistics. The data was presented in form of tables and regression models. The results revealed liquidity risk management practices, liquidity decision, and liquidity monitoring and cash management practices significant influence profitability of deposit taking SACCOs in Kakamega County. Liquidity management practices account for 66.3% significant variance in profitability (R square =.663, P=0.000). Therefore, the study concluded that liquidity management practices have significant influence on the profitability of deposit taking SACCOs in Kakamega County. The study recommended that that DTS should put prudent measures to ensure effective monitoring of liquidity. The study also recommended that SACCOs should acquire quality human resource so as to come up with sound liquidity decisions.

Key Words: *liquidity risk, liquidity monitoring, liquidity decision, cash management, Deposit Taking SACCOs*

INTRODUCTION

Liquidity management is a concept that is receiving serious attention all over the world especially with the current financial situations and the state of the world economy. According to Olagunju, Adeyanju and Olabode (2011), liquidity is the ability of the company to meet its short term obligations. It is the ability of the company to convert its assets into cash. The concern of business owners and managers all over the world is to devise a strategy of managing their day to day operations in order to meet their obligations as they fall due and increase profitability and shareholder's wealth. The liquidity of an asset means how quickly it can be transformed into cash.

When referring to company liquidity one usually means its ability to meet its current liabilities and is usually measured by different financial ratios (Priya & Nimalathasan, 2013). Liquidity management, in most cases, are considered from the perspective of working capital management as most of the indices used for measuring firm liquidity are a function of the components of working capital (Owolabi & Obida, 2012) Liquidity management is among the four cardinal decision areas of financial management that requires careful handling and planning for a business enterprise to be successful and profitable (Lyndon & Bingilar, 2016). The importance of liquidity management is that it affects financial performance in today's and business cannot be over emphasis. The crucial part in managing working capital is required maintaining its liquidity in day-to-day operation to ensure its smooth running and meets its obligation. A firm should ensure that it does not suffer from lack-of or excess liquidity to meet its short-term compulsions. A study of liquidity is of major importance to both the internal and the external analysts because of its close relationship with day-to-day operations of a business. Dilemma in liquidity management is to achieve desired trade-off between liquidity and profitability (Bhunia, 2010).

In United States, Cetorelli and Goldberg (2012) highlighted the importance of globally active banks in linking markets. One channel for this linkage is through how these banks manage liquidity across their entire banking organization. Yan (2013) showed that only Barclays Bank remained liquid on a short-term basis while the HSBC Bank also proved liquid on a short-term basis. In terms of the impact on output, there is considerable room to further tighten capital and liquidity requirements, while still providing positive effects for the United Kingdom economy. In Ukraine, Podilchuk (2013) indicate current ratio and quick ratio have significant positive diminishing effect on profitability. It is profitable for the companies to increase liquid assets up to the turnover point, after which a further increase will have negative impact on profitability. In Sweden, the adaptations of liquidity strategies do not have a significant impact on ROA. Only increased use of liquidity forecasting and short-term financing during financial crisis had a positive impact on ROA (Lamberg & Vålming, 2009).

Barus, Muturi and Kibati (2017) concluded that liquidity management influenced the financial performance of 83 savings and credit societies in Kenya. Njeru (2016) showed that even though SACCOS in Kenya undertake strict cash flow forecast, there are external variables that can affect liquidity management which poses a greater risk in the operations of the institutions. Song'e (2015) revealed that that financial performance as measured by profit before tax over total assets is positively related to liquidity of deposit taking SACCOs in Nairobi County. Majakusi (2016) showed that liquidity management explains 34% in the variability achieved financial returns. Nyaga (2014) showed that there exists a negative relationship between stock market return and liquidity management of commercial banks in Kenya.

The SACCO industry in Kenya plays a very important role as the financial intermediary between savers and investors. Kenya has the largest SACCO movement in

Africa with a total membership of 8 million followed by Senegal at 5 million (Njeru, 2015). SACCO plays an important part in the financial sector in Kenya by providing savings and credit services to a large portion of the population. Services offered by SACCO's include normal loans, emergency loans, school fees loans and front office services for example; payment of salaries, salary advances, bank cheques, safe keeping of documents, and ATMs (Ngaira, 2011).

Statement of the Problem

SACCO Society Regulatory Authority (SASRA) has revoked the licences of more than five credit unions in the last three years, effectively barring them from taking deposits from the public due to serious liquidity problems. This follows that these SACCOs faced a risks arising from liquidity shortage and this has been a major cause of failure of many financial cooperatives in recent years. The regulator also noted that minimum liquidity ratio of 15% has been decreasing from 55.90% DTS down to 49.95% DTS. This has forced the regulator to seek advice on setting-up central liquidity facility as many SACCOs are unable to meet short-term obligations (SASRA, 2017). SACCOs don't have access to the lender of last resort, the Central Bank of Kenya. So in times of market difficulties and constrains they have nowhere to get the asset of cash. This makes them prone to the liquidity shortage, and no matter how small, can cause great damage to a savings institution (SASRA, 2016). Liquidity challenges and other management issues have hindered the growth of SACCO's where 2 out of 3 formed are not operational as Alfred (2011) found in his research. Alfred (2011) asserted that financial institution needs to hold liquid assets to meet the cash requirements of its customers. Inability to meet its customers' demands leaves financial institutions exposed to a run and more importantly a systemic lack of confidence (Song'e *et al.*, 2016). Allen and Maghimbi (2009) have observed that there are challenges in managing liquidity in SACCOs thus many are unable to meet customers' needs. This had resulted to the high 51% failure rate of SACCOs in Kenya affecting more than half of population of Kenya (Waithera, 2015). While Literature is awash with studies linking liquidity and performance, there still existed scanty studies available that had addressed this topic in SACCOS in Kakamega County.

