

**INTERNAL CONTROL SYSTEM AND LOAN PERFORMANCE OF DEPOSIT  
TAKING SACCOS IN NAIROBI CITY COUNTY, KENYA**

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UNIVERSITY**

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**DECLARATION**

I hereby make a declaration that this research project is my original work and to the best of my knowledge, it has not been submitted for a degree or award to any other University or other institutions of learning for examination purposes.

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Supervisor Declarations

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## **DEDICATION**

I dedicate this research proposal foremost God Most high for His unmerited mercies of good health and keeping me alive this far. Also, to my dear children, namely; Joan, Shalom and Adriel. To my dear mother Joan Wanjiru, my dear (late) father Michael Njane and I further consider to thank my spiritual mentors Apostle Kimani Williams and Bishop Mwando for their prayers and spiritual support. Thank you so much and God bless you

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## **ABBREVIATIONS AND ACRONYMS**

<b>AFM</b>	Amman Financial Market
<b>AICPA</b>	American Institute of Certificated Public Accountants
<b>COSO</b>	Committee of Sponsoring Organizations of the Treadway Commission
<b>CSR</b>	Corporate Social Responsibility
<b>DT-SACCOs</b>	Deposit Taking Savings and Credit Cooperatives
<b>FOSAs</b>	Front Office Service Activities
<b>GDP</b>	Gross Domestic Product
<b>ICS</b>	Internal Control System
<b>ICT</b>	Information and Communication Technology
<b>IDA</b>	International Development Assistance
<b>IFMIS</b>	Intergraded Financial Management Information System
<b>IFRC</b>	International Federation of Red Cross and Red Crescent
<b>IT</b>	Information Technology
<b>M&amp;E</b>	Monitoring and Evaluation
<b>MCOD&amp;M</b>	Ministry of Cooperative Development and Marketing
<b>NACOSTI</b>	National Commission for Science, Technology, and Innovation
<b>NCCG</b>	Nairobi City County Government
<b>NGOs</b>	Non-Governmental Organizations
<b>NITA</b>	National Industrial Training Authority
<b>NPL</b>	Non-performing Loan
<b>OLS</b>	Ordinary Least Squares
<b>PLS-SEM</b>	Partial Least Squares
<b>SACCOs</b>	Savings and Credit Cooperatives
<b>SASRA</b>	Sacco Societies Regulatory Authority
<b>SEM</b>	Structural Equation Modeling
<b>SPSS</b>	Statistical Package for Social Sciences
<b>UK</b>	United Kingdom
<b>UNDP</b>	United Nation Development Programme
<b>USA</b>	United States of America
<b>USD</b>	United States Dollar
<b>VIF</b>	Variance Inflation Factor
<b>WOCCU</b>	World Council of Credit Unions

## **OPERATIONAL DEFINITION OF TERMS**

**Loan Performance:** Loan Performance is the extent to which the loan lender is able to recover the principal and the interest it owes the DT-SACCO as per the contractual terms and conditions signed into between the two counterparties.

**Internal Control System** is the aggregate methodologies and events administration follows so as to guarantee that the objectives of the SACCO are achieved and is described by the aspects of control activities, control environment, information communication; risk assessment and monitoring.

**Control Activities** is a component of DT-SACCO ICS and involves ideas, progressions, and mechanisms proven by the administration to ensure proper observance to commands specified measured by existence of internal audit unit, internal audit unit independence, internal audit report and review of internal audit reports.

**Control Environment** is the dominant constituent of ICS which sets the attitude of the SACCO by influencing the control cognizance of its persons and is gauged using well-defined employees' duties, organization chart, accounting manual, segregation of duties and SACCO staff work schedule.

**Information and Communication Technology** is an internal control system aspect which ensures pleasant-sounding functioning of overall classified information which have been gathered measured using effective communication, proper documentation and written procedures of processes.

**Monitoring** is the procedure of estimating the standards of internally structured controls of the SACCO within a given time horizon and proxied using are management supervision, outside sources, response mechanism and self-assessment mechanisms.

**Deposit Taking (DT) "Savings and Credit Cooperatives Societies (SACCOs)** are segment of the sub-sector which undertake both with-drawable and non-with-drawable deposits and so, they have banking like services in form of FOSA (Front Office Services Activity).

## ABSTRACT

The so-called DT-SACCOs has proven to directly donate to social-economic threats arising from poverty, augmented job chances and economic upscaling. Even with such an amazing provision, they still have trials on their future survival due to loan default rates over the years. The main objective of this study was to establish the influence of internal control system on loan performance of deposit taking savings and cooperative societies in Nairobi City County, Kenya. Specifically, the study evaluated the influence of control activities on loan performance of deposit taking savings and cooperative societies in Nairobi City County, Kenya; examined the influence of control environment on loan performance of deposit taking savings and cooperative societies in Nairobi City County, Kenya, established the influence of information communication on loan performance of deposit taking savings and cooperative societies in Nairobi City County, Kenya and assessed the influence of monitoring on loan performance of deposit taking savings and cooperative societies in Nairobi City County, Kenya. Systems theory, agency theory, information asymmetry theory and credit risk theory are the key suppositions which were utilized in this study. The study utilized causal research design for the purposes of developing the research problem. A total of 42 DT-SACCOs representing the study population located in Nairobi City County. To collect the needed data, survey approach was utilized for the population was small. Structured questionnaire was the main tool which was utilized for collecting primary data from top officials of the DT-SACCOs. To collect the secondary data, a data collection schedule was utilized. The research findings were reported using chart and tables. Ethical issues were addressed as supposedly through the respective permissions. Before testing of hypotheses, diagnostic test was performed which entailed normality test, multicollinearity test and heteroscedasticity test Research findings portrayed that the four COSO affiliated ICS predictor variables, namely; control activities, control environment, ICT and monitoring activities had a direct and statistically significant influence on loan performance of DT-SACCOs in Nairobi City County, Kenya. Top management will benefit from the research findings for the consideration of the contextual aspects of ICS which are relevant and suitable to DT-SACCOs aid in development of information decision system which is well-informed for future planning on the ways in which loan default rate may be mitigated. The government policy makers such as SASRA will take advantage of the outcome of this investigation for the conceptual viewpoint addressed herein pinpoints areas of loan lending policy making to create user-friendly financing environment for the borrowers and lenders. The academicians have a reliable empirical anchorage for the linkage between ICS and loan performance the contextual viewpoint provide an avenue to advance on this topical issue in the future.

## **CHAPTER ONE**

### **INTRODUCTION**

#### **1.1 Background of the Study**

Deposit Taking Savings and Credit Cooperatives (DT-SACCOs) are organizations whose origin is traced back from the concept of cooperative movements which are global by nature (Empower, 2016). The formation of these institutions translates to more than 60,500 in number and occupy around 109 countries of the well-known continents of the world (World Council of Credit Unions, 2017). These institutions have a financial element and they are established by people who join hands together by the fact that they have some common problem that they want to resolve. In the process, they become members (Daniel and Abdul, 2018). Structurally, SACCOs or credit unions as they are referred to overseas, are formed by a minimum of ten members and no maximum. The constitution dictates that whoever is in need of becoming a member need to do some contribution as dictated by the by-laws set and then continue contributing deposits as stated by the by-laws on a regular basis. This forms part of their savings (Empower, 2016).

According to International Co-operative Alliance, (2017), the membership size is dictated by the principle of free entry free exit of members as they so wish. In other words, it is a voluntary movement which is liberal and democratic with one share one vote dynamics. In African context, Kenya takes the lead as far as SACCO membership is concerned for, they have 5.7 proportion of the national wealth. This is the much the movement is able to contribute towards the country's national income. Rwanda and Ethiopia are the other African countries with SACCOs closely following Kenya whos performance records portray a 3.0% and 0.7% in that order (Ntoiti and Jagongo, 2021). In the advance countries, the leading 300 credit unions or SACCOs in the world have so far registered more than sales volumes of more than 2.5 USA dollars (International Co-operative Alliance, 2017).

Global viewpoint portrays membership of Savings and Credit Cooperatives (SACCOs) to be wide to the extent of reaching high numerical not less than one billion people and again by extension, the SACCOs economically and financially support more than two fifty people whether directly though employment or otherwise (International Cooperatives

Alliance, 2017). In the advanced countries, such institutions are termed as credit unions. Such countries are such as USA, the UK and the Latin America. These organizations operate in a common manner whether locally or overseas locale. For example, just like in the African context, these unions in countries such as USA, UK and Ireland, Brazil, and Latin America are required to receive membership contributions and deposits at the same time according to the set laws and regulations of the respective countries as it has been aforementioned (Lydia, 2018). Other regions with similar legal operations are the South Africa, India, and continental Europe (Ngui and Jagongo 2017).

The rate of growth in Kenya is tremendous where by SACCOs have been characterized by new technology and innovation assimilation for the sake of providing financial services which have leveraged the way the SACCOs generate income for their members (Kinyagu, 2021). Further, the aspect of governance of these financial institutions through use of regulations has also fostered the expansion of those firms. By 2019, about 28.4 percent of adults were able to access the SACCO services and even becoming members due to adherence of the set regulations (Kenya Financial Regulators, 2021). As these institutions grow, there has been land marks of the much benefits people have derived from these organizations. Such as promoting savings habits of the members, issuance of user-friendly loans to the low-income earners, increased liquidity amongst members, general economic growth in the country (Kiaritha, 2016).

The SACCOs have translated to Deposit Taking SACCOs in the mood of growth rate increasing year after year. The aforementioned SACCOs are sub-set of the cooperative movement. So, the two categories that currently exist in any economy is both the non-deposit and deposit taking SACCOs which in a nut shell form the whole sub-sector (Ngui and Jagongo, 2017). The mainstream asset which is used by DT-SACCOs is the loan portfolio or asset which is held by members who repay the principal and interest thereof (SASRA supervisory report 2019). However, not all issued loans are 100% collected. There are cases of delinquencies which are Non-Performing Loans (NPL) which are later written off (SASRA supervisory report, 2020). This aspect has become a bottleneck of the DT-SACCOs to grow as expected. The NPL levels have adversely increased over the years

affecting the financial sustainability of the SACCOs. This is evident in most financial aspects of the DT-SACCOs with bad books such as; statements of financial position; loan issuance abilities, low level of returns, loan repayment difficulties, and minimal access to additional capital (Nyumoo, 2020).

The endeavors made by management through internal control system and management of loan delinquency risk are key in any organization, be it small or large. The suitability of this strategy to eliminate the NPL in an organization is critical and the degree to which positive changes of loan performance is realizable is still a conceptual concern to many researchers (Ngondo, 2018). Loan performance is the pivotal focus which has remained a challenge to many organizations such as banks, DT-SACCOs and MFIs (Hani Al-Dmour, 2018). SACCOs as aforementioned are not an exception and therefore the reasons as to why many SACCOs appreciate ICS. Their mainstream goal is to permit them to control the activities within the business to improve their loan performance.

### **1.1.1 Loan Performance**

The aspect of “loan performance” carry multifaceted meaning. However, it is defined as the extent to which the loan lender is talented to recuperate the main amount and the interest it owes the mortgagor as per the contractual terms and conditions signed into between the two counterparties. In other words, from the side of the borrower, it is the tendency of loan repayment of debt balance as and when it falls due by the client. If the borrower fails to repay as per the set terms and conditions, this is referred to as loan default. That is a case of NPL (Ntoiti and Jagongo, 2021).

The performance of a loan is further tied to the percentage (%) level of NPL such that if the repayment of the debt is met before 90 days are over, then the financial institution is said to be performing as far as loan portfolio is concerned. Otherwise, if the financial institution such DT-SACCOs is dominated by delayed repayments extending beyond 90 days, then the loan performance is low whereas the non-performing loans are said to increase. An inverse relationship exists (Mburu, Mwangi and Muathe, 2020). In this study,

the facet of DT-SACCO loan performance will be gauged using loan default rate as utilized by Ngondo, (2018).

When repayment of debt is within the time range as guided by the international standards (Bank for International Settlements, 2016), the loan performance is termed as progressive and default is absent. So, the issue of a loan becoming a default case implies that the chances of recovery have become minimal. At this point loan performance is not good. SACCO management have the responsibility of counter planning to ensure that delinquency is reduced. This is because such a challenge faced by the SACCOs causes an operational threat and increased cases of losses due to increased levels of associated risks, operational dysfunctions, and aid in forecasting the approximate losses to be incurred for once it happens, it cannot be recouped (Odegua, 2020). There are several strategies that management of a SACCOs adopt one being the ICS.

### **1.1.2 Internal Control System**

Institute of Certificated Public Accountants (AICPA) which is a USA affiliated body, posited that ICS as any activity or strategy laid down by the management as per COSO framework to protect the properties of the whole organization in question. It entails any plan laid down and coordinated activities by the management to safeguard both physical and intangible assets of the firm. This definition has kept on varying and improving since 1949 when the first definition was expressed up to date where by modern definitions such concerns of control to confirm the concealment and dependability of data, increase efficiency of operations and adherence to supervision policies (Hani Al-Dmour,2018).

The concept of ICS is further defined by Sumito, Setiyawati and Mappanyukki, (2021) as the integral procedure adopted by all members of the organization, namely the management and the employees fully or partially as it is applicable so as to ensure the objectives of the organization is harmoniously achieved. Another definition was by COSO, (2013) who posited that concern as efforts made by the top management to streamline how activities of the firm should be undertaken in a procedural manner so as to achieve the operational goals,

have timely reporting and full compliance to the set rules and regulations whether internal and external in nature.

ICS is the complete controls perspective of both monetary and non- monetary undertaken by an entity through the management to facilitate every day operations. The components characterizing this system are five in number and include aspect of control activities, control environment viewpoint, the issue of information and communication, assessment of risk aspects and the process of monitoring of activities (Hayes, Dassen, Schilder and Wallage, 2005). A functional internal control system justifies the management servant hood or agency responsibility to the project stakeholders (Shanmugam, Haat and Ali, 2012).

According to Azhar (2013), ICS is the driving force to attain the set goal by the top management of every nature of business. It is a control tool that ensures that there are no loopholes in the day-to-day operations such as collusion amongst workers, fraudulent actions against the company by the third parties such as employees, suppliers and debtor, misuse of assets. The ICS provides an assurance framework that the business will adhere to the laid down legal instructions to avoid the firm from landing in to operations risks (Sumito, Setiyawati and Mappanyukki, 2021). The system protects the organization's properties through the laid down policies and practices associated with the top management who set them to assure the interested parties of reliable accounting reports and more efficient and effective operations (COSO, 2013). This culminates to the argument of Marshal and Romney, (2015) who suggested that ICS plays the following mainframe functions, namely; instigate preventive control measures, apply detective control tools, take corrective control measures, then the general control perspective and application control tool or features.

To establish an applicable or workable ICS, one should put in mind that the role played by information technology is major and also how to manage risk is key for this will aid in mitigating the same and also achieve the organization's predetermined objectives (Marshal and Romney, 2015). Based on the framework of Gelinias, et. al. (2014), COSO (1992) and

COSO (2013) ICS for any organization is defined or described by all the five aspects, or a few of them depending on the ones adopted.

As one of the ICS components, control activities as alluded by COSO, (1992), this term was defined by Uwadiae (2013) as the actions specifically set by the management as per policies and procedures already set so as to mitigate all the negative events which are a risk towards the firm's aims. Control activities are applied across all the aspects of the business over the procedures and practices a firm has adopted so as to ensure that nothing is left to chance. This is achieved by applying available technological environment and it can be activities which fall under preventive and or detective measures (Akinleye and Kolawole, 2020). Mire (2016) described those measures to include and not limited to a spectrum of manual and auto based activities such as authorization and appraisals or approval of an event before it takes place. Others are such as document verification, event reconciliation and reviews of business performance. Other control activities may be in form of segregation of duties at the work station or along a process. All these endeavors are the responsibility of management to ensure efficient operations (COSO, 1992 and COSO, 2013). For the purposes of this inquiry, control activities will be gauged by utilizing existence of internal audit component, existence of internal audit unit independence or separation, preparation of internal audit report and review of internal audit reports for the DT-SACCO (Akinleye and Kolawole, 2020).

Control environment is the conducive surrounding laid down by the top management to allow a harmonious working of all controls put together. This aspect of ICS aid in strategic guide on how business has to operate to ensure all the interested parties such as internal and external are okay (Clarke, 2020). The control environment aspect lays down a workable environment which is fitting for all the concerned parties. For instance, uprightness, integrity and ethics principles are well set such that they give a straight away guide to the top management to follow when exercising their duties of control and supervision responsibilities. So, the aforementioned principles describe expertism and accountability which in turn entice, progress, capacity build capable workers and hold

staffs to be answerable of their performance level which is a requirement in goal achievement (Xiang et al. 2021).

Uwadiae (2013) defined the term control environment as the laid down standards, guidelines and procedures which provide a direction of how to exercise controls over all the activities of the business. It entails the attitudes, awareness and actions undertaken by the officials of the organization who set basis of employees conduct as expected (Gamage et al, 2014). According to Mire (2016), it is the cornerstone which shapes the development of an effective ICS. Again, control environment involves the characteristics of communication, implementation of integrity, and moral standards as re-counted by Umar and Dikko, (2018).

In a broad manner, the supposition of Dubihlela and Nqala (2017) was that the aspect of control environment in an organization builds the substance of effective ICS of any organization. In addition, International Audit Standards (ISA)of United Kingdom (UK) standards and that of Ireland 315 advocated that control environment should entail key note features such as truthfulness and moral values above system and publics so as to guarantee efficiency of the internal control design, management, and one-to-one care of other components of the ICS (Hani Al-Dmour, 2018).

Communication information technology is the how information continuously flows from top to bottom and the reverse and any other possible way for proper and timely accessing of the necessary messages to ensure all activities of the organization are effectively and efficiently being undertaken (Hani Al-Dmour, 2018). Information communication is like blood stream in the body for this ICS element is a continuous and interactive activities which aid in providing or disseminating and receiving timely messages from all departments or sections forming the whole organization (Akinleye, and Kolawole, 2020).

For any effective communication to take place, Umar and Dikko (2018) was for the idea that the communication network should touch all the cadre of workers in the organization. Such that the connection starts with top management and up to the level of subordinates.

That is, report of all relevance should reach the concerned in a timely manner. This increases communication effectiveness and by extension control of operations of the business and further help the top management to achieve its planned goals (COSO, 1992). The current study will consider effective communication, proper documentation and written procedures of operations to measure information and communication technology (Akinleye and Kolawole, 2020).

