EFFECTS OF INTERNAL CONTROLS ON LIQUIDITY AMONG PUBLIC UNIVERSITIES IN KENYA

BY

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DECLARATION

I declare that this dissertation is my original work that has never been previously published or submitted elsewhere for the award of a degree. I also declare that the dissertation contains no material written or published by others except where due reference is made, and the author is duly acknowledged.

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I do hereby confirm that I have examined the master's dissertation of

Stephen Kamau Njenga

And have certified that all revisions that the dissertation panel and examiners recommended have been adequately addressed.

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ABSTRACT

Public Universities have come under sharp criticism as a result of consistent concern on their liquidity. These institutions are facing liquidity constraints, situations that have made them unable to settle their short term obligation in salary and wage payment. Thus, the present study sought to establish the effect of internal controls on liquidity of public universities in Kenya. More specifically, the study seeks to establish the effect of control environment, control activities as well as monitoring activities on liquidity. The study was guided by the agency theory, stewardship theory and control environment theory. Descriptive survey and correlational designs was adopted. The study will target 39 public universities in Kenya and from each, an internal auditor or his/equivalent was unit of observing. Census was adopted because of its relatively low population size and information is to be gathered from primary sources through questionnaire and from secondary sources through financial statements of the institutions. The gathered information was analyzed through means and standard deviations, correlation and regression and presented through tables and figures. The study reveals that a robust control environment ($\beta = 0.339$, $p < 0.001$), effective control activities ($\beta = 0.317$, $p < 0.002$), and enhanced monitoring systems ($\beta = 0.256$, $p < 0.001$) significantly improve liquidity in public universities. These findings underscore the importance of ethical standards and systematic measures for effective financial oversight, highlighting the crucial role of these components in promoting overall financial health.

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TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

DEDICATION

I dedicate this dissertation to my mum Salome Wacuka for their unwavering love, prayers, and support specifically during the study period.

ABBREVIATIONS AND ACRONYMS

CUE Commission for University Education

FRQ Financial Reporting Quality

KCAU Kenya College of Accounts University

OPERATIONAL DEFINITION OF TERMS

Monitoring activities: Refer to the systematic examination and evaluation of an organization's financial records, operational procedures, or compliance with regulations and standards.

Control Environment: Refers to the overall atmosphere or tone set by an organization's leadership regarding the importance of internal control and ethical behavior. It encompasses the attitudes, values, and behaviors of management and employees towards maintaining effective controls, adherence to policies and procedures, and promoting integrity and ethical conduct throughout the organization.

Control activities: Refer to the established guidelines, strategies, and procedures implemented by organizations to manage their financial activities effectively. These policies encompass various aspects, including budgeting, investing, borrowing, and managing cash flows.

Internal audit: Is a systematic examination and evaluation of an organization's activities, processes, controls, and systems conducted by an independent team within the organization. Its purpose is to ensure that operations are conducted effectively, efficiently, and in compliance with applicable laws, regulations, and internal policies.

Internal Controls: Refers to the set of policies, procedures, and practices implemented within an organization to ensure the integrity of its operations, reliability of financial reporting, and compliance with laws and regulations.

Liquidity: Refers to the process of efficiently handling a company or individual's assets and liabilities to ensure there's enough readily available cash or other liquid assets to meet short-term financial obligations and operational needs. It involves monitoring, forecasting, and strategically allocating funds to maintain sufficient liquidity while maximizing returns and minimizing risks.it comprises of current assets and current liabilities

CHAPTER ONE: INTRODUCTION

1.1. Background to the Study

Liquidity has garnered substantial attention among researchers, especially in relation to public universities, as evidenced by the increasing volume of studies in this area. Internal control systems are essential in liquidity, ensuring that universities maintain adequate cash flow to meet short-term obligations and operational needs (Chen, Yang, Zhang & Zhou, 2020). Effective internal controls assist in tracking cash inflows and outflows, reducing fraud risk, and enhancing the accuracy of financial reporting. Key controls include separating duties, conducting regular bank reconciliations, ensuring proper authorization and approval of transactions, and accurately recording financial activities in a timely manner (Ge, et al., 2021). By strengthening internal controls, universities can forecast and plan liquidity requirements more effectively, reducing the likelihood of cash shortages or excess idle cash that could be put to better use (Odunko, 2022).

Additionally, internal controls related to liquidity involve using advanced financial techniques and tools to evaluate and mitigate liquidity risks (Effiong & Ejabu, 2020). Techniques like cash flow forecasting, scenario analysis, and stress testing enable universities to anticipate liquidity crises and create contingency plans. These practices provide a continuous review framework to ensure that liquidity aligns with the institution's overall financial strategy and risk tolerance (Musiita, et al., 2023). Well-structured internal controls contribute to the financial stability of public universities, boosting investor confidence and fostering sustainable growth by ensuring that liquidity is managed effectively and proactively (Mungai, Maina & Kungu, 2021).