Objectives of the Study

The general objective was to examine the influence of liquidity management practices on profitability of SACCOs in Kakamega County. The specific objectives were:-

- To establish the influence of liquidity risk practices on profitability of Deposit Taking SACCOs in Kakamega County
- To determine the influence of liquidity monitoring practices on profitability of Deposit Taking SACCOs in Kakamega County
- To determine the influence of liquidity decision practices on profitability of Deposit Taking SACCOs in Kakamega County
- To establish the influence of cash management practices on profitability of Deposit Taking SACCOs in Kakamega County

Research Hypotheses

- H_{01}: There is no significant influence of liquidity risk practices on profitability of Deposit Taking SACCOs in Kakamega County
- H_{02}: There is no significant influence of liquidity monitoring practices on profitability of Deposit Taking SACCOs in Kakamega County
- H_{03}: There is no significant influence of liquidity decision practices on profitability of Deposit Taking SACCOs in Kakamega County
- H_{04}: There is no significant influence of cash management practices on profitability of Deposit Taking SACCOs in Kakamega County

LITERATURE REVIEW

Theoretical Review

Commercial Loan and Theory of Liquidity

Adam Smith provided the first systematic exposition of the doctrine in his Wealth of Nations (1776). Basically, it is a theory of asset management that emphasized liquidity; the doctrine held that banks should restrict their earning assets to "real" bills of exchange and short-term, self-liquidating advances for commercial purposes. In this way, it was argued; individual banking institutions could maintain the liquidity necessary to meet the requirements of deposit Withdrawals on demand. Under a somewhat modified character this basic doctrine came to be known in the U. S. as the commercial loan theory of credit. In the development of the commercial banking system, one of the principles of bank credit that has acquired widespread acceptance, not only in theory but also in practice, is the belief that commercial banks in their lending activities should extend credit only for short periods and for purposes which result in the self-liquidation of the credit, "The primary function of commercial banks, therefore, is to create funds which may be used to complete the processing of goods, to bring them to the markets, to transfer them to the possession of the ultimate consumer or user, and to provide means of final payment for all materials and services involved in the production and marketing of the goods."

Liquidity Preference Theory

Liquidity Preference Theory, also known as Liquidity Preference Hypothesis, was first expressed by John Maynard Keynes, and it is contained in 'The Collected Writings of John Maynard Keynes' (1989). This theory is based on the idea that investors demand a premium for securities with longer maturities, which entail greater risk, because they would prefer to hold cash, which entails less risk; hence, the more liquid an investment is, the easier it is to sell quickly for its full value (Wessels, 2000). The theory of liquidity preference is probably the single most controversial of the core constituents of The General Theory. Keynes presents liquidity preference theory there as a liquidity [preference] theory of interest," a theory that is supposed to fill the vacuum left by what he regarded as the flawed "classical [savings] theory of interest." In the early post-General Theory literature, the notion of liquidity preference quickly became a synonym for the demand for money. Together with a constant stock of money liquidity preference was the factor that determined the rate of interest in the money market of Hicks (1937) seminal ISLM model.

Anticipated Income Theory

According to prospect theory decision makers can become less risk averse and even risk seeking if they find that they are operating below target or aspiration levels (Nwankwo, 1992). High-variance (riskier) alternatives may provide a decision maker a better chance of achieving the desired outcome than low-variance (safer) alternatives. This presupposes variability of accounting measures and attempts to differentiate between alternative definitions of target outcomes in the banking industry. He suggested prospect theory as an explanation for the phenomena noted by Friedman and Savage and by Swalm, that incorporate Fishburn's concept of risk, i.e. high return is a compensation for high risk.

Cash Management Theory

The purpose of cash management is to determine and achieve the appropriate level and structure of cash, and marketable securities, consistent with the nature of the business's operations and objectives (Brigham, 1999). Models on cash balance management have been proposed by (Baumol, 1952; Archer, 1966; Beranek, 1963; Miller & Orr, 1966; Pigou, 1970; Lockyer, 1973; & Gibbs, 1976) among others. William Baumol (1952), was the first person to provide a

formal model of cash management. Erkki (2004), states that 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.

Conceptual Framework

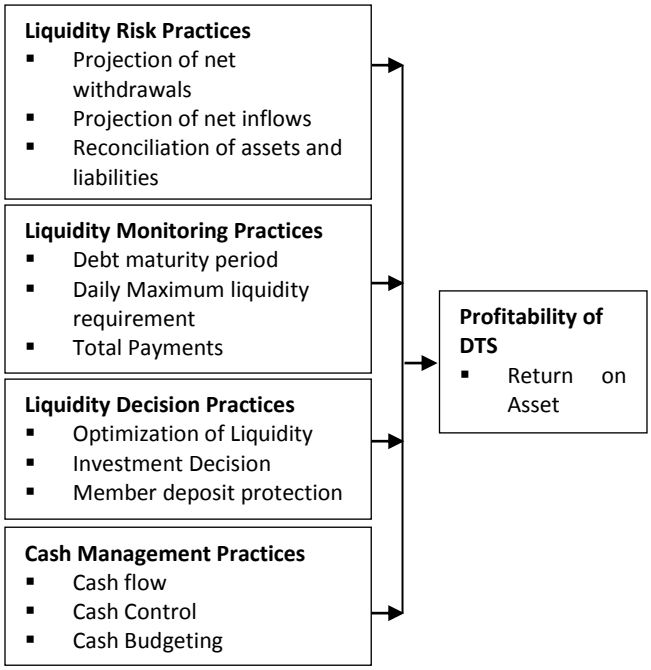

Figure 1: Conceptual Framework

Source: Author (2018)