A fourth aspect of ICS is the risk assessment component. Szylar (2013) logically argues that risks of all nature surround any business everywhere intense. Hence it is not possible to 100% eliminate this aspect of the environment. To resolve this matter, risk assessment process activity aid in mitigating this problem (Ndege, 2015). Hence, the facet of risk assessment is key in guiding the administration to rely on the maneuvers and processes of the business. The process of risk assessment entails many aspects such as risk identification which is a sub-set of the aforementioned aspect and it involves recognition and description of risks (Ratri and Pangeran, 2020). In other words, the aspect of risk identification is composed of tracing the source of risk, its genesis and imminent adversity. Risk assessment is further detailed or unpacked in to three aspects, namely; analyzing of risk, evaluating of risk and mapping of the risks thereof (Akinleye and Kolawole, 2020).

A fifth aspect of ICS is monitoring. The term monitoring was defined by Maalim (2017) as the activity of continuously assessing if the plans predetermined are in harmony with the actual outcome over time. This aforementioned process has to be participatory in nature (UNDP, 2010). Again, Yusuf, Otonde and Achayo (2017) further posited that this is an ICS component which is a process that aid achievement of set goals of a project.

Monitoring entails the continuous checking or intervention of projects or processes of firms to ensure that they run as per the set budgets (Dyason, 2010). So, the exercise of monitoring entails collection and information analysis process of a project or program belonging to an organization. Further, Kihuha (2018) suggested that this aspect of ICS is a tool for project management for it ensures that the activities move on as supposedly. It is an instrument through which projects are assessed to see if the resources allocated are optimally utilized

(Goyder, 2009). As a result of continuous dynamics of changes in an organization, monitoring aspect is a conduit through which organizations appraise the excellence of its interior control procedures (COSO, 1992).

### **1.1.3 Deposit Taking Savings and Credit Cooperative Societies (SACCOs) in Nairobi City County**

DT-SACCOs is a sub set of the commonly known cooperative movement of the old days when these financial institutions were introduced in Kenya (Navodera, Kinyuru and Njuguna, 2021). These financial institutions are key contributors of the national income which is around 45% of national product and in addition, most citizens of Kenya derive their income from these organizations, whether directly through employment or otherwise (SASRA, 2019). Majority of these institutions domiciled in Nairobi City County have put in place internal controls with an endeavor to mitigate cases of NPL (Ngondo, 2018). The management endeavors through internal control system and management of loan delinquency risk are key in any organization, be it small or large.

The suitability of this strategy to eliminate the NPL in an organization is critical and the extent positive variation of the loan performance is realizable is still a conceptual concern to many researchers (Ngondo, 2018 and SASRA, 2020). Loan performance is the pivotal focus which has remained a challenge to Nairobi City County based DT-SACCOs in Kenya (SASRA SACCO Report, 2019). The DT-SACCO affiliated institutions were totaling to forty-two (42) (SASRA SACCO Report, 2018). Some of those aforementioned ones have expanded and have subsidiaries in other regions of the country.

In 2016, membership of DT-SACCOs in Nairobi County had reached 3.6 million people. But out of that number, a half a million were reported to be deactivated. On the same breath, the total loan and asset portfolio had grown by 15.3 percent to stand at 28.92 billion Kenya shillings which represented the loan portfolio. Further, 168 DT-SACCOs in Nairobi County had with stood financial sustainability challenges by retaining the 10 million Kenya shillings core capital reserve. However, seven DT-SACCOs failed to meet that capital rule (Ogum, and Jagongo, 2022).

## 1.2 Statement of the Problem

The financial institutions of DT-SACCOs have been characterized by deteriorating loan performance level over the years and it has become a concern for SACCO supervisory body (SASRA report, 2020). The total finances which were not yet remitted by September 2020 was translating to Kshs 5.04 Billion. If compared with the records of 2019, the situation was worsening for the year's amounts of the same category was less at 3.87 Billion Kenya shillings as at September 2019 (Ntoiti and Jagongo, 2021). To support the aforementioned financial report, statistics show that in the year; 2016; 2017; 2018; 2019, 2020 and 2021, low level loan performance in the DT-SACCOs stood at 5.13%, 5.27%, 6.14%, 6.18% and 8.10% in that order which indicates fluctuating loan performance according to (SASRA, 2021). The causes of all these declining results have not been conclusively explained. Past studies on the linkage between ICS and loan performance has portrayed hot debate amongst scholars with the findings portraying dissimilar outcome especially when diverse conceptual, methodological and contextual viewpoints are incorporated in those similar studies.

Globally, several studies (Hu, Weng and Wang, 2021; Bhuiyan, et al. 2020 and Quoc and Trung, 2021) have been undertaken but still leaving unresolve gaps. In the study by Al-Qudah (2019) in Jordan, information communication directly influenced firm performance. In Bangladesh the inquiry by Rahman and Hasan (2019) showed that the size of the organization and accrued quality feature did not have any significant effect on quality of financial information presented (i-e information communication). In China, Hu, Weng and Wang (2021) Chinese internal control regulation portrayed improved reporting quality. Regionally, Ajao and Oluwadamilola, (2020) in Nigeria depicted that ICS positively affected the quality of insurance firms' reporting quality of finances. In Egypt, Eissa (2022) found that risk assessment improved the firms' performance. Agyapong (2017) examine the Ghana Post Company ICS of the to establish whether duties were well segregated, confirm existence of correct and suitable flow of messages through information and communication platform between employees and administration; and guidelines were well monitored by top supervision team. In Kenya Muhunyo and Jagongo, (2018), Julie (2019) Ngala, and Musau (2022) Kihuha (2018) Maalim (2017) interrogated the influence of

diverse aspects of ICS on different dependent variables with varying outcome. Based on the aforementioned backdrop, the current study aimed at investigating the degree to which loan performance of DT-SACCOs in Nairobi City County Kenya was explained by ICS.

### **1.3 Objectives of the Study**

To test the hypotheses of this inquiry, the following two categories of aims of this inquiry were relied upon

#### **1.3.1 General objective**

The thematic goal of this inquiry was to establish the influence of internal control system on loan performance of DT-SACCOs in Nairobi City County, Kenya.

#### **1.3.2 Specific Objectives of the Study**

The study was governed by the following study specific objectives;

- i) To evaluate the influence of control activities on loan performance of deposit taking savings and cooperative societies in Nairobi City County, Kenya.
- ii) To examine the influence of control environment on loan performance of deposit taking savings and cooperative societies in Nairobi City County, Kenya.
- iii) To establish the influence of information communication on loan performance of deposit taking savings and cooperative societies in Nairobi City County, Kenya.
- iv) To assess the influence monitoring activities on loan performance of deposit taking savings and cooperative societies in Nairobi City County, Kenya.

### **1.4 Research Hypotheses**

The study tested the following null hypotheses:

**H<sub>01</sub>:** There is no significant influence of control activities on loan performance of deposit taking savings and cooperative societies in Nairobi City County, Kenya.

**H<sub>02</sub>:** There is no significant influence of control environment on loan performance of deposit taking savings and cooperative societies in Nairobi City County, Kenya.

**H03:** There is no significant influence of information communication technology on loan performance of deposit taking savings and cooperative societies in Nairobi City County, Kenya.

**H04:** There is no significant influence of monitoring activities on loan performance of deposit taking savings and cooperative societies in Nairobi City County, Kenya.

### **1.5 Significance of the Study**

The outcome of this inquiry will benefit many stakeholders of SACCOs. The management will acquire unfathomable comprehensiveness of the in-depth contribution of each ICS sub-variable for data will be collected for each sub-variables of the five components of ICS and then a composite score will be determined which will increase the weight of predictability to SACCO loan performance. In return, the managerial team will be positioned strategically to make well-informed decision as per the influence level of those ICS affiliated variables so as to meet the set goals of the SACCO.

The government will reap manifold benefits such as policy making process towards creation of an enabling environment of SACCOs. The new knowledge on how each ICS component influence loan performance will provide vivid guidelines to set policy guidelines to be followed by SACCOs especially when issuing loans so as to reduce episodes of bad debts from NPLs. Secondly, the government would be able to indirectly create jobs for its citizens by ensuring that no imminent breakdown of SACCOs especially when such societies are not able to sustain themselves financially.

The study outcome will be beneficial to external auditors for they would rely on the strong ICS of the SACCOs to form an audit opinion which in return save time and audit costs. Further the approach of audit reporting would undergo paradigm of shift of not only reporting financial position of the SACCO shareholders but also to other stakeholders. To the academicians, the study will add acquaintance on the conceptual link between ICS and loan performance of SACCOs, that is, the relationship will not be multivariate where ICS is used to explain changes in loan performance but each component of ICS is considered in isolation.

## **1.6 Scope of the Study**

This inquiry considered threefold aspects of coverage which are conceptual, contextual and timebound. The first aspect was based on the conceptual linkage amongst the study variables. COSO, (1992) and COSO, (2013) focuses on five components. However, in this study, the focus was on the ICS affiliated components of control activities nature, control environments nature, information communication technology nature and monitoring aspect for most of the DT-SACCOs in Nairobi City County do not fully rely on the five aspects. The four elements of ICS were used as predictor variables while loan performance was the outcome construct.

The inquiry was focusing on those financial institutions operating in Nairobi City County Kenya. There are of course other DT-SACCOs all over the country but the focus of those in Nairobi is because they have a characteristic of being larger and financially stable to afford to majority of the ICS components. This is evident by majority of them having subsidiary or branches in other towns or cities.

Lastly, the inquiry considered a time duration of five years. The DT-SACCOs in Nairobi City County has been operating for a longer duration which is uneven across those firms. However, the study used five years within which all the firms have been operating at the same time for harmonization purposes. So, the data for year 2018 to 2022 was more appropriate to study the behavior observed.

## **1.7 Limitations of the Study**

There was roughly cases of reluctance to furnish the required information by the respondents for there were chances of fearing to disclose sensitive information. For instance, some of the officials associated with the direct control of the DT-SACCOs confessed that their authority to disclose firm's information was limited. Others felt that disclosure of the information was a loophole to expose their business secrets to the competitors. To overcome this challenge, the investigator guaranteed research participants that the facts they held was on condition that was classified as private and also confidential.

The respondents were expecting immediate feedback from the research findings after the research process so as to provide answers to the challenges that they were investigated about. To overcome this hiccup, the investigator assured the respondents that this venture was purely academic and the academia ethics requires the researcher to keep that information on private and confidential form.

Time consuming dominated the data collection activity which focused on the DT-SACCOs located in Nairobi City County region of Nairobi which therefore had some financial implications to be planned for the exercise to be accomplished. The engagement of research assistants was of much help for it was possible to cover all targeted DT-SACCOs within a shorter period of time at lower cost.

### **1.8 Organization of the Study**

The arrangement of the chapters in this inquiry is in three levels. So, there is chapter one, two and three which are as expounded herein. The first chapter entails introduction part of this inquiry. This covers the study background; the research problem being interrogated and aims to be achieved at the end of the whole process. Hypotheses the significance of the study is also incised herein and the scope of coverage and lastly the expected limitations. In level two, the chapter (i.e., chapter two) entailed the reviewed literature. This is where the underpinning theories are indicated. Empirical studies section, which is concluded with a summary of the inquiry and openings thereof and then a diagrammatic theoretical framework. Chapter three is on research methodology. This chapter covers several aspects. One, research design, another component of this chapter is the targeted universe or populace and tools to be used to collect data. The process of doing data collection and methods to be used for data analysis. An empirical model is captured to submit the whole concept of this investigative inquiry. Chapter four is composed of introduction part, response rate, pilot test results thereof. Then data analysis and interpretation methodologies used. Then there after the diagnostic test and descriptive analysis thereof. Correlational and inferential analysis outcome are also domiciled herein. Chapter five is summed up the past literature review and research gaps recognized, conclusion of the inquiry and endorsements thereof.

## **CHAPTER TWO**

### **LITERATURE REVIEW**

#### **2.1 Introduction**

Theoretical aspect covers four suppositions as discussed hereunder and takes the lead in this chapter and then secondly, empirical is considered in that order.

#### **2.2 Theoretical Review**

The aspect of theoretical perspective concentrates on the four relevant or underpinning theories which relate to the various concepts discussed in this paper. Systems theory, agency theory, information asymmetry theory and credit risk theory are the suggestions under interrogation where for each case, the current study is demonstrating how it underpins the concept.

##### **2.2.1 Systems Theory**

The supposition was formulated by Von Bertalanffy and Rapoport (1968). The author of this conceptual viewpoint was for the idea that a system as a combination of two or more integral components which work in union to ensure achievement of a certain goal or objective is arrived at. Therefore, a system is assumed to entail of parts which work seamlessly in the whole body (Bertalanffy, 1968).

A system is a assembly of diverse apparatuses or elements which operate in a well-coordinated manner to produce results or achieve some set objective (Weinberg, 1975),. The broken-down elements which form the system are referred to as sub-systems and they work in a manner that is so harmonious such that in case of any breakdown or receipt of wrong or misleading signals will translate in to a collapse of the whole super system. On the same breath, Bertalanffy, (1968) argued that an organization is a system which is super and the departments, sections or sessions therein a business has to work together to realize the general objectives set by the top management. To manage this assignment, each section or department sets its objectives which should be congruent to the objectives of the whole organization).

Systems are classified in to two categories, namely the closed and the open system. The closed system does not accommodate matter from the outside its circles. On the other hand, the open system is open ended as the name suggests. It can give and can receive within its environment. For instance, organizational units such as divisions, departments or sessions require one another hence there exists a system of controls to guide the functioning of the whole organization (Bertalanffy, 1968 and Weinberg, 1975

The supposition wholesomely back the functioning of the four ICS components selected in this inquiry have to work in harmony to achieve the aim of the top management of achieving loan performance level that is desirable. This is only achievable if the four ICS elements are working as a system. By extension, the reason of contextually selecting the four aspects is for the sake of ensuring that the ICS are the appropriate ones for the DT-SACCOs. This theory supports all the four variables for in an organization, they have to work in harmony so as to accomplish the set goal of the organization. That is, systems theory help management to maneuver in the surrounding environment in which they find themselves working in. The surrounding atmosphere offers substantial properties that endure the association and lead to change and survival as stated by (Moki, Ndung'u and Kinyua, 2019).

### **2.2.2 Agency Theory**

The agency affiliated supposition was developed by two classical authors namely; Jensen and Meckling, (1976). It specifically addresses the matter of safeguarding the wealth of the owners of an organization. In this case, for the sake of laying the foundation which is going to act as the guide to understanding how this suggestion underpin the study, the agency aspect represents a working relationship between two parties in a contractual agreement. First there is the agent who in this case is represented by the top management which is responsible of daily operations of the business in mind that the resources of the owners should be well utilized. On the other hand, the owners are the principle and they assign or delegate responsibility of managing resources to the former with an expectation that there will be proper stewardship on the same. The ideal position according to this theory is that the management ought to buy the heartbeat of the owners and meet their interest. For

instance, creating owners' wealth through generating more levels of profitability (Hill and Jones, 1992).

The aforementioned ideal position of the relationship between the owners and the top management is not always the case for the management (agent) which have more information about the firm's prospects than the owners (information asymmetry), may misappropriate the resources as long as they are benefiting. This is supported by (Easterbrook, 1984) who posited that managers, who have an upper hand in controlling the firm resources as compared to outside shareholders, use the excess free cash flows in less profit generating undertakings. This is agency conflict.

Agency theory underpins the current study for the aspect of agent which is the DT-SACCO top management has the responsibility of generating income hence increase the wealth of the owner's who are the SACCO members. However, the top management may not fully achieve this goal as supposedly for they may implement ICS partially as it is in most of the DT-SACCOs. This implies that total control is not guaranteed and the matter of improving loan performance remain unresolved. This is common where the firms are small (Abdel-Khalik, 1993). On the other hand, agency theory positively applies in cases where the firm is large such as DT-SACCOs and the control of the organization by management is separated.

### **2.2.3 Information Asymmetry Theory**

The developer of this aforementioned supposition is Akerlof (1970). The theory was arrived at as a result of cases where the counterparties lending of loans, one person has more information than the other (ie information asymmetry). This complicated scenario occurs when the lender has no much information about the borrower. Hence leading to adverse selection and moral hazard challenges. As a result of one party not having enough information about the economic characteristics of the other persons, the former make decision which is contrary to the normal market rules of the game (Ambrus et al., 2018).

In connection to this argument, the DT-SACCOs issue loans to the members at a multiplier factor of say three times one's savings. This happens as per the set rules and regulation of SASRA the overseeing body but without knowledge of the borrower's economic conditions and experience (Akerlof, 1970 and Murumba, 2013). This supposition advocates that when there is impairment of information between the two parties, either one if found to take advantage of the situation and gain while the other party does Harzad selection which is disadvantageous (Akerlof, 1970 and Murumba, 2013).

The supposition points out that in some circumstances, the market hides the necessary information needed by the other party to make a conclusive decision to know which transaction to undertake at what time (Messai, 2013). When this happens, Akerlof (1970), the pioneer of this suggestion was of the idea that the parties concerned in the market should have an alternative course of action to choose. That is the option of adverse selection in the market. Alternatively, the concerned party can purchase the reliable information from a third party at a cost as suggested by (Murumba, 2013). This will assist the market participants to react to the situation arising in a better manner.

Information asymmetry supposition underpins the current study for it is dealing with DT-SACCOs which deal with issuance of loans to its members. The two parties, the lender and the borrower each has partial information as compared to each other. This situation makes the loan lender who in this case the DT-SACCOs to lend money to the members with an assumption that they are able to repay. However, if the economic situation is unfavorable, to the borrower, cases of loan default arise.

#### **2.2.4 Credit Risk Theory**

The key proponent of this supposition was Melton (Melton, 1974). In his argument, the theory advocates assessment of the risk level inherent to a counterparty to avoid financial losses in the future. He defined credit risk as the financial loss arising because of decline of the creditworthy assurance of a borrower in a debt-based contract (Liu, Mirzaei & Vandoros, 2014). According to this supposition, credit risk arises from the counterparty failing to honor his or her financial obligation of repaying the principle and the interest

amount of the debt. This may end up to the closure of the financial institution once it turns to be bankrupt due to failure to meet the deposit demands in the future. Melton, (1974) established two main credit risk modeling methodologies, namely; structural-based technique and the intensity-based technique (i.e., reduced form technique) which are useful in analyzing credit risk. Also, Clifford V. Rossi further developed another way of analyzing credit risk referred to as credit-based spreads, credit-based portfolio management and lastly loss distribution-based method arrived at through the Monte Carlo designed simulation function. So that there is total elimination of credit risk, a lender can achieve this objective by carrying out a credit check to identify the right borrower who once identified is expected to insure through some financial institutions such as mortgage insurance company cover or alternatively seek guarantors of a third-party nature. In all this endeavors, the more the risk level one exposes him/herself in, the more the cost charges or burden will befall the borrower and the vice versa is true (Owojori, Akintoye and Adidu, 2011).