Empirical Review

Liquidity Risk Practices and Profitability

Vossen, (2010), in a study on Bank liquidity management noted that banks face two central issues concerning liquidity. Banks are responsible for managing liquidity creation and liquidity risk. He concluded that banks must change how to balance their liquidity risk and their role as liquidity providers by restructuring their liquidity management strategies. Liquidity risk exposes banks to financial challenges. Banks attempt to control liquidity risk factors by balancing cash inflows and outflows and some even hold liquidity cushions for strategic purposes. Being exposed to too much liquidity risk expose banks to challenges such as; run away investors, runs by depositors, ratings downgrades, and tougher financing. These consequences are what banks wish to avoid and why they implement policies to protect themselves from liquidity risk.

Liquidity Monitoring Practices and Profitability

Botoe (2012) sought to establish the impact of liquidity on profitability of commercial banks in Liberia. This study employed correlation design. The study was a survey that targeted a population of the 8 commercial banks in Liberia. The survey duration was between periods 2006-2011. The liquidity data was extracted from published reports of Commercial banks i.e. financial statements. This study analyses the impact of liquid asset holdings on Commercial Banks in Liberia profitability. Banks with properly monitoring of cash, accounts receivables and inventories in a proper way resulted to ultimate increase profitability of these companies. The empirical results show that concentration affects bank profitability negatively, but this affect is relatively insignificant.

Liquidity Decision Practices and Profitability

Prasad (2001) in his paper examined the position of the working capital management of paper industry in India for the period 1983-84 to 1992-93. The study considered the selected 21 large, medium and small scale paper mills. This study reported that all sample firms made huge investment in current assets and the working capital in most of the paper mills was not properly utilized. This study revealed that top-level management of the sample units failed to trade-off between liquidity and profitability.

Cash Management Practices and Profitability

Murphy (2015) found out that active cash management in small enterprises in the UK was unusual, and that there was little inclination to invest surplus cash on a short-term basis. In a study of

Belgium's firms, it was noted that, a shorter cash conversion cycle is related to better performance of the enterprises (Soenen, 2000). On the same note, efficient working capital management is pivotal in creation of shareholders' value. Dong and Tay Su (2010) also attempted to investigate the relationship existing between profitability, the cash management and its components for listed firms in Vietnam stock market. Their findings showed a strong negative relationship between profitability, measured through gross operating profit, and the cash conversion cycle and all of its components. Ch'ng and Chang (1986) have stated that cash management, an important aspect of financial planning, has become a common factor for small business failure in Singapore

METHODOLOGY

This study adopted descriptive survey research design as the study attempted to investigate gender differences and attitude toward learning mathematics. This survey design was suitable for this study as the research investigated if there was a relationship between liquidity management practices and the profitability of Deposit Taking SACCO in Kakamega County (Orodho, 2005). The population of this study comprised of all 46 SACCOs in Kakamega County. However, the study targeted 11 deposit taking SACCOs (Nitunze, MUFATE, WEVARSITY, Western Shuttle, Invest & Grow, Sukari Sacco Ltd, CCSWR, WEKSCOL, Mumias Shuttle, WESACO and Lugari SACCO) which took deposits from their members. These 11 SACCOs had a total population 225 employees. `However, 47 employees holding various managerial positions in accounts, finance, FOSA, credit, Audit and risk section formed study population. The study used primary data collection instruments. Primary data was obtained from respondents through the use of questionnaires. The questionnaire was designed so that it addressed the research questions of the study. Data analysis was done using SPSS software version 22. The study used regression Model as below:-

$$y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \varepsilon$$

Where;
Y = Profitability
α =constant
$\beta_1 \ldots\ldots \beta_4$= Regression Coefficients
X_1= Liquidity Risk
X_2= Liquidity Monitoring
X_3= Liquidity Decision

RESULTS

Liquidity Risk

The researcher sought to find out liquidity risk practices by asking the sample respondents to indicate their level of agreement on seven statements related to liquidity risk practices.

Table 1: Descriptive Statistics for Liquidity Risk Practices

Liquidity Risk		1	2	3	4	5	Mean	STDV
SACCOs have set in place principles of short term crediting	f	1	2	4	32	4	3.84	0.75
	%	2.3	4.7	9.3	74.4	9.3		
SACCOs have increased funds held at Sacco compared to recent years	f	1	6	5	28	3	3.60	0.90
	%	2.3	14.0	11.6	65.1	7.0		
SACCOs have reduced off balance sheet liabilities compared to recent years	f	1	2	6	31	3	3.77	0.75
	%	2.3	4.7	14.0	72.1	7.0		
SACCOs reconcile the volumes of assets and liabilities in terms of maturity	f	1	2	3	31	6	3.91	0.78
	%	2.3	4.7	7.0	72.1	14.0		
SACCOs frequently uses short term financial	f	2	5	1	28	7	3.77	1.02

instruments compared to long term financial instruments	%	4.7	11.6	2.3	65.1	16.3		
SACCOs have sufficient settlement account balances to meet overnight settlements	f	1	2	4	30	6	3.88	0.79
	%	2.3	4.7	9.3	69.8	14.0		
SACCOs usually Projects likely net withdrawals/inflows by customers.	f	2	3	5	33		3.60	0.82
	%	4.7	7.0	11.6	76.7			

From Table 1, majority of the respondents agreed that SACCOs had set in place principles of short term crediting; 74.4% (32) agreed and 9.3% (4) strongly agreed. A few of them, 4.7% and 2.3% disagreed and strongly disagreed respectively; a clear indicator that most of SACCOs had set in place principles of short term crediting. This was also supported by a mean of 3.84 and standard deviation of 0.75. The results also revealed that 65.1% (28) and 7.0% (3) of the respondents agreed and strongly agreed respectively that SACCO had increased funds held at Sacco compared to recent years. 11.6% were undecided while only a few, 14.0% and 2.3% disagreed and strongly disagreed respectively with a mean of 3.60 and standard deviation 0.90. This implied that there was some deviation depending on increased funds held at Sacco compared to recent years.