The credit risk theory supports the current study loan performance variable for its focus is generally realigning of the aspects which predict loan default. For instance, the theory addresses the aspect of creditworthiness of the borrower where it advocates that the borrower should not breach the contractual obligation gotten in to. To achieve this objective, the theory suggests that the lender need to carry out credit risk assessment using three types of models for analysis. This is actually a common practice by SACCOs for it helps in reduction of the default risk aspect which in turn help in loan performance. Also, the theory suggests ‘reduction of lenders’ risk, by carrying out a credit check on the potential client. This is the current study’s main objective which aims at establishing the influence this aspect has on loan performance.

### **2.3 Empirical Review**

Studies relating to Internal Control System and Loan performance are paramount for deposit taking financial institutions. It portrays the research gaps thereof, a instantaneous review of literature and snap shot of the conceptual outline.

### **2.3.1 Control Activities and Loan Performance**

In Nigeria, a study was undertaken by Akinola (2018) with an aim of conceptualizing on the link between credit control and Non-Performing Loans in the context of DT-financial businesses of banking nature. The data utilized was of secondary nature and it was accessed from the Nigeria central bank. For the process of data analysis to be successful, E-views tool was used. Multiple regression model was the yardstick which was relied upon to generate the research findings. It was found that NPL were impacted by credit control in a significant manner.

The conceptual relationship of ICS and quality of financial statements was interrogated in depth by Sitorus, Setiyawati and Mappanyuki (2020). The main aim was to determine whether ICS significantly impacted the level of quality reporting on finances of the firms. In addition, the researchers wanted to find out if there was any significant moderating effect of internal audit in the aforementioned model. the study contextual gap it aimed at filling was the incorporation of financial reports of the government agencies between the year 2006 to 2017. Cause-effect design was utilized with a sample selected being 74 out of a population of 90 government officials. This sample size was derived at by use of stratified random method. The findings portray that the connection between ICS and the reporting quality was significant and also the internal audit moderated the aforementioned main model.

Agyapong (2017) examine the ICS of the Ghana Post Company to establish whether there was any significant impact on financial management in the government owned institutions. The independent variable selected as a component of ICS was control environment. To achieve this objective, the researcher inspected the element as far as isolation of everyday jobs, proper info and announcement between staffs and administration; and monitoring of the management's policies they had implemented. After sampling was over, the study came up with thirty-six units of observation for data collection purposes. they were all originating from the departments of the institution. The various departments which participated in this study were namely, HR, audit and finance department, mails and parcel handling section and the financial services domain. It was found that, first, the ICS suffered some lapses

opening loopholes for corruption to take place. It is these weaknesses found in the ICS that resulted to officials penetrating to misappropriate the government resources.

In Uganda, Eton, Fabian, and Benard (2022) aimed at explaining the changed observed on the outcome construct. To achieve this purpose, the study considered only three components of ICS. Therefore, the aspect of control environment, matters pertaining control activities and monitoring of the daily activities and projects of the organization were used for that purpose to estimate accountability of financial matters in Lira District, Uganda. More specifically, the inquiry established the mainstream advantages of matters of control activities of the organization, the issues to do with control environment, and monitoring of organization's accountability of financial subject matters. A design of correlational classification was utilized to determine the ICS and financial accountability connectivity. There after a data analysis by utilizing multiple regression formula was undertaken to explain the importance of a firm utilizing internal control parameters for financial accountability purposes. It was revealed that ICS accounted for 55.4 per cent of the disparities in accountability for finances. More categorically, the aspect of control environment and monitoring controls as well did bear significant effects on financial answerability while control aspect did not.

Agbenyo, Jiang, and Cobblah (2018) considered two aspects, namely; type and quality status of finance reporting and two the central government ICS and the extent to which they influenced financial reporting quality. The study relied on quota system and also sampling approach of simple random nature was utilized to access the required data. The data collected was for 50 respondents using structured questionnaires. Data analysis approach used was the inferential one, namely; both correlation and regression formula. The results portrayed that monitoring which is a component of ICS inversely linked on financial reporting quality in a significant manner. Further, the results showed that a one unit of upward movement of monitoring resulted to improved level of reporting financial quality of GRA.

### **2.3.2 Control Environment and Loan Performance**

In Nigeria, a study by Ajao and Oluwadamilola, (2020) aimed at establishing the connectivity of ICS components and the quality and accuracy of financial reporting standing. This was in the context of insurance firms. To carry out this study, the researchers considered one hundred respondents minus two who were given questionnaires to fill. The study further incorporated the two main inferential analysis approaches, namely; descriptive and regression equations. It was revealed that information communication, the control environment aspect of ICS. The matter of assessment of risks, issues to do with ICS-affiliated matters such as control activities and monitoring in that order directly influenced the reporting of financial matters in a significant way.

Kule, Kijjambu and Rwakihembo (2023) had purposed to evaluate more specifically the impact of the ICS component on accountability of finances in the mood of SACCOs in Mid-Western Uganda. The study attained this goal by first developing the research problem by use of cross-sectional research design. Data sampling was done relying on the stratified method. In addition, the inquiry also assimilated the so-called multi-stage sampling approach. Structured questionnaire dominated the data collection activity of this study. They were of closed ended in nature. After regression analysis was carried out, it was found that internal control environment as a component of ICS directly impacted on monetary accountability of the those SACCOs.

Organizations of Small and medium class also put in place ICS to govern performance. In the study of Mbuva, Rambo and Oketch (2018), control environment was selected by those researchers to establish if this ICS component impacted on the SME project performance which were domiciled in Machakos County, Kenya. The study utilized the descriptive survey approach when developing the research problem. To collect data, a sampling methodology referred to as stratified random sampling was utilized where by a sample size of 256 SME owners were selected out of a population of 3357. To analyze the data multivariate model was followed and the results gotten showed that the predictor variable chosen impacted on financial performance in a significant manner. The specific concerns of control environment, namely; workers' ethics and integrity, authority delegation,

responsibility assigning by top management and policy making which are related to HR department did not have significant influence on SMEs' financial performance.

Hu, Weng and Wang (2021) had conceptual concerns on the linkage between Chinese based internal control guideline and final quality financial reporting after the common USA Sarbanese Oxley Act (SOX), case was cleared with. On the other had China brought in their similar case study where by it was referred to as quasi-SOX practice (C-SOX). This case study advocated full disclosure of accounting information as pertaining the corresponding firms as far as administration and inspection information are concerned. Therefore, internal control aims at helping firms to ensure report dependability. From past studies, the case was applicable and effective then but it cannot be generalized to fit in the current emerging bourses. So, in this inquiry, the researchers applied Difference-In-Difference methodology which had been modified. It was revealed by the outcome that the quality of lagged earnings was improved after acquiescence with C-SOX which occurred in a statistically significant manner with no further real activity manipulation. C-SOX directly influenced reporting quality.

In Uganda, Kaawaase, Nairuba, Akankunda and Bananuka (2021) showed contextual concerns on financial institutions and the extent to which corporate governance connected financial reporting quality. In this case, internal audit quality was utilized as the mediating variable. The study problem was developed using cross-sectional and correlational plans. Questionnaires were utilized to collect data required. Findings portrayed that reporting quality was directly and significantly influenced by the aforementioned corporate governance attributes. Again, the internal audit quality did not play a significant mediating role in this main stream model.

### **2.3.3 Information Communication Technology and Loan Performance**

Information and communication for any business no matter the size is paramount for firm's performance. There are numerous inquiries which have been carried out to interrogate how the same aspect which of ICS influence the dependent variable. One of those inquiries was the study by Enomate and Audu (2021). Their concern was to find out whether information

and communication which is one of the ingredients of ICS significantly implicated on both performance aspects of firms which were members of Nigeria stock bourse. The inquiry relied on a research plan commonly referred to as ex post facto to develop the study enquiries in need of answers. 20 such firms were sampled from different sectors of non-financial classification and were members of Nigeria exchange bourse between the year 2016-20. Ordinary Least Square (OLS) was utilized to carry out inferential analysis which entailed descriptive and regression. The research results showed that firm productivity was directly impacted by the information communication aspect of ICS and the impact was significant. However, the information communication affiliated personnel did not show any significant intervening effect in this model.

Sina *et al.*, (2021) examined analytically to what degree of impacting information communication tool had on level of financial reporting quality the firms in question. The inquiry was carried out in Bangladesh where primary data was utilized for analysis purposes from commercial banks. Of course, structured questionnaires were further utilized for the actual data collection. General Regression Model by OLS method was data analysis tool that the researchers used to scrutinize the nature of the connotation that prevailed between the explanatory variable chosen which was quality of financial reports and outcome construct namely; information and communication aspect of ICS. Outcome gotten displayed a direct connection between the two sides and significant.

Other similar study to that of Sina *et al.*, (2021) had also been undertaken in Jordan by Al-Qudah (2019). The aim being to establish the degree of influence of information communication component of ICS on financial performance of organizations which were members of Amman securities bourse. To develop the study problem, the inquiry considered the two commonly used methods of data analysis, namely; descriptive and inferential analysis models. The population was dominated by a common feature of having made use of computer software program and adoption of new innovation and technologies. The sample size amounted to 120 firms where by corresponding unit of observation of 120 participants who entailed the top officials such as information technology managers, finance managers were issued with questionnaires. The research outcome portrayed that

the component of ICS, namely communication and information had a straightaway influence on the firm's productivity in terms of financial performance of those companies which was also significant.

Similarly, Ngala, and Musau (2022) sought to find out if reporting on finances as far as the County Government of Nairobi is concerned was determined by the IFMIS was put in motion. The IFMIS was gauged using aspects of budgeting, procurement, recording and communication. To form the research questions, this was arrived at by use of causal research design. Sample size was made up of 425 finance and economic planning department officials. Data collected was of two categories, namely; primary which was gotten through use of structured questionnaire and secondary one was through use of data collection sheet. The causal perspective of the self-determining and reliant on variables was arrived at by use of multiple regression model. It was established that all the aspects of budgeting, procurement, ICT and recording influenced finance reporting approach in a direct and significant way. At last, the general ruling was that IFMIS prompts reporting quality directly.

A study carried out in Bangladesh by Rahman and Hasan (2019) aimed at identifying the mainstream factors that drive the variances in value of financial reporting quality information observed in a finance-based surrounding of cement manufacturing organizations in that country. The sample size selected was 58 manufacturing organizations which have been operational for the last 10 years starting from 2007 up to 2015.

In Bangladesh, another study was undertaken by Rahman and Hasan (2019) who aimed at identifying the mainstream factors which drive the variations of finance value for cement manufacturing organizations in that country. The study relied on a total of 58 such firms which acted as the sample size of the inquiry. The data was analyzed with the help of multiple regression methods. The model was of the ordinary least square (OLS) with pooled aspect. It was revealed that financial returns in terms of profitability and liability from third parties were the main predictors of the quality of financial report data. Further,

it was displayed that the size of the organization and lagged quality did not have influence on the main model for it was not significant.

#### **2.3.4 Monitoring and Loan Performance**

There are several researches which have been carried out to portray the linkage between this aspect and some variables categorized as dependent variable. For instance, Maalim (2017) wanted to determine if monitoring activities in the County of Mombasa, Kenya impacted on project performance significantly in any significant manner. So, he sought meet this set goal; to launch the impact of participation by stakeholder on firm productivity of the developments in question, to establish the impact of imparting knowledge on productivity of the aforementioned schemes, to evaluate the impact of budgetary allocation on performance of those venture and lastly, to investigate whether politics brought about moderating effect on monitoring perspective and development performance main model. a descriptive plan was relied upon to set the research questions for the study. after sampling was done, the 271 units of observations were used as the sample size for data analysis purposes. for data collecting procedure, a structured questionnaire was made use of by the researcher. It was portrayed from the data analysis that the three predictors, namely; participation by stakeholder, capacity building and allocation of budget impacted the project performance. Again, politics moderated effectively the model aforementioned and was a weak one for that matter.

In Rwanda, Hubert and Mulyungi (2018) aimed at establishing the impact of the independent variable chosen for this inquiry which was monitoring and evaluation planning that it had on the outcome variable identified by the researcher which was project performance. This was a case of chosen NGOs located at in Gasabo where the respondents translated to 72 in number which represented the population. For development of the research problem, descriptive survey design was utilized. Purposive sampling approach was utilized and this translated to 144 respondents as guided by Yamane's formula which acted as the sample size for this inquiry. The category of data in use in this inquiry was of primary and secondary nature. Structured questionnaire therefore was utilized for the purposes of data collection of primary kind while data sheet was for secondary data which

were the main data collection tools utilized herein. Both inferential data analysis tools, namely; correlation and regression models were made use of. Findings indicated that all participating institutions were part and parcel of the monitoring and evaluation strategies designed by AVU. So, in this study, it is clear that M and E planning significantly aided in performance. The current study will endeavor to establish if given loan performance as the dependent variable it will be significantly influenced by the COSO based monitoring and evaluation.

In Kenya, the following three researchers, namely Maendo, James and Kamau (2018) purposed to carry out a key determinant of projects related to construction of roads. The inquiry covered 41 road projects located around the Lake Basin Region of Kenya. The research results portrayed that road construction ventures were significantly affected by the activities related to monitoring and evaluation of the same ventures in a direct manner.

#### **2.4 Summary of Literature Review and Research Gaps**

The section represents the framework of theoretical nature and four theories relevant to the study which have been discussed. These theories are systems theory agency theory information asymmetry theory and credit risk theory. The theoretical outline presenting the diagrammatic association between the explainer and the criterion construct has been given and factor discussed. For this matter, ICS is the explanatory variable and loan performance is the criterion variable. The empirical review has also been done and the work performed by other investigators which is associated to the area of inquiry discussed. Research gaps thereof has been identified and a summary of the chapter given. The specific gaps are summarized in Table1 2.1.

**Table 2.1: Summary of Literature Review and Research Gaps**

<b>Name of the Author(s) (years)</b>	<b>Research Topic</b>	<b>Research Findings</b>	<b>Research Gaps</b>	<b>The focus of the current study</b>
Kule, Kijjambu and Rwakihembo (2023)	The impact of the ICS component on accountability of finances in the context of SACCOs in Mid-Western Uganda.	Internal control environment as a component of ICS directly impacted on financial accountability of the those SACCOs.	The study aimed at SACCOs in Uganda. The applicability of ICS may contextually differ with other SACCOs in other regions	The current study is considering SACCOs and how the four components of ICS influence loan performance.
Eton, Fabian, and Benard (2022)	the relationships between ICS and financial accountability	Specifically, control environment and monitoring controls bear significant effects on financial accountability while control activities did not.	The study was done in Uganda and the focus was on the financial accountability while further research is necessary to find out if significant influence exists on loan performance	Loan performance in this study will be the outcome variable to be estimated. To do so, control environment an element of ICS will be the predictor construct.
Hu, Weng and Wang (2021)	linkage between Chinese based internal control guideline and final quality financial reporting	The findings pointed out that there was promotion on accrual-based earnings quality through the C-SOX compliance which was of significance nature. manner with no further real activity manipulation.	The study was China based and the country is amongst the developed ones. The question that remains unanswered is if the results gotten can be compared with those for a developing country and a generalization done	The unit of analysis being looked in to is of Kenyan based and the results of how information communication may impact loan performance may vary.

Sitorus, Setiyawati and Mappanyuki (2020).	The conceptual relationship of ICS and quality of financial statements reporting.	The main aim was to determine whether ICS significantly influenced the level of quality financial reporting	The findings portray that the relationship between ICS and the reporting quality was significant and also the internal audit moderated the aforementioned main model. The dependent variable used is on general performance and has no relationship with loans.	The current study is focusing on the influence of control activity and the impact it has on NPL for saccos of deposit taking nature in Nairobi City County.
Ajao and Oluwadamilola, (2020)	the connectivity of ICS components and the level of quality financial reporting status.	It was revealed that information communication, the control environment aspect of ICS. The matter of risk assessment, control activities aspects and monitoring as part of ICS directly influenced the reporting financial matters in a significant way.	This study focused on two aspects of the ICS, namely; information communication, the control environment. More concern is necessary to find out of the four such as control activity, control environment, communication and monitoring	The current study will focus on the impact of four aspects of ICS and how they influence loan performance. The case will be of the DT-SACCO firms located in Nairobi City County, Kenya.
Al-Qudah (2019)	Information communication and Jordanian industrial company's financial performance. A case of firms which were members of Amman securities bourse	The aspect of ICS namely communication information did have straight away impact on the financial performance of those firms under investigation.	It was s a study carried out in Jordan and the firms there as compared with the counterparts in Kenya may vary in terms of the methodology of sampling and hypotheses testing. This calls for considering the appropriate methodology even if the study is similar to another	The current study will carry out multiple regression analysis to establish the correctness of the four hypotheses of the influence of the 4 ICS components on loan performance.