The results also revealed that 7.0% and 72.1% of the respondents strongly agreed and agreed respectively that SACCO had reduced off balance sheet liabilities compared to recent years. A mean of 3.77 and standard deviation of 0.75 implied that there was some deviation from mean. In terms of SACCO reconciles the volumes of assets and liabilities in terms of maturity, 14.0% and 72.1% of the respondents strongly agreed and agreed respectively with a mean of 3.91 and standard deviation of 0.78. This implied that there was some deviation from mean. The results also revealed that 16.3% and 65.1% of the respondents strongly agreed and agreed respectively that SACCO frequently used short term financial instruments compared to long term financial instruments.

The results revealed that 69.8% and 14.0% of the respondents agreed and strongly agreed respectively that SACCO has sufficient settlement account balances to meet overnight settlements. A mean of 3.88 and standard deviation of 0.79 indicated that there was some deviation from the mean. Lastly, 76.7% (33) of the respondents agreed that SACCOs usually Projects likely net withdrawals/inflows by our customers. While 4.7% and 7.0% strongly disagreed and disagreed respectively. A mean of 3.60 and standard deviation of 0.82 suggested that there was deviation from mean.

Liquidity Monitoring

The study sought to find out liquidity monitoring practices by requesting the sample respondents to indicate their level of agreement on six statements related to liquidity monitoring practices.

Table 2: Descriptive Statistics for Liquidity Monitoring Practices

Liquidity Monitoring		1	2	3	4	5	Mean	SDV
SACCO undertake regular monitoring of total value of gross daily payments made and received	f	1	4	6	23	9	3.81	0.96
	%	2.3	9.3	14.0	53.5	20.9		
There is implementation of internal controls so as to monitor liquidity in my SACCO	f	1	2	7	16	17	4.07	0.99
	%	2.3	4.7	16.3	37.2	39.5		
We monitor obligations which must be settled at a specific time within the day or have an expected settlement deadline	f	1	6	2	24	10	3.84	1.02
	%	2.3	14.0	4.7	55.8	23.3		

Monitoring amount of intraday liquidity at the beginning of the day to cope with intraday liquidity needs	f		8	3	24	8	3.74	0.98
	%		18.6	7.0	55.8	18.6		
We monitor the proportion, by value, of a SACCO's daily outgoing payments that settle by specific times during the day	f	1	7	4	23	8	3.70	1.04
	%	2.3	16.3	9.3	53.5	18.6		
We monitor concentration of deposits and other sources of funds by maturity and by clients	f	1	5	3	23	11	3.88	1.00
	%	2.3	11.6	7.0	53.5	25.6		

Majority of the respondents confirmed that SACCO undertake regular monitoring of total value of gross daily payments made and received; 53.5%(23) agree and 20.9%% (17) strongly agreed to this. A mean of 3.81 and standard deviation of 0.96 indicated that there was significant deviation from mean. In terms of implementation of internal controls so as to monitor liquidity in my SACCO, 37.2%(16) and 39.5% (17) of the respondents agreed and strongly agreed respectively that there was implementation of internal controls so as to monitor liquidity in my SACCO. A mean of 4.07 and standard deviation of 0.99 also indicated that there is significant deviation from mean. From the results, 23.3% (10) and 55.8% (24) of the respondents strongly agreed and agreed respectively that there was monitoring of obligations which must be settled at a specific time within the day or had an expected settlement deadline. A mean of 3.84 and standard deviation of 1.02 implied that there was great deviation from mean. Over half of the respondents (55.8%) agreed that they monitored amount of intraday liquidity at the beginning of the day to cope with intraday liquidity needs while 18.6% strongly agreed. A mean of 3.74 and standard deviation of 0.98 suggested that there is significant deviation from mean.

In terms of monitoring the proportion, by value, of a SACCO's daily outgoing payments that settle by specific times during the day, 18.6% (8) and 53.5% (23) of the respondents strongly agreed and agreed respectively that they monitored the proportion, by value, of a SACCO's daily outgoing payments that settle by specific times during the day. There was significant deviation (1.04) from the mean (3.70). Lastly, 53.5% (23) and 25.6% (11) of the respondents strongly agreed and agreed respectively that they monitor concentration of deposits and other sources of funds by maturity and by clients. However, 2.3% strongly disagreed while 11.9% disagreed with a mean of 3.88 and standard deviation of 1.00. This implied that there is significant deviation from mean

Liquidity Decision

The study sought to find out liquidity decision practices by asking the sample respondents to indicate their level of agreement on five statements related to liquidity decision practices.