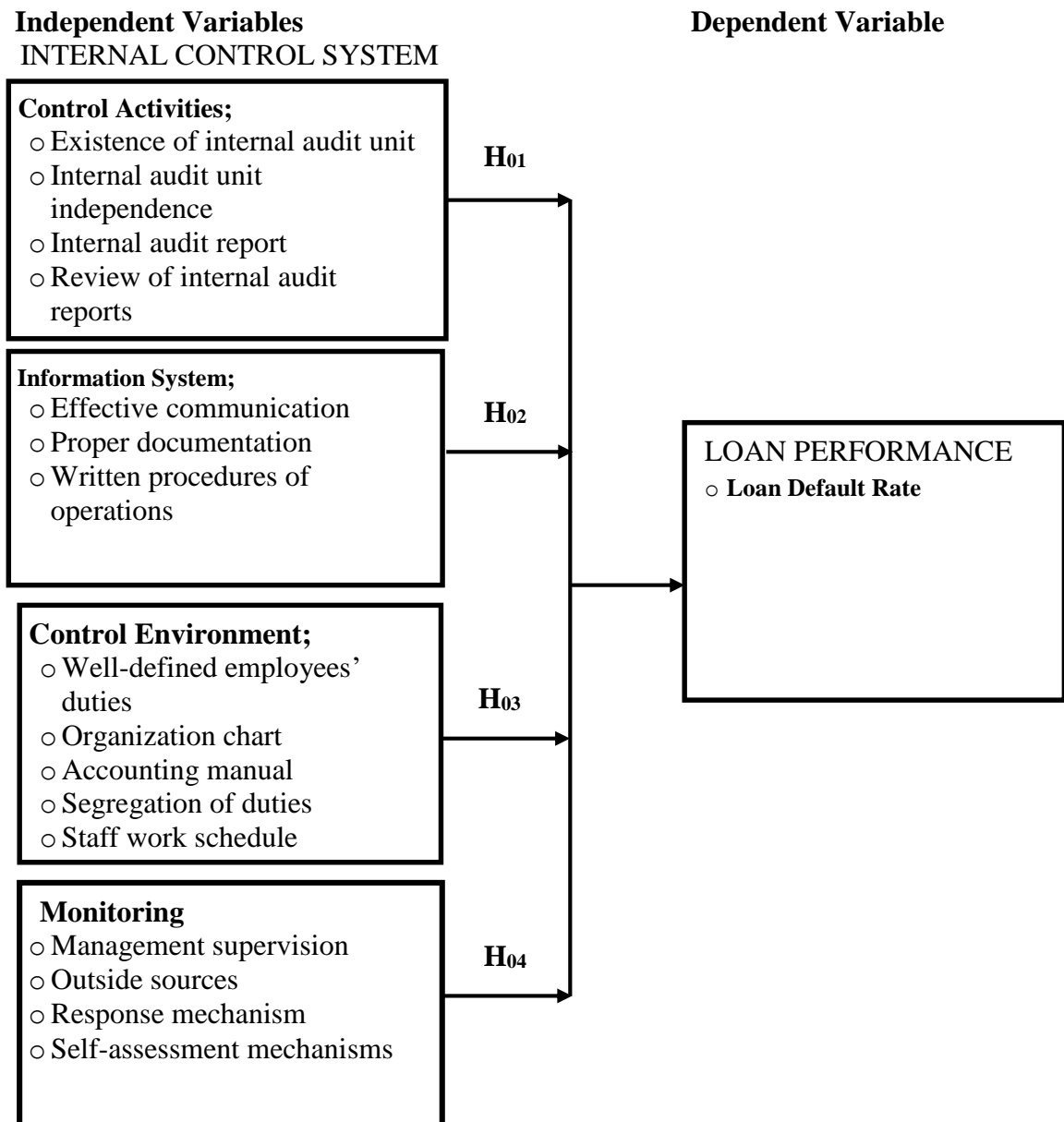
Hubert and Mulyungi (2018)	Concept of Monitoring and evaluation planning and project performance of firms.	Found that M and E planning significantly aided in performance	The study of Hubert and Mulyungi (2018) used simple regression to test the null hypotheses. This methodology may not portray the rigor or prediction power arising when all the predictor variables are used at once to estimate the changes in dependent variable.	The current study is considering the prediction power of the four variables of ICS origin for any system to be in place, all the components have to work together.
Akinola (2018)	Conceptualization on the link between credit control and Non-Performing Loans in the context of DT-financial businesses of banking nature in Nigeria	It was found that NPL were impacted by credit control in a significant manner.	The study focused on NPL in Nigeria for all deposit taking financial institutions. There was no specific focus on a particular DT-financial institution. So, it is hard to generalize the outcome for DT-SACCOs	In the current study, the focus will be for loan performance measured using loan default rate but for only DT-SACCOs so as to make use of the findings to set reliable policies.
Mbuva, Rambo and Oketch (2018)	control environment and its impact on the SME performance in Machakos County	control environment, namely; workers' ethics and integrity, authority delegation, responsibility assigning by top management and policy making which are related to HR department did not have significant influence on SMEs' financial performance.	The unit of analysis was the SME located in Machakos County. There is need to consider the same control environment and whether it significantly influences loan performance of SACCOs	The current study will consider the unique aspect of control environment and how it influences DT-SACCO loan performance. The location is Nairobi City County.

Agyapong (2017)	ICS of the Ghana Post Company and financial management in the government owned institutions.	It was found that, first, the ICS suffered some lapses opening loopholes for corruption to take place. It is these weaknesses found in the ICS that resulted to officials penetrating to misappropriate the government resources	The study was undertaken for government-based institutions regarding the challenges facing those organs due to poor ICS implementation. This was in Ghana	The current study is focusing on the DT-SACCOs which have installed ICS and are functioning. In this case, the study is considering 4 out of the total 5 as stated in COSO, 1002 and 2013
Maalim (2017)	monitoring and evaluation practices in Mombasa County Kenya impacted on project performance	It was portrayed from the data analysis that the three predictors, namely; participation by stakeholder, capacity building and allocation of budget impacted the project performance. Again, politics moderated effectively the model aforementioned and was a weak one for that matter.	The concern of Maalim (2017) study was on county projects and how monitoring influenced the performance thereof. The study was silent on whether the monitoring was internal or external	The current study is estimating the changes noticed on the loan performance of SACCOs of DT nature where the monitoring aspect is the one internally developed by the top management.

Source, Author, 2024

## 2.5 Conceptual Framework

The sub-variables used to measure credit risk management practice is build up with customer credit checks, the aspect of credit risk assessment and also the aspect of credit policy compliance form the viewpoint of the predator construct which is the credit risk management practices which is loan performance is the dependent variable. This conceptual framework is focusing on NSE listed banks domiciled in Kenya. The theoretical viewpoint is demonstrated as per Figure 2.1.



**Figure 2.1: Conceptual Framework**

**Source: Author. 2024**

## **CHAPTER THREE**

### **RESEARCH METHODOLOGY**

#### **3.1 Introduction**

Chapter three is a stage in research which entails the blue print or road map which was utilized by the researcher to develop the research problem which was the overall methodology guiding on all methods which were used in this research endeavor. Populace procedure collection of data and analysis of the same was wholesomely engraved herein. The ethical issues which were taken care of are also inbuilt.

#### **3.2 Research Design**

Researchers use diverse research designs such as explanatory, causal-effect, correlational and descriptive ones. In this inquiry, the focus was on the causal research design. This is because the approach does not accommodate the modification of the research constructs (Kothari, 2009). This method of investigation will allow the researcher to examine issues that relate to ICS and the influence on loan performance, then collect and analyze data thereof so as to provide an explanation which represents the phenomenon in its current status.

#### **3.3 Target Population**

The selected populace in this inquiry refers to a universe of the study subject and this definition is in tandem with that of Mugenda & Mugenda (2009) who opined that a one hundred percent group of the subject matter being studied represents the study population and should have similar observable characteristics. The target population was the 42 SACCOs which were members of SASRA (SASRA Report, Kenya, 2022).

#### **3.4 Data Collection Instruments**

To scientifically gather required data, both structured questionnaire and secondary data collection sheet were utilized as shown in the appendix (III). The questionnaire was utilized to collect primary data. The instrument aforementioned was divided in to four parts, namely; part A to F. Part A entails the general information or demographic information

about those financial institution aforementioned which were domiciled in Nairobi City County, Kenya. In this part, the concern was to do with inquiry on the demographic aspect of the respective SACCO.

Part B to F focused on the independent variables to do with ICS which cut across the aspect of control activities, matters to do with information and communication, control environment issues, and monitoring process. The purpose was identified whether the aspect of ICS used by the SACCOs significantly influenced loan performance. Data collected helped in determination of whether there existed a conceptual linkage between the ICS variables and DT-SACCO loan performance

### **3.5 Validity and Reliability of Research Instrument**

Validity and reliability test is paramount for any data collection tool for it has to be tested against validity and reliability levels to avoid biasness in outcome. In this section, the researcher considered validity and reliability tests.

#### **3.5.1 Validity of the Research Instrument**

According to Bairagi and Munot, (2019), the degree to which a trial procedure a study variable is referred to as validity test or gauge. Within this definition, the aspect of validity can be measured on the basis of content and construct viewpoint (Mason and Bramble, 1989). The aspect of content validity test measures the exactness of an inquiry tool to attest that the value in question pertaining the study variable is exact. On the other hand, the construct validity is a test of exactness of the question at hand. The test ensures that the level of vagueness of such a query is minimized to zero. This will be achieved by consulting the supervisor of this academic assignment who in turn has to check through to ensure that the set objectives, conceptual framework and questionnaire contents are all at harmony with each other.

#### **3.5.2 Reliability of the Research Instrument**

This investigation was anchored on the commonly utilized Cronbach's Alpha score which gives an estimate of the of the research reliability instrument. This objective was achieved

by the researcher ensuring that the internal consistency of the study variable complies with the expectations. If the score ranged between 70% (0.70) up to 100% (1.00) it was to be accepted (Cronbach, 1951). The internal consistency was achieved by adopting the methodology suggested by Drost (2012) who was of the opinion that a split-half tactic was appropriate. In backing of steadfastness of the investigation instrument, the Drost (2012) opinion was underpinned by Orodho (2009) who suggested that the correlation coefficient value of the data collection instrument should lie between 0.7 and 1.00 score levels and not going beyond this mark.

### **3.5.3 Pilot Study**

Pilot testing entails initial testing of whether the internal consistency aforementioned really works. It requires the researcher to select a pilot study sample which according to Mugenda and Mugenda, (2009) should range between 1% to 10% of the populace or the research sample size. Based on this argument, the researcher considered 10% of the 42 DT-SACCOs in Nairobi City County translating in to 4 SACCOs. The selected respondent was furnished with a questionnaire to fill. A research assistant was incorporated to collect the data. The 4 DT-SACCOs selected for the pilot study were not part of main exercise of data collection and was chosen from the Kiambu County who had similar characteristics to the ones in Nairobi. Therefore, the total respondents remained at 42 DT-SACCOs. The aspect of reliability of the data collection tool, the researcher was relied upon on the pre-test technique which fitted well. The procedure of achieving this objective was to administer the same test to the same team of research participants selected for this research endeavors.

### **3.6 Data Collection Procedure**

Information accessibility is key in any research. Therefore, in this case the right procedure was adhered to the letter. This ensured that sufficient data was collected which truly represents the whole population (Mohajan, 2018). In this study, research assistants were utilized. To achieve this objective, the research assistants were taken through some collection of data process so as to ensure that the right quantity of data was captured and also ensured adherence to ethical considerations.

The researcher used the methodology of drop and pick of the questionnaires amongst the respondents. These efforts were only address primary data collecting process. Secondary data collection schedule/matrix was utilized to collect data for loan default rate. The data was accessed through the SASRA website and or individual DT-SACCO audited accounts. The secondary data was for the five years from 2018 to 2022.

### **3.7 Data Analysis and Presentation**

After data had been collected, the researcher carried out editing, sorting and data entry processes. This process aided the actual data analysis process to get initiated effectively. Descriptive data analysis was performed to express the general movement of the ICS affiliated study constructs, namely; control activities, control environment, information communication technology and monitoring which are the predictor variables and lastly loan default rate.

### **3.8 Diagnostic Tests**

This is the first data analysis which was carried out to ensure that the data collected was in conformity with the regression assumptions. Some of those tests which were carried out here are; normality, linearity, homoskedasticity and multicollinearity tests.

#### **3.8.1 Normality Test**

The test of normality informs the statistical inferences taken by the researcher about the sample (Das & Imon, 2016). According to Wooldridge (2000), if the condition of normality is met, there will be no skewness on the plotted histogram, while violation of normality assumptions results into a less reliable regression coefficient. This study adopted histogram and normality plot tests.

#### **3.8.2 Test for Multicollinearity**

Multicollinearity problem arises when causative variables considered in the model are extremely correlated (Garson, 2012). The test involved computing Variance Inflation Factor (VIF) in which a limit of  $VIF \leq 10$  implies absence of multicollinearity problem. The presence of this issue indicated that statistical extrapolations arrived at may not be

dependable (Field, 2009). This problem was to be cured by alighting the data to the Centre or eliminating all together the independent variables that registered higher VIF values.

### **3.8.3 Test for Homoscedasticity**

This is an assumption which suggests that volatility of the error term is constant. Field (2013) debates that if the assumptions are observed by the data, then Homoscedasticity is present. This study used Breush-Pagan test to check for homoscedasticity of variance as commended by Warner (2008). It is noted that; 0.05 is recommended for the test to meet homoscedasticity assumption. The violation of homoscedasticity (absence of heteroscedasticity) makes the coefficient of regression be less reliable. Heteroscedasticity is also addressed through log linear transformation.

### **3.9 Inferential Analysis**

After descriptive analysis, the researcher performed inferential data analysis. The inferential analysis was divided in to two; one, was the correlational analysis which entailed assessment of the strength and direction of the study variables. Pearson product moment coefficient correlation was of great use herein. Then the number two analysis was multiple regression analysis which was utilized to test the four null hypotheses in this study. This aspect of inferential statistics such as Fisher-test (F-Test) was used to test the overall equation or to test best of fit. Adjusted R square (Adj.  $R^2$ ) is another statistic which was established which is a coefficient of determination used to show best of fit. The last test was the slope referred to as beta coefficient ( $\beta$ ).

It should further be noted that since the study used both primary data which is cross-sectional and secondary data which is longitudinal in nature, then triangulation methodology was utilized to make the two sets of data have one data point for regression purposes.

### **3.10 Empirical Model**

The empirical model that was used to portray the concept of ICS and loan performance for DT-SACCOs is as indicated herein as a multivariate regression formula;

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \epsilon$$

**Where;**

Y = Loan Performance

X<sub>1</sub> = Control Activities

X<sub>2</sub> = Control Environment

X<sub>3</sub> = Information and Communication Technology

X<sub>4</sub> = Monitoring

β<sub>0</sub> = Constant term

β<sub>1</sub>.....to β<sub>4</sub> are coefficients of independent variables.

ε = Error term

### **3.11 Ethical Considerations**

In order to undertake the investigation, the researcher obtained a letter of authorization from Kenyatta University. The investigator sought for research certificate from NACOSTI. Moreover, in undertaking data collection, the study adhered to various ethical considerations including, truth, independence, confidentiality, privacy, inclusiveness, justice, independence, informed consent. The respondents were assured of their confidentiality that research data would not be disclosed to third parties or other parties that could use such data for their own purposes. It was also suggested that they were not to disclose their identity (by not writing respondents' names in the research resources).

### **3.12 Operationalization and Measurement of Variables**

Operationalization is the process of designing a construct in a way such that a character represented by a study variable becomes more clearer (Sekaran, 1992). In this study, Table 3.1 summarizes the constructs used.

**Table 3.1: Operationalization and measurement of Variables**

<b>Type of Variable</b>	<b>Indicators</b>	<b>Measurement Scale</b>	<b>Research Approach</b>	<b>Analysis Tool</b>
<b>Control Activities</b>	<ul style="list-style-type: none"> <li>○ Existence of internal audit unit</li> <li>○ Internal audit unit independence</li> <li>○ Internal audit report</li> <li>○ Review of internal audit reports</li> </ul>	Interval	Qualitative	Simple Regression Analysis
<b>Information System</b>	<ul style="list-style-type: none"> <li>○ Effective communication</li> <li>○ Proper documentation</li> <li>○ Written procedures of operations</li> </ul>	Interval	Qualitative	Simple Regression Analysis
<b>Control Environment</b>	<ul style="list-style-type: none"> <li>○ Well-defined employees' duties</li> <li>○ Organization chart</li> <li>○ Accounting manual</li> <li>○ Segregation of duties</li> <li>○ Staff work schedule</li> </ul>	Interval	Qualitative	Simple Regression Analysis
<b>Risk Assessment</b>	<ul style="list-style-type: none"> <li>○ Risk identification</li> <li>○ Risk assessment</li> <li>○ Risk response.</li> </ul>	Interval	Qualitative	Simple Regression Analysis
<b>Monitoring</b>	<ul style="list-style-type: none"> <li>○ Management supervision</li> <li>○ Outside sources</li> <li>○ Response mechanism</li> <li>○ Self-assessment mechanisms</li> </ul>	Interval	Qualitative	Simple Regression Analysis

**Source: Researcher, (2024)**

## **CHAPTER FOUR**

### **DATA ANALYSIS, PRESENTATION AND INTERPRETATION OF FINDINGS**

#### **4.1 Introduction.**

This is the part of the inquiry which entails the actual data analysis which cover the aspect of diagnostic analysis, descriptive analysis, correlational analysis and regression analysis. This main aim of this section is to interpret the empirical implications of the relationship between the ICS components and the loan performance of the DT-SACCOs located at Nairobi City County, Kenya.

#### **4.2 Response Rate.**

The questionnaires distributed to the top management team of the DT-SACCOs especially the CEOs were 42. The same number was collected after they were filled by the study respondents. This represented a response rate of 100%. This was because the researcher made use of referral approach which in the initial stages was not seen as a strategy to efficiently collect data from all the CEOs.

After one CEO fills his/her questionnaire, the researcher requested to be referred to the other networked CEO by the current one. As a result, although the drop and pick approach was the bottom line, the data collection was 100% successful. According to Mugenda (2003), the aforementioned quotient surpasses the set threshold of 70%. This empirical suggestion is also supported by Levinsen, (2017) who according to him a response rate of 50% is said to be good enough.

#### **4.3 Demographic Characteristics of DT-SACCOs in Nairobi City County, Kenya**

Several aspects of the Nairobi County based DT-SACCOs were interrogated to understand the managerial diversities. In this case, only two aspects were checked. That is the gender diversity and industry in which the individual SACCO operated in although doing some DT services.

#### 4.3.1 CEO Gender Diversity

The current inquiry aimed at establishing the gender diversity of the DT-SACCO Chief Executive Officers (CEOs). The results portrayed significant differences as far as sex structure was concerned. The outcome was as Indicated in Table 4.1

**Table 4.1: CEO Gender Diversity Results for DT-SACCOs in Nairobi City County, Kenya**

	Frequency	Valid Percent	Cumulative Percent
Valid Male CEOs	39	92.9	92.9
Female CEOs	3	7.1	100.0
<b>Total</b>	<b>42</b>	<b>100.0</b>	

Table 4.1 portrays that majority of the CEOs spearheading the DT-SACCOs in Nairobi City County were majorly men with 39(92.9%) representation and the balance of 3(7.1%) being a proportion representing women CEOs. The sex diversity implies that most of the CEOs concentrate in leading the SACCOs for longer hours as dictated by gender parity.

#### 4.3.2 Industry in which DT-SACCOs in Nairobi City County, Kenya

The study sought to establish the type of the industry in which the DT-SACCOs operated in and the results were as presented in Table 4.2

**Table 4.2: Industry of DT-SACCOs Operations Results in Nairobi City County, Kenya**

	Frequency	Valid Percent	Cumulative Percent
Valid Service Industry	28	66.7	66.7
Manufacturing Industry	6	14.3	81.0
Construction Industry	2	4.8	85.7
Merchandized Industry	3	7.1	92.9
Others	3	7.1	100.0
<b>Total</b>	<b>42</b>	<b>100.0</b>	

Table 4.2 revealed that the industry with the highest number of DT-SACCOs was the service provision affiliated one which had a 66.7% (28) occupancy. It was followed by manufacturing with 6 SACCOs under it which was a 14.3% of the total firms of concern. Merchandized and other industries tied as far as the number of DT-SACCOs operating under them was concerned with a 7.1% (3 Saccos each). The industry with the lowest was

construction-based with only 2 SACCOs. The implication is that the SACCO DT services is an extension of the core services these firms provided to their members.

#### 4.4 Validity Test

Validity counts a lot in any research work for it ensures that the data collection tool in this case being the structured questionnaire is proved to be capable to measure the variable of concern as expected as far as construct and content correctness is concerned (Cresswell, 2012). According to Mason and Bramble, (1989), the researcher was well guided by the experts namely, the supervisor who checked to ensure the data collection tool complied with the validity test. So, this was achieved by use of pilot testing which was carried out and ensured that the questionnaire gauged the constructs the correct way for both the spheres of construct and content. This was proven by the way research questions resided in the survey were bordered.

#### 4.5 Reliability Test

In addition to validity test, the other test performed was reliability. The aspect of reliability portrays the proof that a questionnaire retains consistency in what they measure with the same results every other time the test is repeated. In this case, the study variables under ICS, namely; control activities, control environment, information, communication and technology were tested for the same plus the dependent variable which is loan performance. As per Cronbach alpha coefficient, a score between 0 and 1 is determined. He suggested a range of 0.7 and above to be appropriate (Drost, 2012 and Orodho, 2009). Table 4.3 portrays the final results thereof

**Table 4.3: Reliability Test Results**

	<b>Cronbach's1Alpha</b>	<b>Decision</b>
Control Activities	.987	Reliable
Control Environment	.932	Reliable
Information communication Technology	.898	Reliable
Monitoring	.902	Reliable
Loan Performance	.879	Reliable

The outcome of the reliability test as per Table 4.3 above shows that the study variables were reflecting the variable being measured as stated earlier on.

## 4.6 Diagnostic Test

Diagnostic test is the gauge to assess the validity of the data collected. Data ought to portray that it is normally distributed. As a result, Razali and Wah, (2011) suggested several pre-regression trials to ensure that this aim is achieved. The tests applied by the current study here are test of normality test, test of multicollinearity and test of heteroscedasticity status. The detailed results are as indicated;

### 4.6.1 Normality test

The study considered normality test where by histogram and normal P-P plot were performed to portray the normal distribution of loan performance as the outcome construct in this study. The results were presented using the two figures below, namely; Figure 4.1 and Figure 4.2

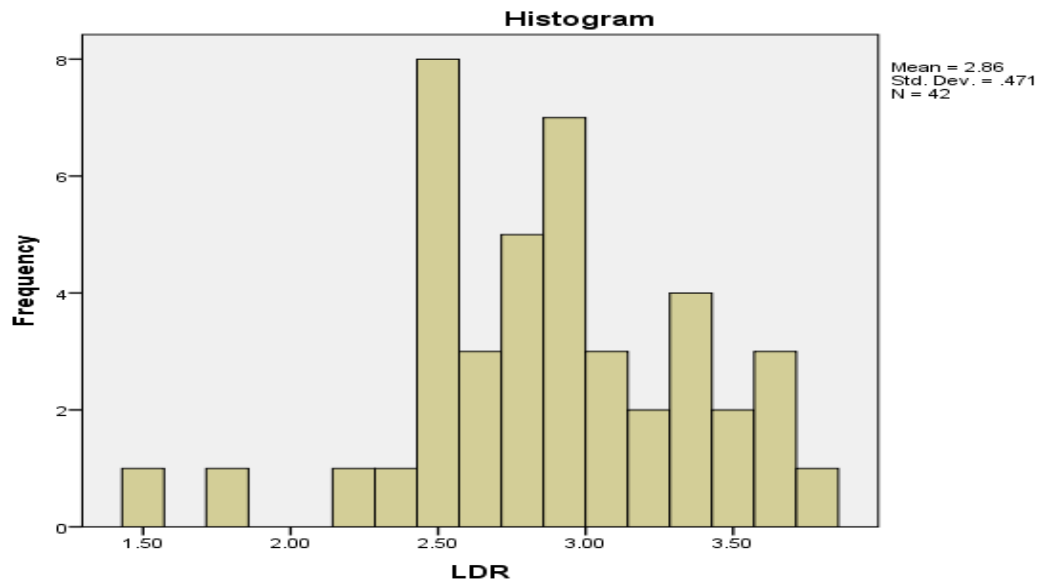
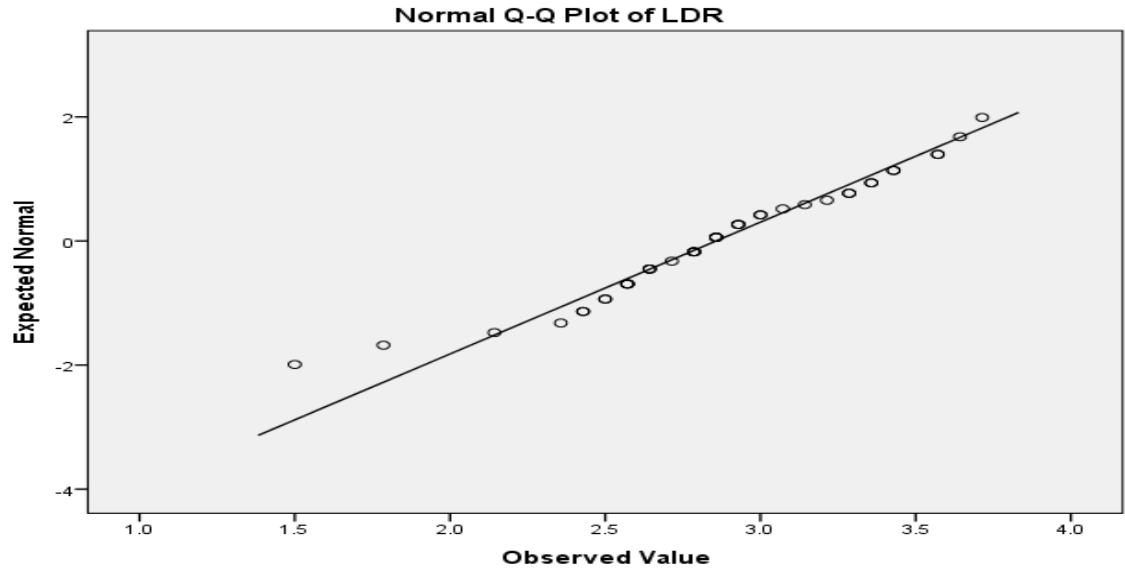


Figure 4.1: Histogram



**Figure 4.2: Normal P-P plot of LDR**

As per Figure 4.1 and Figure 4.2 respectively, it is clear that the data collected for loan performance was normally distributed.

#### 4.6.2 Multicollinearity test

Another test before descriptive, correlation and regression were performed was the multicollinearity trial. The aspect of multicollinearity as stated in chapter three is a problem that predictor variables face whereby there exists very high level of correlation. In this study, Variance Inflation Factor (VIF) was used to test this anomaly. A value of between 1 and 4 is enough evidence that the variables do not suffer from that challenge (Pallant, 2011). The results were shown in Table 4.4

**Table 4.4: Multicollinearity Test Results**

Model	Unstandardized Coefficients		Standardized T Coefficients	Sig.	Collinearity Statistics		
	B	Std. Error	Beta		Tolerance	VIF	
	(Constant)	.233	.239	.640	.523		
1	CA	.412	.094	.247	5.748	.000 .947	1.056
	CE	-.550	.072	-.336	-7.882	.000 .960	1.041
	ICT	.798	.050	.755	17.515	.000 .938	1.066
	MONI	.823	.045	.675	13.342	.000 .934	1.076

Table 4.4 shows that the VIF values of control activities, control environment, information communication and technology have not multicollinearity problem.

#### 4.6.3 Heteroscedasticity Test

Heteroscedasticity is the state of lack of uniformity amongst the self-governing construct, reliant on construct and the error term in a model. the opposite is the state of uniformity and it is referred to as homoscedasticity where the aforementioned aspects portray uniformity. The test for this state is through many methodologies (Hair, William, Barry and Anderson, 2006). However, in this inquiry, modified Wald test was used the results are as indicated in Table

4.5

**Table 4.5: Heteroskedasticity Test Results**

<b>Modified Wald test for groupwise heteroskedasticity in fixed effect regression model</b>	
H0: $\sigma(i)^2 = \sigma^2$ for all i	
chi2 (42)	= 1.3e+07
Prob>chi2	= 0.067

As per Table 4.6, the hypothesis of null nature ( $H_0$ ) has the advocacy that the error term is fixed in nature or it is constant. In other words, it has homoscedasticity state. So, Table 4.5 depicts that the p value was more than the critical value (ie 0.05) and therefore the  $H_0$  was accepted. That is p-value was 0.067 which implies that the error term was in the right state of homoscedasticity.

#### 4.7 Descriptive Analysis

The study considered a further analysis of the data collected by carrying out the descriptive investigation. The aim was to establish the general movement of the study variables. The outcome was summarized in tables and explanations provided thereof as follows;

##### 4.7.1 Control Activities of DT-SACCOs in Nairobi City County, Kenya

The respondents were asked to respond to some questionnaire enquiries where by a Likert scale of; Strongly Agree (SA)=5, Agree(A)=4, Neutral(N)=3, Disagree(D)=2 and Strongly

Disagree (SD)=1 was relied upon to infer the issue of control activities taking place in their DT-SACCO firm. The response was as indicated in Table 4.6

**Table 4.6: Descriptive Results of Control Activities for DT-SACCOs in Nairobi City County, Kenya**

<b>Expression of Views</b>	<b>N.</b>	<b>SA</b>	<b>A</b>	<b>N</b>	<b>D</b>	<b>SD</b>	<b>Dev.</b>	<b>Mean</b>
The internal audit unit has been in existence since the DT-SACCO was established	42 100%	12 28.6	9 21.4	10 23.8	6 14.3	5 11.9	1.08	3.17
There is an internal audit department/section or function whose recommendations are seriously adopted by the management	42 100%	4 9.5	10 23.8	14 33.3	11 26.2	3 7.1	1.47	2.40
Internal audit is independent of the influence by the management	42 100%	2 4.8	10 23.8	14 33.3	11 26.2	5 11.9	1.06	2.12
Internal audit unit is separated from the finance and accounting sections/departments	42 100%	14 33.3	15 35.7	2 4.8	4 9.5	7 16.7	1.23	2.55
Internal audit unit has a limit of the much it can work with the external auditors	42 100%	16 38.1	10 23.8	11 26.2	5 11.9	0.00 0.00	1.27	2.55
Internal auditor always prepares and presents a report on quarterly basis	42 100%	12 28.6	8 19	12 28.6	7 16.7	3 7.1	1.28	2.98
<b>Composite for Mean and Standard Deviation</b>							<b>1.23</b>	<b>2.63</b>

From Table 4.6, the issue of internal audit unit having been in existence since the DT-SACCO was established was raised. 21(50%) of the respondents agreed that this section/department existed in their DT-SACCO and 11(26.2%) were in disagreement and the rest, that is 10(23.8%) were neutral with an average of 3.17 and it was above the aggregate one of 2.63 and SD of 1.08. This implies that there was existence of this section in the organization which aided in promoting loan performance.

Further interrogation of whether recommendations from internal audit department/section or function were seriously adopted by the management was brought to light. The respondents who were in agreement were the minority which was 14(33.3%). Those who disagreed were also 14(33.3%) and equally the neutral group was 14(33.3%). So, generally, the adoptability of the recommendations from the audit department was fairly done with mean score of 2.40. hence not significant.

This inquiry further purposed to assess the degree to which internal audit was predictor of the influence by the management. The response was as follows; 12(28.6%) were in agreement while the majority 16(38.1%) were in disagreement. The neutral group were made of 14(33.3%) and the corresponding line average value was 2.12 which was lower than the overall score of 2.63. this implies that the level of independence was not significant as it was expected. Additional consideration of the internal audit unit separation from the finance and accounting sections/departments was put in place. The respondents who felt that there was demarcation between this department and the others were 29(69%) which was the majority and the ones who were against the opinion of the majority were 11(26.2%). The rest 2(4.8%). Although the majority were in agreement over this matter, the line mean was 2.55 hence lower than the composite of 2.63. this implies that there was a separation which was not very much noticeable.

The question of whether internal audit unit was limited to the degree it worked with the external auditors was brought forward for the respondents to react. The outcome was as follows; majority 26(61.9%) supported that claim; minority 5(11.9%) were against that and the rest 11(26.2%) took no neither side. The line mean was 2.55 and so was less than the composite score of 2.63 which implies that the working together was not significant as such. Also, the claim that internal auditor always prepared and presented a report on quarterly basis was subjected to the respondent's opinion and 21(50%) were in support while another 10(23.8%) was not for that idea. The remaining 12(28.6%) took no side. The single average value was 2.98 which was more than the overall mean of 2.63 and this means the aspect was significant to the DT-SACCOs loan performance alterations.

#### **4.7.2 Control Environment for DT-SACCOs in Nairobi City County, Kenya**

The respondents were asked to respond to some questionnaire enquiries where by a Likert scale of; Strongly Agree (SA)=5, Agree(A)=4, Neutral(N)=3, Disagree(D)=2 and Strongly Disagree (SD)=1 was relied upon to infer the issue of control environment taking place in their DT-SACCO firm. The response was as indicated as indicated in Table 4.7

**Table 4.7: Descriptive Results of Control Environment for DT-SACCOs in Nairobi City County, Kenya**

<b>Expression of Views</b>	<b>n.</b>	<b>SA</b>	<b>A</b>	<b>N</b>	<b>D</b>	<b>SD</b>	<b>Dev.</b>	<b>Mean</b>
The SACCO has a culture of taking the employees through an induction process to understand the nature of job they are to undertake	42 100%	12 28.6	8 19	12 28.6	7 16.7	3 7.1	1.27	2.55
All employees have job description document at the time of engagement by the DT-SACCO	42 100%	8 19	8 19	13 31	8 19	5 11.9	1.28	2.86
There are no overlaps between or amongst departments	42 100%	6 14.3	9 21.4	14 33.3	6 14.3	7 16.7	1.28	2.98
There exists DT-SACCO organization chart available to each stakeholder of the SACCO, be it, an employee or outsiders	42 100%	16 38.1	10 23.8	11 26.2	5 11.9	0.00 0.00	1.47	2.40
The organization chart portrays well the chain of command at a glance	42 100%	11 26.2	10 23.8	10 23.8	9 21.4	2 4.3	1.06	2.12
Any delegation of duties which conflict the flow of duties as per the organization chart is solved immediately	42 100%	12 28.6	8 19	12 28.6	7 16.7	3 7.1	1.23	2.55
Organization chart is revised all the time there is managerial or administration changes which are material	42 100%	8 19	8 19	13 31	8 19	5 11.9	1.28	2.86
The SACCO has an accounting manual which guide the accounting and finance department	42 100%	12 28.6	9 21.4	10 23.8	6 14.3	5 11.9	1.36	2.60
<b>Composite for Mean and Standard Deviation</b>							<b>1.28</b>	<b>2.62</b>

In this inquiry, there was a claim that DT-SACCO in Nairobi City County had a culture of taking the employees through an induction process to understand the nature of job they undertake at the end of the day. The response was that 20(47%) which was almost the majority of the respondents agreed while 10(23.1%) disagreed. The rest which was 12(28.6%) were of neither the two opinions. The line mean was 2.55 which was lower than the composite one of 2.62. this implies that the culture was there but not significant. In addition, the researcher had argued that all employees have job description document at the time of engagement by the DT-SACCO. This suggestion was supported by half of the respondents for 21(50%) agreed. Then another 13(30.9%) disagreed and the other 13(31%) were of no opinion at all. Since the line mean was 2.86 which was above the composite mean of 2.62, then this subject matter was statistically significant and influenced the loan performance of the DT=SACCOs in Nairobi City County, Kenya.

The researcher also argued that there were no overlaps between or amongst departments. 15(35.7%) were for this debate while another lesser number of respondents, 13(31%)

disagreed and the other 14(33.3%) took no side. The consistent line average score was 2.98 and was more than the overall mean of 2.62. this implies that the aspect was significant in influencing the loan performance of these DT-SACCCOs in Nairobi City County, Kenya. Further, the issue of DT-SACCO organization chart being available to each stakeholder of the SACCO, be it, an employee or outsiders was raised to the respondents to react. The outcome was that majority 26(61.9%) agreed. Then 5(11.9%) disagreed and the rest 11(26.2%) had no idea on that aspect. The line mean was 2.40 which was below the overall mean of 2.62, implying that there was no significant influence of the available charts to influence the loan performance.

Another concern was that the organization chart portrayed well the chain of command at a glance. 21(50%) supported that supposition while 11(25.7%) disagreed and the rest 10(23.8%) were silent on this matter. The conforming average was 2.12 and was lower than the overall mean score of 2.62. this means that the chart did not significantly portray the chain of command as expected and most likely it did not have significant influence on the Nairobi City County based DT-SACCO loan performance in Kenya. Any delegation of duties which conflict the flow of duties as per the organization chart was solved immediately according to the suggestion of the researcher. In this case, 20(47.6%) were in support, 10(23.8%) did not agree with that suggestion and the balance 12(28.6%). The line mean was 2.55 as compared with the aggregate one of 2.62. This implies that any delegation of duties which conflicted the flow of duties as per the organization chart was solved immediately but did not significantly impact on the Nairobi City County DT-SACCO based loan performance in Kenya.