Table 3: Descriptive Statistics for Liquidity Decision Practices

Liquidity Decision		1	2	3	4	5	Mean	SDV
Liquidity decision involves identification of existing sources of liquidity risk as well as liquidity risk that may arise from new business products or activities	f	1	4	4	23	11	3.91	0.97
	%	2.3	9.3	9.3	53.5	25.6		
Liquidity decision involves SACCO's actions in case of temporary or long-term liquidity disturbances.	f	0	2	4	26	11	4.07	0.74
	%	0.0	4.7	9.3	60.5	25.6		
Protection of members deposit by SACCO management always takes precedence during liquidity decisions	f	0	5	3	24	11	3.95	0.90
	%	0.0	11.6	7.0	55.8	25.6		

Liquidity decision involves analysing the data on the level and trends of cash inflows in the previous period, taking into account seasonal effects, sensitivity of interest rates and macroeconomic factors.	f	0	2	4	27	10	4.05	0.72
	%	0.0	4.7	9.3	62.8	23.3		
Reports are regularly provided and reviewed by experts to determine necessary information for liquidity decision	f	2	1	7	33	0	3.65	0.75
	%	4.7	2.3	16.3	76.7	0.0		

From the results, majority of the respondents confirmed that Liquidity decision involved identification of existing sources of liquidity risk as well as liquidity risk that may arise from new business products or activities of which 53.5% (23) agree and 25.6% (11) strongly agreed to it. A mean of 3.91 and standard deviation of 0.97 implied that there was great deviation from the mean. The results also revealed that 60.5% (26) and 25.6% (11) of the respondents agreed and strongly agreed respectively that Liquidity decision involves SACCO's actions in case of temporary or long-term liquidity disturbances. A mean of 4.07 and standard deviation of 0.74 implies that there is some deviation from mean.

In terms of protection of members' deposit, 60.5% (26) and 25.6% (11) of the respondents agree and strongly agreed respectively that protection of members deposit by SACCO management always takes precedence during liquidity decisions. A mean of 3.95 and standard deviation of 0.90 suggests that there was great deviation from mean. It was also found that majority of the respondents agreed that Liquidity decision involves analysing the data on the level and trends of cash inflows in the previous period, taking into account seasonal effects, sensitivity of interest rates and macroeconomic factors as shown by 62.8% (27) of the respondents. Lastly, 76.7% of the respondents agreed that reports were regularly provided and reviewed by experts to determine if internal management reports provide the necessary information for informed liquidity decisions

Cash Management Practices

The researcher sought to find out cash management practices by asking the sample respondents to indicate their level of agreement on six statements related to cash management practices.

Table 4: Descriptive Statistics for Cash Management Practices

Cash Management		1	2	3	4	5	Mean	STDV
There is proper cash budgets and budgetary control in operations.	f	2	4	5	24	8	3.74	1.03
	%	4.7	9.3	11.6	55.8	18.6		
The reporting on cash as per the international financial reporting standards (IFRS)	f	1	8	3	25	6	3.63	1.02
	%	2.3	18.6	7.0	58.1	14.0		
There is proper matching of funds to cash flow obligations electronically.	f	1	2	5	32	3	3.79	0.74
	%	2.3	4.7	11.6	74.4	7.0		
SACCOs should always maintain a buffer cash balance	f	2	4	8	26	3	3.56	0.93
	%	4.7	9.3	18.6	60.5	7.0		
The SACCO accelerates cash collection from various sources	f	2	2	9	28	2	3.60	0.85
	%	4.7	4.7	20.9	65.1	4.7		
When cash is in surplus, it is invested in	f	1	3	3	35	1	3.67	0.75

other venture to obtain more profits	%	2.3	7.0	7.0	81.4	2.3

Results showed that 55.8% (24) and 18.6% (8) of the sampled respondents agreed and strongly agreed respectively that proper cash budgets and budgetary control in operations. A mean of 3.74 and standard deviation of 1.03 implied that there was great deviation from mean. Similarly, 58.1% (25) and 14.0 (6%) of the sampled respondents agreed and strongly agreed that reporting on cash as per the international financial reporting standards (IFRS). There was also great deviation (1.02) from mean (3.63). In regard to matching of funds, 74.4% (32) of the respondents agreed that there was proper matching of funds to cash flow obligations electronically while 7.0% (3) strongly agreed. A mean of 3.79 and standard deviation of 0.74 implied that there was some deviation from mean.

Majority of the respondents agreed that SACCOs should always maintain a buffer cash balance as shown by 60.5% (26) and further 7.0% (3) who strongly agreed with a mean of 3.56 and standard deviation of 0.93. SACCO accelerates cash collection from various sources as shown by 65.1% (28) of the respondents who agreed and 4.7% (2) who strongly agreed with a mean of 3.60 and standard deviation of 0.85. Lastly, 81.4% (35) of the respondents agreed that when cash was in surplus, it was invested in other venture to obtain more profits although a few of them (7.0%) strongly agreed. A mean of 3.67 and standard deviation of 0.75 suggested that there was some deviation from mean.

Profitability

The researcher sought to find out profitability of DTS by asking the sample respondents to indicate their level of agreement on capital base, shareholder value and asset level.

Table 5: Descriptive Statistics for Profitability

Profitability		1	2	3	4	5	Mean	STDV
The capital base of the SACCO has consistently increased.	f	0	4	4	26	9	3.93	0.83
	%	0.0	9.3	9.3	60.5	20.9		
Shareholders value in my SACCO has increased	f	0	2	3	27	11	4.09	0.72
	%	0.0	4.7	7.0	62.8	25.6		
My SACCO has been prompt in paying of its debts when due	f	0	3	5	26	9	3.95	0.79
	%	0.0	7.0	11.6	60.5	20.9		
My SACCO pays dividends annually as per schedule	f	0	2	6	26	9	3.98	0.74
	%	0.0	4.7	14.0	60.5	20.9		
The SACCO assets have consistently increased	f	0	1	6	27	9	4.02	0.67
	%	0.0	2.3	14.0	62.8	20.9		

From the results, majority of the respondents, 20.9% (9)% and 60.5% (26) strongly agreed and agreed respectively, that The capital base of the SACCO has consistently increased. None of them strongly disagree. A mean of 3.93 and standard deviation of 0.83 suggested that there was some deviation from mean. In terms of shareholders value, 62.8% (27) and 25.6% (11) of the respondents agreed and strongly agreed respectively that shareholders value in my SACCO has increased. A mean of 4.09 and standard deviation of 0.72 implied that there is some deviation from mean.