16(38%) were for the idea that the organization chart was revised all the time there was managerial or administration changes which were material. Another 13(30.9%) of the respondents did not agree with this supposition. The rest 13(31%) were not concerned to give any suggestion. The line and composite mean were 2.86 and 2.62 in that order which implies that this matter was statistically significant in influencing the level of loan performance of the DT-SACCOs in Nairobi City County, Kenya. Another concern of this inquiry was that the SACCO had an accounting manual which guided the accounting and

finance department. A response of 21(50%) half way were for that suggestion by the researcher. Another 11(26.2%) were in disagreement and the balance 10(23.8%) were neutral. The line mean was 2.60 which was almost equal to 2.62 implying that the aspect was on average key in influencing the loan performance of the DT-SACCOs in Nairobi City County, Kenya.

#### 4.7.3 Information Communication and Technology for DT-SACCOs in Nairobi City County, Kenya

The respondents were asked to respond to some questionnaire enquiries where by a Likert scale of; Strongly Agree (SA)=5, Agree(A)=4, Neutral(N)=3, Disagree(D)=2 and Strongly Disagree (SD)=1 was relied upon to infer the issue of ICT taking place in their DT-SACCO firm. The response was as indicated in Table 4.8

**Table 4.8: Information Communication and Technology Descriptive Results for DT-SACCOs in Nairobi City County, Kenya**

Expression of views	n.	SA	A	N	D	SD	Dev.	Mean
Top management ensures that any communication from up is well communicated to the lower cadre of management, supervisors and to all the employees	42 100%	16 38.1	10 23.8	11 26.2	5 11.9	0.00 0.00	1.06	2.12
All channels of communicating is automated to ensure continuous flow of information and data for operations of the SACCO	42 100%	12 28.6	8 19	12 28.6	7 16.7	3 7.1	1.27	2.55
There is customer care desk/office to take care of external communications from other interested parties to the organization such as loan borrowers	42 100%	8 19	8 19	13 31	8 19	5 11.9	1.28	2.86
All information and/or data is documented and backed-up electronically	42 100%	6 14.3	9 21.4	14 33.3	6 14.3	7 16.7	1.28	2.98
There are staff in the administration department responsible for registry matters	42 100%	14 33.3	15 35.7	2 4.8	4 9.5	7 16.7	1.47	2.40
All information is managed through an information system which is reviewed and/or audited on monthly basis	42 100%	16 38.1	10 23.8	11 26.2	5 11.9	0.00 0.00	1.06	2.12
Key and lock system is used for safety of physical documents	42 100%	11 26.2	10 23.8	10 23.8	9 21.4	2 4.8	1.23	2.55
<b>Composite for Mean and Standard Deviation</b>							<b>1.24</b>	<b>2.51</b>

From Table 4.8, the issue of top management ensuring that any communication from up was well communicated to the lower cadre of management, supervisors and to all the employees was raised. 26(61.9%) of the respondents agreed that this was the position and 5(11.9%) were in disagreement and the rest, that is 11(26.2%) were neutral with a mean score of 2.12 which was lower than the composite one of 2.51. This implies that the issue of top management ensuring that any communication from up was well communicated to the lower cadre of management, supervisors and to all the employees was not statistically significant in influencing the loan performance of DT-SACCOs.

Further interrogation of whether all channels of communicating was automated to ensure continuous flow of information and data for operations of the DT-SACCO was brought to light. The respondents who were in agreement were 20(47.6%). Those who disagreed were also 10(23.8%) and the neutral group was 12(28.6%). So, generally, the all channels of communicating were automated to ensure continuous flow of information and data for operations of the SACCO was greatly done with mean score of 2.55 hence significant.

The study further sought to assess the extent to which customer care desk/office to took care of external communications from other interested parties to the organization such as loan borrowers. The response was as follows; 16(38%) were in agreement while 13(30.9%) were in disagreement. The neutral group were made up of 13(31%) and the corresponding line average value was 2.86 which was greater than the overall score of 2.51. This implies that the matter of concern aforementioned was significant.

Additional consideration that all information and/or data was documented and backed-up electronically was put in place. The respondents who felt that this suggestion was true were 15(35.7%) while those against that opinion of the majority were 13(31%). The rest 14(33.3%) were neutral. Since most of the respondents were in agreement over this matter, with a line mean of 2.98 which was more than the composite of 2.51, this implies that the aspect was statistically significant in influencing the loan performance of Nairobi City County based DT-SACCOs in, Kenya.

The question of whether staff in the administration department were responsible for registry matters was brought forward for the respondents to retort. The outcome was as follows; majority 29(69%) supported that claim; minority 11(26.2%) were against that and the rest 2(4.8%) took neither side. The line mean was 2.40 and so was less than the composite score of 2.51 which implies that the aspect of concern was not significant as such. Also, the claim that all information was managed through an information system which was reviewed and/or audited on monthly basis was subjected to the respondent's opinion and 26(61.9%) were in support while another 5(11.9%) was not for that idea. The remaining 11(26.2%) had no idea. The single average was 2.12 which was less than the aggregate one of 2.51 and this means the aspect was not significant to the DT-SACCOs loan performance alterations. Lastly, the inquiry purposed to assess the extent to which key and lock system was used for safety of physical documents. The response was as follows; 21(50%) were in agreement while 11(26.2%) were in disagreement. The neutral group were made up of 10(23.8%) and the corresponding line average value was 2.55 which was greater than the overall score of 2.51. This implies that the matter of concern aforementioned was statistically significant.

#### 4.7.4 Monitoring for DT-SACCOs in Nairobi City County, Kenya

The respondents were asked to respond to some questionnaire enquiries where by a Likert scale of; Strongly Agree (SA)=5, Agree(A)=4, Neutral(N)=3, Disagree(D)=2 and Strongly Disagree (SD)=1 was relied upon to infer the issue of monitoring taking place in their DT-SACCO firm. The response was as indicated. The outcome was reported in Table 4.9.

**Table 4.9: Monitoring Descriptive Results for DT-SACCOs in Nairobi City County, Kenya**

Expression of views	n.	SA	A	N	D	SD	SD	Mean
Timely corrective action is taken concerning arising matters affecting the firm	42 100%	6 14.3	9 21.4	14 33.3	6 14.3	7 16.7	1.28	2.98
Findings are considered and immediately acted upon at appropriate levels.	42 100%	12 28.6	8 19	12 28.6	7 16.7	3 7.1	1.27	2.55
Continuous integration of expected alterations is inculcated in the current short-long term planning.	42 100%	8 19	8 19	13 31	8 19	5 11.9	1.28	2.86
Periodical reviewing of organizational composition impact on workers' moods and effect of	42 100%	6 14.3	9 21.4	14 33.3	6 14.3	7 16.7	1.28	2.98

strategies and processes is done by management through evaluation									
There is continuous assessment of internal controls done in a formal procedural manner	42	12 28.6	9 21.4	10 23.3	6 14.3	5 11.9	1.36	2.60	
The information system correctness, time bound and applicability is continuously assessed by top management with queries being posted seeking explanation of abnormal reports received	42 100%	4 9.5	10 23.8	14 33.3	11 26.2	3 7.1	1.09	2.98	
<b>Composite for Mean and Standard Deviation</b>							<b>1.26</b>	<b>2.825</b>	

As per Table 4.9, there was a claim that timely corrective action was taken concerning arising matters affecting the firm. The response was that 15(35.7%) agreed while 13(31%) disagreed. The rest which was 14(33.3%) were of neither the two opinions. The line mean was 2.98 which was more than the composite one of 2.825. This implies that the matter of concern was significant. In addition, the researcher had argued that the findings were considered and immediately acted upon at appropriate levels. This suggestion was supported by 20(47.6%) of the respondents for they agreed. Then another 10(23.8%) disagreed and the other 12(28.6%) were of no opinion at all. Since the line mean was 2.55 which was lower than the composite mean of 2.825, then this subject matter was statistically not significant and did not influence the loan performance of the DT-SACCOs in Nairobi City County, Kenya as such.

As per Table 4.9, the inquiry also argued that continuous integration of expected alterations was inculcated in the current short-long term planning. 16(38%) were for this debate while another lesser number of respondents, 13(31%) disagreed and the other 13(31%) were silent on that matter. The agreeing line average was 2.86 and was less than the overall mean of 2.825. This implies that the aspect was not significant in influencing the Nairobi City County based DT-SACCCO loan performance in Kenya. Further, the issue of periodical reviewing of organizational composition impact on workers' moods and effect of strategies and processes done by management through evaluation was raised to the respondents to react. The outcome was that 15(35.7%) agreed. Then 13(31%) disagreed and the rest 14(33.3%) had no idea on that aspect. The line mean was 2.98 which was greater than the overall mean of 2.825, implying that there was significant influence of the aspect of focus on the influence of the loan performance.

Another concern was that there was continuous assessment of internal controls done in a formal procedural manner. 21(50%) supported that supposition while 11(26.2%) disagreed and the rest 10(23.3%) were silent on this matter. The equivalent average score was 2.60 and was lower than the overall mean score of 2.825. This means that the said continuous assessment of internal controls done in a formal procedural manner did not have significant influence on the loan performance of the DT-SACCOs in Nairobi City County, Kenya. The information system correctness, time bound and applicability was continuously assessed by top management with queries being posted seeking explanation of abnormal reports received. In this case, 14(33.3%) were in support, another 14(33.3%) did not agree with that suggestion and the balance 14(33.4%) equal to the other two sides of opinion were neutral. The line mean was 2.98 as compared with the aggregate one of 2.825. This implies that all the respondents were indifferent on the influence of this aspect on the loan performance of the T-SACCOs in Nairobi City County, Kenya.

#### 4.8 Correlation Analysis

The study sought to establish the correlation of variable pairs so as to justify the relationship and the direction of the association thereof. To achieve this goal, the study considered Pearson Product-Moment correlation coefficient. The variables involved in this correlation were loan performance, control activities, control environment, information communication technology and monitoring. The results were implicated in Table 4.10

**Table 4.10: Correlation Analysis Results**

		LP	CA	CE	ICT	MON
LP	Pearson Correlation	1.000	.326**	-.532**	.422**	-.689**
	Sig. (2-tailed)		.000	.002	.000	.000
CA	Pearson Correlation		1.000	-.707	.185*	-.729**
	Sig. (2-tailed)			.000	.027	.000
CE	Pearson Correlation			1.000	.393*	.547**
	Sig. (2-tailed)				.003	.000
ICT	Pearson Correlation				1.000	-.276**
	Sig. (2-tailed)					.004
MON	Pearson Correlation					1.000
	Sig. (2-tailed)					

\*\* . Correlation is significant at the 0.01 level (2-tailed).  
 \* . Correlation is significant at the 0.05 level (2-tailed).

According to Table 4.10, control activities related with loan performance which was strong where by a unit change in control activities resulted to 0.326 units change in loan performance in the same direction with ( $p=0.000$ ) at 0.01 significance level. Further, a unit change in control environment resulted to 0.532 units change in loan performance which was indirect at 0.01 level of significance. It was also established that as per Table 4.10, a unit change ICT resulted to 0.422 change in loan performance in the same direction at significant level of (0.01). For monitoring, a unit change translated to 0.689 units change in loan performance in the opposite direction at 0.01 significance level.

Control environment also correlated with control activities, such that a unit change in control environment, resulted to 0.707 unit change in control activities at 0.01 significance level which took the inverse direction. ICT variation by one unit translated to 0.185-unit change in control activities at 0.05 level of significance and in the same direction. For monitoring activities, a unit change resulted to a negative change of control activities by 0.729 units at 0.01 significance level. On the side of ICT, a unit change of this variable resulted to 0.393 unit change in control environment which was positive at 0.05 significance level. Further, a unit change in monitoring translated to a direct change of 0.547 units of control environment at 0.05 significance level and for ICT aspect, a unit change in monitoring brought about a 0.276 units alteration of ICT at 0.01 significant level which was negative.

#### **4.9 Regression Analysis Results**

Hypotheses testing to either proof or disapprove the researcher's claim on the three suggested concepts in this study was performed. This was undertaken by considering multivariate model for the four concepts thereof. The results were as indicated below

##### **4.9.1 Internal Control System and Financial Performance of DT-SACCOs in Nairobi City County, Kenya**

The four specific objectives representing ICS components, namely control activities, control environment, ICT and monitoring were considered to test the corresponding four hypotheses.

The corresponding hypotheses were stated as follows;

**H<sub>01</sub>:** There is no significant influence of control activities on loan performance of deposit taking savings and cooperative societies in Nairobi City County, Kenya.

**H<sub>02</sub>:** There is no significant influence of control environment on loan performance of deposit taking savings and cooperative societies in Nairobi City County, Kenya.

**H<sub>03</sub>:** There is no significant influence of information communication technology on loan performance of deposit taking savings and cooperative societies in Nairobi City County, Kenya.

**H<sub>04</sub>:** There is no significant influence of monitoring activities on loan performance of deposit taking savings and cooperative societies in Nairobi City County, Kenya.

After multiple regression was performed, the results were posted in Table 4.11

**Table 4.11 Results of Internal Control System and Financial Performance of DT-SACCOs in Nairobi City County, Kenya**

<b>Model Summary<sup>b</sup></b>						
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate		
1	.770 <sup>a</sup>	.658	.742	.60778		
a. Predictors: (Constant), CA, CE, ICT, MON						
b. Dependent Variable: LP						
<b>ANOVA</b>						
Model		Sum of Squares	Df	Mean Square	F	Sig.
	Regression	112.408	4	36.459	145.808	.000 <sup>b</sup>
1	Residual	35.983	38	.251		
	Total	148.391	42			
a. Dependent Variable: LP						
<b>Coefficients</b>						
Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
	(Constant)	.159	.239		.640	.523
1	CA	.540	.094	.247	5.748	.000
	CE	-.565	.072	.336	7.882	.000
	ICT	.872	.050	.755	17.515	.000
	MON	.772	.081	.664	13.012	.000

Table 4.11 showed that the F statistic of model 1 on the degree to which ICS influenced on the Nairobi City County based DT-SACCO loan performance in Kenya. From the results

gotten, F assumed 145.808p=0.000) value implying that ICS and loan performance model was conceptual at 95% confidence level for it was statistically significant.

At 95% confidence level the overall model was proved to be an appropriate estimator of the variances observed on the loan performance of DT-SACCOs in Nairobi City County, Kenya. Further interrogation on the aspects of goodness of coefficient of determination and test of the slope ( $\beta$ ). The results are as indicated as follows;

The coefficient of determination for model 1 from Table 4.11 mentioned above was (Adjusted  $R^2 = 0.742$ ), which portrays that all the predictor variables describing internal control system namely control activities, control environment, ICS and monitoring when taken together, explained 74.2% of changes in loan performance of DT-SACCOs in Nairobi City County, Kenya. Whereas, 22.8% of changes on loan performance of those SACCOs was predicted by other variables which were not incorporated in this equation.

After carrying out the test of the slope for the four variables associated with ICS, the outcome of each one of them was as follows; a unit change in control activities resulted to 0.247unit change in loan performance which was statistically significant and of direct nature with (p=0.000). Next, was the unit variation in control environment which resulted to a direct change of 0.336 units of loan performance. It was again statistically significant with (p=0.000). for the case of ICT, a unit change resulted to a positive statistically significant adjustment of loan performance of 0.755 with (p-0.000). Lastly, a unit change in monitoring activities translated in to 0.664unit change in which was direct and statistically significant with (p=0.000).

After the above empirical interpretation, the resultant formula came in to being as indicated below;

$$\mathbf{LP = 0.159 + 0.247CA + 0.336CE + 0.755ICT + 0.664MON}$$

**Where;**

LP is Loan Performance

CA is Control Activities

CE is Control Environment

ICT is Information Communication Technology

MON is Monitoring

Past studies were undertaken which portrayed similar research outcome. Some of those studies were such as that of Agyapong (2017) who examined the ICS of the Ghana Post Company to establish whether there was any significant impact on financial management in the government owned institutions. The independent variable selected as a component of ICS was control environment. It was found that, first, the ICS suffered some lapses opening loopholes for corruption to take place. It is these weaknesses found in the ICS that resulted to officials penetrating to misappropriate the government resources.

In Uganda, Eton, Fabian, and Benard (2022) aimed at explaining the changed observed on the outcome construct. To achieve this purpose, the study considered only three components of ICS. Therefore, the aspect of control environment, matters pertaining control activities and monitoring of the daily activities. It was revealed that ICS accounted for 55.4 per cent of the disparities in accountability for finances. More categorically, the aspect of control environment and monitoring controls as well did bear significant effects on financial answerability while control aspect did not.

In the study of Mbuva, Rambo and Oketch (2018), control environment was selected by those researchers to establish if this ICS component impacted on the SME project performance which were domiciled in Machakos County, Kenya. The specific concerns of control environment, namely; workers' ethics and integrity, authority delegation, responsibility assigning by top management and policy making which are related to HR department did not have significant influence on SMEs' financial performance. Further,

Hu, Weng and Wang (2021) had conceptual concerns on the linkage between Chinese based internal control guideline and final quality financial reporting after the common USA Sarbanese Oxley Act (SOX), case was cleared with. It was revealed by the outcome that the quality of lagged earnings was improved after acquiescence with C-SOX which occurred in a statistically significant manner with no further real activity manipulation. C-SOX directly influenced reporting quality.

Sina *et al.*, (2021) examined analytically to what degree of impacting information communication tool had on level of financial reporting quality the firms in question. The inquiry was carried out in Bangladesh where primary data was utilized for analysis purposes from commercial banks. Outcome gotten displayed a direct connection between the two sides and significant.

Maalim (2017) wanted to determine if monitoring activities in the County of Mombasa, Kenya impacted on project performance significantly in any significant manner. It was portrayed from the data analysis that the three predictors, namely; participation by stakeholder, capacity building and allocation of budget impacted the project performance.

In Rwanda, Hubert and Mulyungi (2018) aimed at establishing the impact of the independent variable chosen for this inquiry which was monitoring and evaluation planning that it had on the outcome variable identified by the researcher which was project performance. Findings indicated that all participating institutions were part and parcel of the monitoring and evaluation strategies designed by AVU. So, in this study, it is clear that M and E planning significantly aided in performance.

## CHAPTER FIVE

### SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

#### 5.1 Introduction

After data analysis, it is worthwhile to summarize discuss suggest and recommend on the way forward. This aspect is taken care of by the chapter five below. In this chapter, the study outcome is further used to guide the future planning of any similar research. so, the chapter is initiated by providing the end users with the summary of the primary chapters of this inquiry, then do conclusive remarks and recommendations thereof.