The results also revealed that 60.5%(26) and 20.9% (9) agreed and strongly agreed that their SACCO has been prompt in paying of its debts when due. A mean of 3.95 and standard deviation of 0.79 implied that there was some deviation from mean. SACCOs were also found to pay dividends annually as per schedule as shown by 60.5% (26) who agreed and 20.9% (9) who strongly agreed with a mean of 3.98 and standard deviation 0.74. Lastly, 62.8% (27) of the

respondents agreed that SACCO assets have consistently increased while 20.9% (9) strongly agreed with a mean of 4.02 and standard deviation of 0.67. This implied that there is some deviation from mean

In terms of firm's asset base, 31.8% and 38.5% of the respondents strongly agreed and agreed respectively that asset base of their respective firms has increased. 21.2% were undecided while only a few 5.0% and 3.5% disagreed and strongly disagreed respectively that their respective firms' asset bases have increased steadily. In terms of market shares, 30.2% and 45.8% of the respondents strongly agreed and agreed respectively that market share of their respective firms have grown. 15.6% were undecided while only a few, 3.4% and 5.0% disagreed and strongly disagreed respectively that market share of their respective firms have grown. In terms of productivity, 38.0% and 33.3% of the respondents strongly agreed and agreed respectively that employees had a much higher productivity than industry average. 15.6% were undecided while only a few, 10.0% and 3.4% disagreed and strongly disagreed respectively that employees have a much higher productivity than industry average.

Correlation Analysis

After successful computation of the variables means, the overall means of each of the dimensions on the scales of liquidity practices were correlated with the profitability. First, each of the dimensions was correlated with profitability and thereafter the overall mean of all the liquidity management practices scales were combined and correlated with the profitability later in the multiple linear regression analysis. The significant value adopted for all the correlations was set at a p value of 0.05, implying that all the results on this correlation were treated at a confidence interval of 95%. The correlation coefficient (r) results were presented as shown below using Pearson correlation analysis, which computed the direction (Positive/negative) and the strength (Ranges from -1 to +1) of the relationship between two continues or ratio/scale variables.

Table 6: Correlation between Liquidity Management Practices and profitability

		LR	LM	LD	CM
LR=Liquidity Risk	Pearson Correlation	1			
	Sig. (2-tailed)				
	N	43			
LM=Liquidity Monitoring	Pearson Correlation	.269	1		
	Sig. (2-tailed)	.082			
	N	43	43		
LD=Liquidity Decision**,**	Pearson Correlation	.306*	.078	1	
	Sig. (2-tailed)	.046	.618		
	N	43	43	43	
CM=Cash management	Pearson Correlation	.210	.189	.301*	1
	Sig. (2-tailed)	.176	.225	.049	
	N	43	43	43	43
Profitability	Pearson Correlation	.640**	.411**	.489**	.535**
	Sig. (2-tailed)	.000	.006	.001	.000
	N	43	43	43	43

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

**. Correlation is significant at the 0.01 level (2-tailed).

Table 6 presented the findings of Pearson product moment correlation between liquidity practices and profitability. It was evident that there are all the dimensions of liquidity practices were positively correlated with profitability. The correlation of interest was obtained by examining the correlation between profitability and each of the dimensions of liquidity management practices. The findings showed that the lowest correlation coefficient was achieved between liquidity monitoring and profitability (r=0.411, p=.000). This correlation was positive and significant. This denoted that a positive association existed between the profitability and the liquidity monitoring practices of DTS.

The correlation between liquidity decision and profitability was the second least correlation obtained in this study. The relationship was significant and positive as indicated by r=0.489, p=.000 which implied there was a relationship between liquidity decision and profitability. The second highest correlation was obtained between cash management practices and profitability. This correlation coefficient was significant and positive as indicated by r value of 0.535, p=.000 suggesting that profitability is influenced by the cash management practices. Thereby, increase in cash management practices would result to increase profitability of DTS in Kakamega County. The highest correlation amongst the liquidity management practices, which was also a significant strong correlation, was the correlation between liquidity risk and profitability, which was positive and significant (r=0.640, p=.000). This means that as the DTS increase their liquidity risk management practices there would be increase in the profitability.

Multiple Linear Regression of the Liquidity Management Practices Regressed Against Profitability

Objective of this study sought to examine the influence of liquidity management practices on profitability of DTS in Kakamega County. This was achieved by carrying out standard multiple regressions with the model consisting of each of the constructs of liquidity management practices. The study was interested in knowing the effect of each of the liquidity management practices on profitability when all these constructs were entered as a block on the model. The results of multiple linear regression analysis were presented in Table 7 which contained ANOVA (goodness of fit; F Ratio, Sig Value) and model summary (R, R2, Adj R^2) results while Table 7 contained regression coefficient (Unstandardized & standardized), t-value and Sig. value results.

The study sought to determine the model summary findings in order to determine the overall percentage change in the profitability that was explained by all the metric of the liquidity management practices by use of R^2. The results in Table 7 present R, R2, Adj $R^{2,}$ F ratio and Sig. value.

Table 7: Model Summary and ANOVA

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.814[a]	.663	.627	.29230

a. Predictors: (Constant), LR, LM, LD, CM

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	6.385	4	1.596	18.683	.000[b]
	Residual	3.247	38	.085		
	Total	9.632	42			

a. Dependent Variable: Profitability
b. Predictors: (Constant), LR, LM, LD, CM

The results from the model summary in Table 7 gave us information on the overall summary of the model. Inspecting at the R square column, we deduced that all the liquidity management practices accounted for 66.3% significant variance in profitability (R square =.663, P=0.000) implying that 33.7% of the variance in profitability was accounted for by other variables not captured in this model. From the findings, also adjusted R square value was obtained, which was a corrected R square value to provide a useful estimate of true study population. The difference between R^2 and adjusted R^2 was obtained by subtracting the later from the former (.663-.627=0.036) a value when multiplied by 100% results 3.6 percent. This decrease suggested that should the model originated from the entire population instead of a sample, it would explain about 3.6% less variation in the study outcome.

In order to assess the significance of the model, simply whether the study model was a better significant predictor of the profitability rather than using mean score which was considered as a guess, the study resorted to F Ratio. The F value from study findings indicated the proportion of the improvement in predicting the results from fitting the model relative to the inaccuracy or errors that still prevails in the study model. From the findings, the F value was more than one, as indicated by a value of 18.683, which meant that enhancement as a result of model fitting was much larger than the model errors/inaccuracies that were not used in the model (F (4,42) = 18.683, P=0.000). The large F value was very unlikely to exist by chance (99.0%), thus implying that the final study model has significant improvement in it is prediction ability of DTS profitability.

The presented in Table 8 showed unstandardized coefficients, standardized coefficients, t statistic and significant values. The study had an option of either using Unstandardized Coefficients or Standardized Coefficients depending on the type of data. The study used unstandardized coefficient column because we want to compare liquidity management practices effect across same measures (Likert Scale 1 through 5). However, if the measure were different, then standardized coefficients which are based on standard deviation would be appropriate.

Table 8: Coefficients on influence of Constructs of Liquidity Management practices on profitability

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
(Constant)	.712	.339		2.098	.043
LR	.278	.065	.441	4.294	.000
LM	.114	.053	.211	2.140	.039
LD	.206	.089	.237	2.319	.026
CM	.303	.092	.331	3.286	.002

Dependent Variable: Profitability

LR=Liquidity Risk**; LM=**Liquidity Monitoring**, LD=**Liquidity Decision**, CM=**Cash management**.**

From the findings presented in Table 8, we look at the model results and scan down through the unstandardized coefficients B column. If the liquidity management practices were held at zero or it was absent, the profitability of DTS would be significantly at 0.712, $p<0.05$. It was revealed that cash management had largest unique significant contribution to the model with B=.303, p=.002 suggesting that controlling of other variables in the model, a unit change in cash management practices would result to significant change in profitability by 0.303 in the same direction.

The second largest beta coefficient was 0.278, which was coefficient value for liquidity risk. This values were significant (B=.278, p=.000) and also positive. This means that liquidity risk practices had the strongest unique contribution to explaining the profitability of the DTS in Kakamega County, when the variance explained by all other variables in the model is controlled. This implies that a unit change in liquidity risk would result to change in profitability by 0.278 in the same direction.

Another variable that also had a unique significant contribution to the model was the value for liquidity decision (B=.206, p=.026), lower than liquidity risk practices. When other variables in the model are controlled, a unit change in liquidity decision would result to significant change in profitability by 0.206 in the same direction. Lastly, liquidity monitoring had also a unique significant contribution to the model with B=0.114, p=.039 implying that when other variables in the model are controlled, a unit change in liquidity monitoring would result to significant change in profitability by 0.114 in the same direction.

A regression of the four predictor variables against profitability established the multiple linear regression model.

$$\mathbf{Y = 0.712 + 0.278X_1 + 0.114X_2 + 0.206X_3 + 0.303X_4}$$

Where;

Y = Profitability

X_1= Liquidity Risk

X_2= Liquidity Monitoring

X_3= Liquidity Decision

Testing For Null Hypotheses

The results of simple linear regression were used in testing null hypotheses using P<0.05 and B≠0 as illustrated hereunder

- **H_{01}:** There is no significant influence of liquidity risk practices on profitability of Deposit Taking SACCOs in Kakamega County
  - **H_{A1}:** There is significant influence of liquidity risk practices on profitability of Deposit Taking SACCOs in Kakamega County
  - **Beta Standardized Coefficient results:** $\beta_1 \neq 0$ (β_1=0.278) and P=0.000<0.05.
  - **Verdict:** First null hypothesis is rejected.
  - **Interpretation:** There is significant influence of liquidity risk practices on profitability of Deposit Taking SACCOs in Kakamega County.
- **H_{02}:** There is no significant influence of liquidity monitoring practices on profitability of Deposit Taking SACCOs in Kakamega County.
  - **H_{A2}:** There is significant influence of liquidity monitoring practices on profitability of Deposit Taking SACCOs in Kakamega County.
  - **Beta Standardized Coefficient results:** $\beta_1 \neq 0$ (β_1=0.114) and P=0.000<0.05
  - **Verdict:** Second null hypothesis is rejected
  - **Interpretation:** There is significant influence of liquidity monitoring on profitability of the Deposit Taking SACCOs in Kakamega County
- **H_{03}:** There is no significant influence of liquidity decision practices on profitability of Deposit Taking SACCOs in Kakamega County
  - **H_{A3}:** There is significant influence of liquidity decision practices on profitability of Deposit Taking SACCOs in Kakamega County
  - **Beta Standardized Coefficient results:** $\beta_1 \neq 0$ (β_1=0.206) and P=0.000<0.05
  - **Verdict:** Third null hypothesis is rejected
  - **Interpretation:** There is significant influence of liquidity decision practices on profitability of Deposit Taking SACCOs in Kakamega County
- **H_{04}:** There is no significant influence of cash management practices on profitability of Deposit Taking SACCOs in Kakamega County