#### 5.2 Summary of Research Findings

This inquiry had a mainstream of interrogating the relationship between the components of internal control system, namely control activities, control environment, ICT and monitoring and the loan performance of DT-SACCOs in Nairobi City County, Kenya. The concern was addressed successfully by being guided by the specific objects which were set prior the actual data collection. The corresponding four hypotheses which were utilized to test the researcher's claim were, stated as follows; there is no significant influence of control activities on loan performance of deposit taking savings and cooperative societies in Nairobi City County, Kenya (H<sub>01</sub>); there is no significant influence of control environment on loan performance of deposit taking savings and cooperative societies in Nairobi City County, Kenya (H<sub>02</sub>); there is no significant influence of information communication on loan performance of deposit taking savings and cooperative societies in Nairobi City County, Kenya (H<sub>03</sub>) and there is no significant influence of monitoring activities on loan performance of deposit taking savings and cooperative societies in Nairobi City County, Kenya (H<sub>04</sub>).

The study was based on the literature review which is classified in to two viewpoints, namely theoretical and empirical aspects in that order. For the theoretical concerns, there are four mainstream suppositions which underpin the current study. These are namely; systems theory, agency theory, information asymmetry theory and credit risk theory. Further, the second level is on empirical review whereby the past similar studies were interrogated by the researcher as per each conceptual viewpoint. The aim was to establish

the keynote research gaps that this inquiry attempted to bridge. The gaps are of conceptual, methodological and contextual aspects. At the end of this endeavors, the study was in a position to justify the rationale of undertaking the investigation. A diagrammatic conceptual framework was established to portray the linkages between the independent variables and the criterion variable which was loan performance of the DT-SACCOs in Nairobi City County, Kenya.

The methodology to undertake the research was also outlined for it is the roadmap to succeeding in this investigation. The research problem was built with the help of causal research design which portrays the causal effect connectivity between the study variables. The target population relied upon was made up of 42 DT-SACCOs in Nairobi City County, Kenya. The same SACCOs were under the umbrella of SASRA during the research period. Data was collected using both structured questionnaire for primary data and data collection sheet for the secondary data. It should be noted that the 4 DT-SACCOs used for piloting were picked from Kiambu County which had similar characteristics.

The first null hypothesis stated that “There is no significant influence of control activities on loan performance of deposit taking savings and cooperative societies in Nairobi City County, Kenya.”. Multiple regression was undertaken and the outcome showed that a unit change in control activities resulted to 0.247unit change in loan performance of DT-SACCOs in Nairobi City County, Kenya which was statistically significant and of direct nature with ( $p=0.000$ ). Therefore, the study rejected the first null hypothesis and accepted the alternative null hypothesis which states that “There is significant influence of control activities on loan performance of deposit taking savings and cooperative societies in Nairobi City County, Kenya.”

The second null hypothesis stated that “There is no significant influence of control environment on loan performance of deposit taking savings and cooperative societies in Nairobi City County, Kenya.”. After multiple regression was undertaken, the findings portrayed that a unit adjustment of control environment resulted to a direct change of 0.336 units of loan performance of DT-SACCOs in Nairobi City County, Kenya. It was also

statistically significant with ( $p=0.000$ ). Therefore, the study rejected the second null hypothesis and accepted the alternative hypothesis which states that “There is significant influence of control environment on loan performance of deposit taking savings and cooperative societies in Nairobi City County, Kenya.”

The third null hypothesis stated that “There is no significant influence of information system on loan performance of deposit taking savings and cooperative societies in Nairobi City County, Kenya.”. After multiple regression was undertaken, the findings portrayed that a unit change of the aspect of ICT resulted to a positive statistically significant adjustment of loan performance of 0.755 with ( $p=0.000$ ). Therefore, the study rejected the third null hypothesis and accepted the alternative hypothesis which states that “There is significant influence of information communication technology on loan performance of deposit taking savings and cooperative societies in Nairobi City County, Kenya”

The fourth null hypothesis stated that “There is no significant influence of monitoring activities on loan performance of deposit taking savings and cooperative societies in Nairobi City County.” After multiple regression was undertaken, the findings portrayed that a unit change of the aspect of monitoring activities translated in to 0.664 unit change on loan performance of deposit taking savings and cooperative societies in Nairobi City County which was direct and statistically significant with ( $p=0.000$ ). Therefore, the study rejected the fourth null hypothesis and accepted the alternative null hypothesis which states that “There is significant influence of monitoring activities on loan performance of deposit taking savings and cooperative societies in Nairobi City County.”

### **5.3 Conclusions and Recommendations**

This section of the current investigation portrays the provides the audience with the conclusive debate on the concerns of ICS and loan performance of DT-SACCOs in Nairobi City County, Kenya. The details are as follows;

### **5.3.1 Conclusions**

Failure to accept the null hypothesis ( $H_{01}$ ) resulted to acceptance of the alternative hypothesis which states that; “There is significant influence of control activities on loan performance of deposit taking savings and cooperative societies in Nairobi City County, Kenya.” This portrays that when control activities were put in place such as establishment of audit units, management ensuring that the internal audit are operating independently, this promotes the repayment of loans by the members hence increased loan performance.

Failure to accept the null hypothesis two ( $H_{02}$ ) resulted to acceptance of the alternative hypothesis which states that; “There is significant influence of control environment on loan performance of deposit taking savings and cooperative societies in Nairobi City County, Kenya.” This implies that when the top management considered installation of control environment aspects such as well-defined employee duties, established organigram or chart to show the flow of seniority in management board, introduced accounting manual, brought in segregation of duties and did a setup of staff work schedule, these activities were effective in promoting loan performance which was portrayed through reduced loan repayment rates across the five years.

Failure to accept the null hypothesis three ( $H_{03}$ ) resulted to acceptance of the alternative hypothesis which states that; “There is significant influence of information communication technology on loan performance of deposit taking savings and cooperative societies in Nairobi City County, Kenya” This implies that when top management aligned the information communication technology which is one of the ICS component by ensuring that there was effective communication, existence of proper documentation such as ensuring that all information and/or data was documented and backed-up electronically, staff in the administration department were fully responsible for registry matters and all information was managed through an information system which was reviewed and/or audited on monthly basis then this brought about a significant change in loan performance. Further, the management’s efforts to ensure there existed written procedures of operations was a plus to positive change in loan performance.

Failure to accept the null hypothesis four ( $H_{04}$ ) resulted to acceptance of the alternative hypothesis which states that; “There is significant influence of monitoring activities on loan performance of deposit taking savings and cooperative societies in Nairobi City County.’ This implies that when the top management did proper monitoring of the DT-SACCO activities such as management supervision, outside sourcing, establishment of mechanism for response, and another one for self-assessment, this action significantly aided in loan performance of DT-SACCOs in Nairobi City County, Kenya.

### **5.3.2 Recommendations**

Top management will benefit from the research findings for the consideration of the contextual aspects of ICS which are relevant and suitable to DT-SACCOs aid in development of information decision system which is well-informed for future planning on the ways in which loan default rate may be mitigated. So, when the DT-SACCO top management is creating ICS, the concern of what works for DT-SACCO environment is key for this may not be the same as the ICS for non-DT-SACCOs. This is the reason as to why the components of ICS chosen in this study are different from the other studies for context matters.

The government policy makers such as SASRA which is coincidentally the umbrella body providing surveillance of DT-SACCOs will take advantage of the outcome of this investigation for the conceptual viewpoint addressed herein pinpoints areas of loan lending policy making to create user-friendly financing environment for the borrowers and lenders. That is, the government through SASRA will be well guided to set credit facilitation policies which will protect the interests of both counterparties so as to increase safe loan portfolios which by extension will promote the social-wellbeing of the nationals in Kenya through more job creation.

The academicians have a reliable empirical anchorage for the linkage between ICS and loan performance is not purely conceptual but also contextual. Hence further areas of study may be based on the contextual viewpoint where by the same aspect may be further be investigated upon using other financial institutions such as Micro Financial Institutions

(MFIs) and commercial banks in mind that they differ in the way they operate. Therefore, more suitable empirical models may be created by factoring the ICS aspects which significantly address each financial institution. This will help in avoiding generalization of how ICS to loan performance concept cut across such firms.

#### **5.4 Suggestion for further Areas of Research**

The current focus investigated on the joint connect of the four ICS components of control activities, control environment, ICS and monitoring on loan performance of DT-SACCOs in Nairobi City County, Kenya. This was consideration of the ICS as pure predictors of the dependent variable which was loan performance. But then, monitoring aspect is more of overall watch dog aspect of the other ICS activities and a further study where this factor can be classified as a moderator may be necessary. This is because monitoring entails use of DT-SACCO financial and other resources and empirical prove whether it is a worth course is necessary to ensure right managerial decisions of value addition are incorporated.

A further interrogation is necessary to establish if the adoption of the COSO 2013 internal control system other than that of 1992 would be more efficient in increasing firm performance. Whether of SACCO nature or otherwise. This is because the former COSO of 2013 incorporates the aspect of risk management and in addition, it captures performance from both aspects of financial and non-financial. So, any further consideration to establish the ICS linkage to performance would be an eye opener to the top management.

Contextually, the ICS and loan performance of DT-SACCOs in Nairobi City County, Kenya has portrayed statistically significant influence on the loan performance. Further concerns are necessary to establish whether also the DT-SACCOs financial performance will be significantly influenced for most SACCOs face financial sustainability problems hence being forced by SASRA to close business especially in deposit taking. A methodological consideration needs to be given preeminence especially on the contextual approach of measuring financial performance amongst such SACCOs. This will be of value addition for previous studies have less focused on the logic behind how these SACCOs measure their success.

## REFERNCES

- Abdel-khalik, A. R. (1993). Why do private companies demand an audit? A case for organizational loss of control, *Journal of Accounting, Auditing and Finance*, 1(8), 31-52.
- Agbenyo, W., Jiang, Y., & Cobblah, P. K. (2018). Assessment of government internal control systems on financial reporting quality in Ghana: A case study of Ghana revenue authority. *International Journal of Economics and Finance*, 10(11), 40-50.
- Agyapong, K. E. (2017). Internal control activities as a tool for financial management in the Public Sector: A case study of Ghana Post Company Limited.
- Ajao, O. S., & Oluwadamilola, A. O. (2020). Internal control systems and quality of financial reporting in insurance industry in Nigeria. *Journal of Finance and Accounting*, 8(5), 212-220.
- Akerlof, G. A (1970). The market for “lemons”: Quality uncertainty and the market.
- Akinboade, A. A. (2020), Impact of ICT usage on financial performance of quoted manufacturing companies in Lagos State, Nigeria, *Management*, 13(2), 28 – 42.
- Akinleye, G. T., & Kolawole, A. D. (2020). Internal controls and performance of selected tertiary institutions in Ekiti state: A committee of sponsoring organizations (COSO) framework approach. *International Journal of Financial Research*, 11(1), 405-416.
- Al-Hayani, B., and H. Ilhan. 2020. “Visual Sensor Intelligent Module Based Image Transmission in Industrial Manufacturing for Monitoring and Manipulation Problems. *Journal of Intelligent Manufacturing* 4(10), 1–14.
- Al-Qudah, S., Obeidat, A. M., & Shrouf, H. (2020). The impact of strategic human resources planning on the organizational performance of public shareholding companies in Jordan. *Problems and Perspectives in Management*, 18(1), 1-19.
- Ambrus, A., Chaney, E., & Salitskiy, I. (2018). Pirates of the mediterranean: An empirical investigation of bargaining with asymmetric information. *Quantitative Economics*, 9(1), 217-246.
- Ariyanti, R., Sari, F. M., Setiawati, I., & Permatasari, D. (2022). Examining the Factors Influencing the Loan Performance at BMT An-Najjah Pekalongan, Indonesia. *International Journal of Finance, Economics and Business*, 1(3), 211-219.
- Azhar, S. (2013). *Accounting Information Systems: Developing Risk Control Structure*. 1<sup>st</sup> Edition, Lingga Jaya.

- Bairagi, V. & Munot, M. V. (2019). *Research methodology: A practical and scientific approach*. CRC Press.
- Bako, M. A. (2018). The impact of corporate governance on the quality of financial reporting in the Nigerian Chemical and Paint industry. *Research Journal of Finance and Accounting*, 9(7), 42-59.
- Bertalanffy, L. V. (1968). *General system theory. Foundations, Development, Application*. New York: George Braziller.
- Bhuiyan, M. B. U., Salma, U., Roudaki, J. & Tavite, S. (2020). Financial reporting quality, audit fees and risk committees. *Asian Review of Accounting*, 28(3), 423-444.
- Blumberg, B., Cooper, & Scindler. (2008). *Business Research Methods (Second European Edition ed.)*. London: MCGraw-Hill.
- Boehmer, H. M., & Zaytsev, Y. K. (2019). Raising aid efficiency with international development aid monitoring and evaluation systems. *Journal of Multi-Disciplinary Evaluation*, 15(32), 28-36.
- Clarke, I. (2020). Establishing an Effective Internal Control Environment. COSO. (2013). *Internal Control Integrated Framework*.
- Cohen, S., Manes Rossi, F., Mamakou, X., & Brusca, I. (2022). Financial accounting information presented with infographics: does it improve financial reporting understandability. *Journal of Public Budgeting, Accounting & Financial Management*, 34(6), 263-295.
- Committee of Sponsoring Organization (COSO) (1992). *Internal Control Integrated Framework: Executive Summary*. [www.coso.org](http://www.coso.org).
- COSO. (2013). *Internal Control- Integrated Framework*, Committee of Sponsoring Organizations of the Treadway Commission. New York: PWC.
- Cronbach, L. J. (1951). Coefficient alpha and the internal structure of tests. *Psychometrika*, 16(3), 297-334.
- Daniel, M. M., & Abdul, M. F. (2018). Capital structure and the financial performance of deposit-taking savings and credit cooperative societies in Kenya. *International Journal of Current Aspects in Finance*.
- Das, K. & Imon, A. H. M. R. (2016). Analyzing length or size-based data: A study on the lengths of peas plants. *Malaysian Journal of Mathematical Sciences* 9(1): 1- 20.

- Drost, E. A. (2012). Validity and reliability in Social Science Research. *Education research and perspectives*, 38(1), 105-123.
- Dubihlela, J., & Nqala, L. (2017). Internal controls systems and the risk performance characterizing small and medium manufacturing firms in the Cape Metropole. *International journal of business and management studies*, 9(2), 87-103.
- Dyason, J. R. (2010). The eye diagram: A new perspective on the project life cycle. *Journal of Education for Business*, 80(1), 10 – 16.
- Easterbrook, F. H. (1984). Two agency-cost explanations of dividends, *The American Economic Review*, 74(4), 650-659.
- Eissa, O. M. S. (2022). The relationship between risk assessment and the financial performance of the firms in Egypt during covid 19.
- Enomate, B. & Audu, I. O. (2021). Effect of Information and Communication Technology on Financial Performance of Listed Non-Financial Firms in Nigeria. *Bingham International Journal of Accounting and Finance*, 2(2), 182-194.
- Eton, M., Fabian, M., & Benard, P. O. (2022). Are internal controls important in financial accountability? (Evidence from Lira District Local Government, Uganda).
- Eyenubo, S. A., Mohamed, M., & Ali, M. (2017). An empirical analysis on the financial reporting quality of the quoted firms in Nigeria: Does audit committee size matter. *International Journal of Academic Research in Business and Social Sciences*, 7(9), 50-63.
- Field, A. (2000). *Discovering statistics using SPSS for Windows*. Sage Publications Ltd.
- Field, A. (2013). *Discovering Statistics Using IBM SPSS Statistics: And Sex and Drugs and Rock “N” Roll*, 4th Edition, Sage, Los Angeles, London, New Delhi.
- Gamage, C. T., Lock, K. L., & Fernando, A. A. (2014). A Proposed Research Framework: Effectiveness of Internal Control System in State Commercial Banks in Sri Lanka. *International Journal of Scientific Research and Innovative Technology*, 1(5), 25-44.
- Garcia-Lacalle, J., & Torres, L. (2021). Financial Reporting Quality and Online Disclosure Practices in Spanish Governmental Agencies. *Sustainability*, 13(5), 24-37.
- Garson G. D. (2012). *Hierarchical Linear Modeling: Guide and Applications*. Thousand Oaks, CA: Sage Publications, Inc.
- Gelinas, J.U., et al., (2014)., *Accounting Information Systems’ South Western*. Cengage Learning.

- Goyder, R. (2005). A retrospective look at our evolving understanding of project success. *Project Management Journal*, 36(4), 19 – 31.
- Greenwood, M. J., & Tao, L. (2021). Regulatory monitoring and university financial reporting quality: Agency and resource dependency perspectives. *Financial Accountability & Management*, 37(2), 163-183.
- Gunst J, Casaer M.P. (2018). Is the protein intake saturated at doses recommended by the feeding guidelines for critically ill patients? letter to the editor. *Crit Care*, 22(1):230-245.
- Hasan, A., Aly, D., & Hussainey, K. (2022). Corporate governance and financial reporting quality: a comparative study. *Corporate Governance: The International Journal of Business in Society*, (ahead-of-print).
- Hayes, R., Dassen, R., Schilder, A. & Wallage, P. (2005). Principles of Auditing. An Introduction to International Standards of Auditing, 2nd edition, Ed. Pearson Education Publisher.
- Hill, C. W. L. & Jones, T. M. (1992). Stakeholder-agency theory. *Journal of Management Studies*, 2(29), 131-154.
- Hu, J., Weng, Y. C., & Wang, F. (2021). The effect of the internal control regulation on reporting quality in China. *Borsa Istanbul Review*, 21(4), 394-404.
- Institute of Internal Auditors (2013). Annual report: Preparing for a promising future. <https://global.theiia.org/about/about-the-iiia/Public%20Documents/IIA-2013-Annual-Report.pdf>.
- International Co-operative Alliance, (2021). *Guidance Notes to the Co-operative Principles*. Geneva: ICA.
- Jensen, M. C. & Meckling, W. H. (1976). Theory of the firm: Managerial behavior, agency costs and ownership structure. *Journal of Financial Economics*, 3(4), 305-360.
- Julie, W. E. (2019). *Effect of internal control practices on the financial performance of agro-processing firms in Kisumu County, Kenya* (Doctoral dissertation, Maseno University).
- Kaawaase, T. K., Nairuba, C., Akankunda, B., & Bananuka, J. (2021). Corporate governance, internal audit quality and financial reporting quality of financial institutions. *Asian Journal of Accounting Research*. 6(3), 348-366.
- Kaplan, T and Norton, D. (2001), *Balanced Score Card; Translating Strategy into The Balanced Scorecard*. Harvard Business School.