- **H_{A4}:** There is significant influence of cash management practices on profitability of Deposit Taking SACCOs in Kakamega County
- **Beta Standardized Coefficient results:** $\beta_1 \neq 0$ (β_1=0.303) and P=0.000<0.05
- **Verdict:** Fourth null hypothesis is rejected
- **Interpretation:** There is significant influence of cash management practices on profitability of Deposit Taking SACCOs in Kakamega County

CONCLUSIONS

Conclusions were arrived at the influence of independent variables (cash management, liquidity decisions, liquidity risks and liquidity monitoring) on dependent variable of profitability of deposit taking SACCOs in Kakamega County based on the findings of the study. In general, the study concluded that liquidity management practices by DT SACCOs plays a key significant role in terms of profitability of DT SACCOs.

The study revealed that deposit taking SACCOs had implemented various liquidity risk practices such as increase in fund held, having sufficient settlement account balances to meet overnight settlements, reconciling the volumes of assets and liabilities in terms of maturity. These practices were found to influence profitability of deposit taking SACCOs positively and significantly. The first null hypothesis was rejected since there is significant influence of liquidity risk practices on profitability of Deposit Taking SACCOs in Kakamega County. This was arrived after considering P-values (P<0.05) and beta value (β≠0).

The study revealed that most deposit taking SACCOs have implemented internal controls so as to monitor liquidity. The SACCOs were also found to monitor concentration of deposits and other sources of funds by maturity and by clients although they rarely monitor amount of intraday liquidity at the beginning of the day to cope with intraday liquidity needs. These practices were found to influence profitability of deposit taking SACCOs positively and significantly. The second null hypothesis was rejected since there is significant influence of liquidity monitoring practices on profitability of Deposit Taking SACCOs in Kakamega County. This was arrived after comparing these value P-value (P<0.05) and beta value (β≠0).

The study revealed that most deposit taking SACCOs undertook liquidity decision which involves action for short term (temporary) and long term liquidity disturbances. This involves analysing data on the trend and level of cash inflows, sensitivity of interest, macro-economic effects and seasonal effects. During liquidity decision, member deposit protections always take precedence through identification of existing sources of liquidity risk. These practices were found to influence profitability of deposit taking SACCOs positively and significantly. The third null hypothesis was rejected since there is significant influence of liquidity decision practices on profitability of Deposit Taking SACCOs in Kakamega County. This was arrived after comparing these value P-value (P<0.05) and beta value (β≠0). The study found out that most deposit taking SACCOs has proper cash budgets and budgetary control in operations with high deviation. Their strategies are in place during minimal cash and surplus cash since either of the side will contribute to liquidity risks to the institution. These practices were found to influence profitability of deposit taking SACCOs positively and significantly. The fourth null hypothesis was rejected since there is significant influence of cash management practices on profitability of Deposit Taking SACCOs in Kakamega County. This was arrived after comparing these value P-value (P<0.05) and beta value (β≠0).

RECOMMENDATIONS

Liquidity held by Deposit Taking SACCOs depicts their ability to fund increases in assets and meet obligations as they fall due. The study recommended

that SACCOs and other deposit taking institutions should increase the fund held so that they can have sufficient settlement account balances to meet overnight settlements. This can be achieved by setting best practice principles of short term crediting. The study recommended that SACCO managers should regularly gauge their capacity to raise funds quickly from each source thus identify the main factors that affect their ability to acquire funds and monitor the factors closely so as to ensure that sound liquidity. Further, SACCOs should acquire various liquidity monitoring tools as advised by Basel Community so as to increase their capacity to monitor liquidity such as intraday liquidity needs and concentration of deposit among other sources of funds.

The study recommended prudent measures on liquidity decision practices especially on liquidity ratios and cash flow forecast. The study also recommends establishment of dividend payment policy that reflect financial market dynamics and prudent investment policy of SACCO funds, since some members experience delay in issuance of loans, there is need for policy adherence to CAMEL and PEARLS by SACCO management. There is also need to encourage registering of SACCOs on the Security Exchange to better increase financial management and efficient investment decisions especially on excess cash. The study recommended that management should put tighter internal controls system for cash management. The study also recommended to the SASRA regulator to introduce cash ratios to be deposited within the SACCO regulator. This would enable control of liquidity in the deposit taking SACCOs and also help on overnight borrowing to assist the SACCOS during cash shortage and release cash surpluses when there is excess funds.

Areas of Further Studies

The study was conducted in deposit taking SACCOs in Kakamega County by examining liquidity monitoring, liquidity decision, cash management and liquidity risk as independent variables. However, the study did not utilize intervening/moderating/mediating variable such as government policy and regulation although SACCOs in Kenya are regulated by SASRA. Further studies should be conducted by incorporating SASRA to find out if they have significant influence on the relationship between liquidity management practices and profitability of DT SACCOs in Kenya. The study also suggested that further studies should examine liquidity management practices as determinant of financial stability of DT SACCOs in Kenya.

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