- Katula, R., & Kiriinya, S. (2018). Loan repayment and financial performance of deposit taking savings and credit cooperative societies in Embu County, Kenya. *International Journal of Current Aspects in Finance*, 4(2), 102-118.
- Kiaritha, H. W. (2015). Determinants of the financial performance of savings and credit cooperatives in the banking sector in Kenya. Jomo Kenyatta university of Technology.
- Kinyagu, J. K. (2021). *Diversification Strategy and Financial Performance of Kenya National Police Deposit Taking Sacco* (Doctoral dissertation, University of Nairobi).
- Kinyua, J. K., Gakure, R., Gekara, M., and Orwa, G. (2015). Effect of Internal Control Environment on the Financial Performance of Companies Quoted on the Nairobi Securities. *International Journal of Innovative Finance and Economics Research*, 3(4), 29-48.
- Kothari, C. (2009). *Research Methodology, Methods & Techniques*.
- Kuhn, J.R., & Sutton, S.G. (2010). Continuous auditing in ERP system environments: The current state and future directions. *Journal of Information System.*, 24(1), 91- 112. <https://doi.org/10.2308/jis.2010.24.1.9>.
- Kule, J. B. B. M., Kijjambu, F. N., & Rwakihembo, J. (2023). Internal Control Environment and Financial Accountability of Savings and Credit Cooperatives in Mid-Western Uganda. *American Journal of Accounting*, 5(1), 38-48.
- Liu, G., Mirzaei, A. & Vandoros, S. (2014). The impact of bank competition and concentration on industrial growth. *Economics Letters*, 124(1), 60-63.
- Lord, J. M. (2017). *The control environment and financial reporting quality: does "tone at the top" matter?* (Doctoral dissertation).
- Lydia, C. (2018). *Effect of Asset Performance Management on Profitability of Deposit Taking Saccos in Nakuru County* (Doctoral dissertation, JKUAT).
- Maalim, M. A. (2017). *Influence of monitoring and evaluation practices on project performance in counties: The case of Mombasa County, Kenya* (Doctoral dissertation, University of Nairobi).
- Madu, M. & Hassan, S. U. (2021). Enterprise Risk Management and Financial Reporting Quality: Evidence from Listed Nigerian Non-Financial Firms. *Journal of Risk and Financial Studies*, 2(1), 43-70.

- Magu, J. K., & Kibati, P. (2016). Influence of Internal Control Systems on Financial Performance of Kenya Farmers' Association Limited. *International Journal of Economics, Commerce and Management*, 4(4), 783-800.
- Maharani, D. A., Fitriyani, C., Magdarina, M., & Amelia, N. (2023). Implementation of Credit Sales System Compliance Audit on Motor Trading Company Internal Control.
- Marshal B, Romney PJS., (2015). *Accounting Information Systems*. Thirteen Edition. Pearson Education Limited, pp. 214-234.
- Mason, E. J. & Bramble, W.J. (1989). *Understanding and conducting research: Applications in education and the behavioral sciences*. New York: McGraw-Hill.
- Mburu, I., Mwangi, L., & Muathe, S. (2020). Credit Management Practices and Loan in Kenya. Unpublished MBA Project of University of Nairobi.
- Mbuva, P.M. Rambo, C.M. & Oketch, T. (2018). Influence of control environment on performance of SME projects in Machakos county, Kenya. *International Journal of Economics, Commerce and Management*, 6(9), 380-404.
- Merton, R. (1974). On the Pricing of Corporate Debt: The Risk Structure of Interest Rate. *Journal of Finance*, 29(2.), p. 449–470.
- Messai, A. S., & Jouini, F. (2013). Micro and Macro Determinants of Non-Performing Loans, *International Journal of Economics and Financial Issues.*, 3(4), 8-22.
- Mire, H. A., & Mukhongo, A. (2016). Effects of internal control system on the organizational performance of remittance companies in Mogadishu- Somalia. *Journal of Business Management*, 2(9), 153-167.
- Mohajan, H. K. (2018). Qualitative research methodology in social sciences and related subjects. *Journal of Economic Development, Environment and People*, 7(1), 23-48.
- Moki, N. M., Ndung'u, S. K. & Kinyua, G. M. (2019). Financial innovation.
- Mugenda, O. M. & Mugenda, A. G. (2009). *Research methods: Quantitative and Qualitative approaches*. Nairobi: ACTS.
- Munene, H. N. (2019). Influence of Internal Controls on Financial Distress of SASRA Regulated SACCOs. *International Journal of Business Management and Economic Review*, 2(04), 45-59.

- Muraguri, I. N. (2016). Effects of Risk-based Audit on Financial Performance of State-owned Corporations in the Ministry of East African Community, Labor and Social Protection in Kenya.
- Murumba, I. (2013). The Relationship between Real GDP and Non-Performing Loans: Evidence from Nigeria (1995–2009). *International Journal of Capacity Building in Education and Management.*, 2(1), 7-24.
- Mutai, M. C., & Opuodho, G. (2021). Effect of credit risk management practices on loan performance of microfinance banks in Kenya. *International Academic Journal of Economics and Finance*, 3(7), 159-175.
- Muthoni, M. I., Mwangi, L. W., & Muathe, S. M. (2020). Credit management practices and loan performance: empirical evidence from commercial banks in Kenya. *International Journal of Current Aspects in Finance, Banking and Accounting*, 2(1), 51-63.
- Mwangi, E. & Wambua, L. (2016). Factors influencing performance of Sacco's in Kenya: a case of Unaitas Sacco, *European Journal of Business Management*, 1 (1), 20-38.
- Ndege, O. (2015). Effect of Internal Control on Fraud Detection and Prevention in District Treasuries of Kakamega County". *International Journal of Business and Management*, 4(1):47–57.
- New York: UNDP (2009). Handbook on Planning, Monitoring and Evaluating for Development Results. UNDP. New York.
- Ngala, B. M., & Musau, S. (2022). Integrated financial management information system and quality of financial reporting in Nairobi city county government, Kenya. *International Academic Journal of Economics and Finance*, 3(7), 453-473.
- Ngondo, J.M., (2018). The effect of lending rate on loan performance of commercial banks.
- Niyivuga, B., Otara, A., & Tuyishime, D. (2019). Monitoring and evaluation practices and academic staff motivation: Implications in higher education within Rwandan context. *SAGE Open*, 9(1), 2158244019829564.
- Ntoiti, R., & Jagongo, A. (2021). Non-Performing Loans and Financial Stability of Deposit Taking Saccos Regulated by SASRA. *International Journal of Finance and Accounting*, 6(2), 29-39.
- Nyumoo, A. K. (2020). *Effects of Internal Control on the Financial Performance of Saccos in Meru County* (Doctoral dissertation, KeMU).
- Odegua, R. (2020). Predicting bank loan default with extreme gradient boosting.

- Ofei, K.A. (2001). Retooling credit unions: The case of credit union association of Ghana. International Labour Organization, Working Paper 01-3.
- Olafusi, O. S. (2020). Effect of Accounting Information and Communication System on Financial Reporting Quality: A Review of Theories and Empirical Works.
- Orodho, A. (2009). Elements of education and social science research methods. Maseno, Kenya: Kanezja.
- Owojori, A.A., I.R. Akintoye & F.A. Adidu, (2011). The challenge of risk management in Nigerian banks in the post consolidation era. *Journal of Accounting and Taxation*, 3(2): 23-31.
- Performance: Empirical Evidence from Commercial Banks in Kenya. *International Journal of Current Aspects in Finance, Banking and Accounting*, 2(1), 51-63.
- Pfeffer, J. Salancik, G. R. (2015). New Directions for Organization Theory: Problems and Prospects. Oxford University Press.
- Rahman, M. M., & Hasan, M. M. (2019). Determinants of quality of financial information: Empirical evidence from cement sector of Bangladesh. *East Asian Journal of Business Management*, 9(1), 13-20.
- Regulators, F. S. (2021). Kenya Financial Sector Stability Report 2020. pdf (Financial Sector Stability). *Central Bank of Kenya*.
- Renschler, M. E. (2020). *The Influence of Internal Audit Competency on Financial Reporting Quality and Enterprise Risk Management* (Doctoral dissertation, Bentley University).
- Rittenberg, L.E., & Schwieger, B.J. (2001). Auditing: Concepts for a changing environment (3rd Ed.). South-western college pub.
- SASRA Report, Kenya, (2022).
- SASRA SACCO supervision reports (2018). Retrieved from <http://www.sasra.go.ke/>
- Sekaran, U. (1992). Research Methods for Business: A Skill-Building Approach. New York: John Wiley & Sons, Inc.
- Shanmugam, J. K., Haat, M. H C. & Ali, A. (2012). An exploratory study of internal control and fraud prevention measures in SMEs. *International Journal of Business Research and Management*, 2(3), 90-99.

- Sina, M. A., Chowdhury, M. S. A., Shakib, M. T., Akter, S., & Arafat, A. Y. (2021). The role of information technology in improvement of quality of the financial reports prepared by the commercial banks in Bangladesh. *Indian Journal of Finance and Banking*, 5(2), 85-97.
- Singh, S., Holvoet, N., & Pandey, V. (2018). Bridging sustainability and corporate social responsibility: Culture of monitoring and evaluation of CSR initiatives in India. *Sustainability*, 10(7), 2353.
- Sitorus, E. T., Setiyawati, H., & Mappanyuki, R. (2020). The effectiveness of the internal control system on the quality of financial statements with the implementation of internal audits as a moderation variable. *ICORE*, 5(1), 1-15.
- Sukasana, I., Sukayasa, I. K., & Sumartana, I. (2022). Analysis of the Accounting Information System for Crediting at the Catur Putra Manunggal Denpasar Savings and Loan Cooperative. *Repositori Politeknik Negeri Bali*.
- Sumito, N., Setiyawati, H., & Mappanyukki, R. (2021). Influence of Internal Audit and Internal Control System on Quality of the Financial Statement. In *Conference on International Issues in Business and Economics Research (CIIBER 2019)* (pp. 26-31). Atlantis Press.
- Szylar, C., (2013), Risk management under UCITS III/ IV. New challenges for the fund industry, John Wiley & Sons.
- Umar, H., & Dikko, M. U. (2018). The effect of internal control on performance of Commercial banks in Nigeria. *International Journal of Management Research & Review*, 8(6), 13-32.
- UNDP. (2009). *Handbook on Planning, Monitoring and Evaluating for Development Results*.
- Uwadiae, O. (2013). COSO – An Approach to Internal Control Framework. Financial Reporting, Delloite.
- Uyanik, G.K. & Güler, N. (2013). A Study on Multiple Linear Regression Analysis. *Procedia—Social and Behavioral Sciences*, 10(6), 234-240.
- Wahhab, A. M. A., & Al-Shammari, M. T. A. A. (2021). Audit committee characteristics, regulatory changes and financial reporting quality in Iraq: Some lessons from Sox Act. *International Journal of Economics and Finance Studies*, 13(1), 43-66.
- Wamalwa, N., & Jagongo, A. (2017). Loan portfolio management and firm performance: Theoretical paper review. *International Journal of Management and Commerce Innovations*, 5(2), 638-643.

- Wambua, C. M. (2019). *Monitoring and evaluation practices and performance of county funded education projects in Makueni County, Kenya* (Doctoral dissertation, Doctoral Dissertation, Kenyatta University).
- Wamukota, M., Musiega, M., & Alala, B. (2022). effect of internal accounting monitoring and control activities on financial performance of SACCOS in Kenya. *European Journal of Economic and Financial Research*, 6(4). 14-26.
- Wang, F., Xu, L., Zhang, J., & Shu, W. (2018). Political connections, internal control and firm value: Evidence from China's anti-corruption campaign. *Journal of Business Research*, 8(6), 53-67.
- Wang, K. T., Wu, Y., & Ho, K. Y. (2021). Internal control reporting and cost of bond financing: Evidence from China. *International Review of Economics & Finance*, 7(6), 1323-1346.
- Warner, R.M. (2008). *Applied Statistics: From Bivariate through Multivariate Techniques*.
- Weinberg, G. M. (1975). *An Introduction to General Systems Thinking*. – New York: Wiley.
- Widyaningsih, A. (2016). Internal Control System on the Quality of Financial Statement Information and Financial Accountability in Primary Schools in Bandung, Indonesia. *Research Journal of Finance and Accounting*, 7(10), 10-16.
- World Council of Credit Unions, (WOCCU) (2018), Best Practices, PEARLS. Website.
- World Council of Credit Unions. (2017). About Us. Retrieved from <https://www.woccu.org/>
- Xiang, X., Q. Li, S. Khan, & O. I. Khalaf. 2021. “Urban Water Resource Management for Sustainable Environment Planning Using Artificial Intelligence Techniques.” *Environmental Impact Assessment Review* 86: 106515.
- Yusuf, M., Otonde, M. G., & Achayo, M. S. (2017). Influence of monitoring and evaluation on performance of constituency development fund projects In Kajiado East Sub-County, Kenya. *The International Journal of Management Science and Information Technology (IJMSIT)*, (23), 12-26.

## APPENDICES

### **Appendix I: Introductory Letter**

JULIUS KIGOTHO NJANE,  
REG NO: D53/CTY/PT/20684/2010  
KENYATTA UNIVERSITY,  
P. O BOX 43844,  
**NAIROBI**

EMAIL- [juliusnjane7@gmail.com](mailto:juliusnjane7@gmail.com)

RE: PERMISSION TO COLLECT DATA FOR MY PROJECT

Dear, Sir/Madam

I am a scholar pursuing Masters in Business Administration Finance option at Kenyatta University. The topic is on **“Internal Control System and Loan Performance of Deposit Taking SACCOs in Nairobi City County, Kenya.”** For the sake of accomplishing the goal, I would like to request you to fill for me the information required pertaining your organization. The information you will furnish us with will be treated confidential and only to be used for academic learning.

Thank you for your consideration and participation.

Yours sincerely

**JULIUS KIGOTHO NJANE**

**Appendix II: Questionnaire for DT-SACCO top management and other Key officials**

**PART A: GENERAL INFORMATION**

- Q1. Gender Diversity-As the Chief Executive Officer Indicate your Sex;
- i) ...Male.....
- ii) ...Female.....
- Q2. In which industry (sector) does your DT-SACCO operate in?
- a). Service Industry? .....
- b). Manufacturing Industry? .....
- c). Construction Industry? .....
- d). Merchandised products (deal with already manufactured goods) Industry? .....

**PART B: Control Activities**

Using this Likert scale of; Strongly Agree (SA)=5, Agree(A)=4, Neutral(N)=3, Disagree(D)=2 and Strongly Disagree (SD)=1 kindly respond to the statements as indicated in the spaces provided as pertaining the study variable stated in this part. Use of a tick (√), capital (X) or any other mark will be appropriate.

1.	<b>Existence of Internal Audit Unit</b>	5	4	3	2	1
a	The internal audit unit has been in existence since the DT-SACCO was established					
b	There is an internal audit department/section or function whose recommendations are seriously adopted by the management					
2.	<b>Internal Audit Unit Independence</b>					
c	Internal audit is independent of the influence by the management					
d	Internal audit unit is separated from the finance and accounting sections/departments					
e	Internal audit unit has a limit of the much it can work with the external auditors					
f	Internal auditor always prepares and presents a report on quarterly basis					

**PART C; Control Environment**

Using this Likert scale of; Strongly Agree (SA)=5, Agree(A)=4, Neutral(N)=3, Disagree(D)=2 and Strongly Disagree (SD)=1 kindly respond to the statements as indicated

in the spaces provided as pertaining the study variable stated in this part. Use of a tick (√), capital (X) or any other mark will be appropriate.

<b>1.</b>	<b>Well-Defined Employees' Duties</b>	5	4	3	2	1
a	The SACCO has a culture of taking the employees through an induction process to understand the nature of job they are to undertake					
b	All employees have job description document at the time of engagement by the DT-SACCO					
c	There are no overlaps between or amongst departments					
<b>2.</b>	<b>Organization Chart</b>	5	4	3	2	1
d	Organization chart is revised all the time there is managerial or administration changes which are material					
<b>3.</b>	<b>Accounting Manual</b>	5	4	3	2	1
g	The SACCO has an accounting manual which guide the accounting and finance department					

#### **PART D; Information and Communication Technology**

Using this Likert scale of; Strongly Agree (SA)=5, Agree(A)=4, Neutral(N)=3, Disagree(D)=2 and Strongly Disagree (SD)=1 kindly respond to the statements as indicated in the spaces provided as pertaining the study variable stated in this part. Use of a tick (√), capital (X) or any other mark will be appropriate.

<b>1.</b>	<b>Effective Communication</b>	5	4	3	2	1
a	Top management ensures that any communication from up is well communicated to the lower cadre of management, supervisors and to all the employees					
b	All channels of communicating are automated to ensure continuous flow of information and data for operations of the SACCO					
c	There is customer care desk/office to take care of external communications from other interested parties to the organization such as loan borrowers					
<b>2.</b>	<b>Proper Documentation</b>	5	4	3	2	1
d	All information and/or data is documented and backed-up electronically					
e	There are staff in the administration department responsible for registry matters					
f	All information is managed through an information system which is reviewed and/or audited on monthly basis					
<b>3</b>	<b>Written Procedures of Operations</b>					
g	Key and lock system is used for safety of physical documents					

**PART E; Monitoring**

Using this Likert scale of; Strongly Agree (SA)=5, Agree(A)=4, Neutral(N)=3, Disagree(D)=2 and Strongly Disagree (SD)=1 kindly respond to the statements as indicated in the spaces provided as pertaining the study variable stated in this part. Use of a tick (√), capital (X) or any other mark will be appropriate.

<b>1.</b>	<b>Management Supervision</b>	5	4	3	2	1
a	Timely corrective action is taken concerning arising matters affecting the firm					
b	Findings are considered and immediately acted upon at appropriate levels.					
c	Continuous integration of expected alterations is inculcated in the current short-long term planning.					
<b>2.</b>	<b>Self-Assessment Mechanisms</b>					
d	Periodical reviewing of organizational composition impact on workers' moods and effect of strategies and processes is done by management through evaluation					
e	There is continuous assessment of internal controls done in a formal procedural manner					
f	The information system correctness, time bound and applicability is continuously assessed by top management with queries being posted seeking explanation of abnormal reports received					



**The end of the questionnaire. Thank you**

Appendix III: NACOSTI PERMIT

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Research\_Permit\_...

**REPUBLIC OF KENYA**  
**NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY & INNOVATION**

Ref No: **653850**      Date of Issue: **31/October/2023**


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