Efficient liquidity plays a critical role in public universities, enabling them to sustain and deliver quality education. However, managing liquidity has become a pressing challenge for many

institutions worldwide, as it directly affects their ability to maintain financial stability and fulfill academic missions. In the UK, for example, liquidity constraints led some universities to the brink of financial collapse, highlighting the impact that poor liquidity can have on institutional viability (Yilmaz, Talavera & Jia, 2020). Similarly, in Italy, research has shown that the optimal performance of public universities is closely linked to well-managed liquidity processes, underscoring the importance of financial planning and cash flow strategies to maintain operational stability (Vergolini, Zanini & Bazoli, 2014).

In developing countries, the situation is often more complex. For instance, in Tanzania, many public university administrators face liquidity challenges stemming not only from cash flow shortages but also from limited knowledge of advanced liquidity practices. This gap in financial expertise, combined with irregular funding, creates a significant threat to the long-term sustainability of these institutions, restricting their ability to cover costs and maintain essential services (Kusekwa & Masanja, 2020). In Kenya, liquidity issues have similarly jeopardized the financial health of numerous public universities, resulting in difficulties meeting short-term financial obligations. These obligations include tax payments, remittance of statutory deductions, and settlement of operational utility bills, which are crucial for the institutions' daily operations (Mathenge & Muturi, 2017; Asakania, 2021).

Effective liquidity is indispensable for public universities to support their core academic and operational activities (Nalwoga, 2021). A central aspect of maintaining liquidity lies in robust internal controls, which consist of policies, procedures, and mechanisms designed to ensure reliable financial reporting, proper fund allocation, and asset protection. Strong internal controls provide a framework for universities to monitor their finances closely, minimize financial risks, and ensure accountability in the management of resources (Hamed, 2023). When implemented

effectively, these controls can significantly enhance liquidity, allowing public universities to operate sustainably and remain focused on their educational missions. Therefore, this study will examine how internal controls influence liquidity within Kenya's public universities.

1.1.1 Internal Controls

The concept of internal control, as articulated by the OECD (2016), refers to the structured efforts within an organization aimed at achieving operational efficiency while ensuring compliance with existing laws and policy objectives. These efforts serve as a crucial mechanism in guiding day-to-day activities, ensuring that operations remain aligned with organizational goals without violating regulatory frameworks. Bouheraoua and Djafri (2022) expand on this by explaining that internal control systems encompass a broad set of policies, procedures, and practices designed not only to safeguard organizational assets but also to maintain the reliability of financial reporting and ensure full compliance with both internal regulations and external legal requirements. This holistic approach helps organizations enhance their operational effectiveness by preventing fraud and minimizing financial discrepancies. By implementing these controls, organizations can streamline their processes, reduce waste, and foster an environment of accountability and transparency, thus ensuring that the organization functions within the bounds of efficiency and integrity.

Furthermore, Lartey et al. (2020) emphasize that internal control systems function as essential mechanisms for safeguarding an organization's assets and promoting operational efficiency. By implementing these controls, organizations can create a robust framework that mitigates potential risks, prevents fraudulent activities, and ensures accountability across all levels of management. The key to effective internal control lies in its ability to establish clear procedures

and responsibilities that allow for the monitoring and verification of financial transactions and operational activities. This contributes to an enhanced level of accuracy and reliability in financial reporting, enabling organizations to make informed decisions that align with their strategic objectives. Moreover, these controls provide a means for ensuring that processes are carried out with a high level of accountability, thereby fostering an environment that promotes ethical behavior and long-term sustainability.

Bimo, Prasetyo, and Susilandari (2019) view internal controls as comprehensive plans and procedures endorsed by management to achieve the broader goals of the organization. In the case of public universities, these controls are particularly essential in facilitating the effective execution of institutional activities and ensuring that resources are utilized optimally. Public universities, being large and complex institutions, require well-structured internal controls to maintain financial stability and operational efficiency. As Julie (2019) observes, these measures are designed to promote efficiency and ensure that managerial decisions are aligned with the overall objectives of the university. They serve as a safeguard, providing checks and balances that help verify the integrity of financial transactions and management processes, which is crucial for institutions dependent on public funding and accountable to multiple stakeholders.

Expanding on the importance of governance structures, Alemu (2020) notes that internal controls within public universities are often embedded in governance frameworks, which are established to reasonably ensure the achievement of institutional objectives. These structures guide decision-making, define roles and responsibilities, and ensure that oversight mechanisms are in place to hold management accountable. This governance-oriented approach to internal control not only strengthens the strategic direction of the university but also ensures that financial and operational risks are mitigated through consistent monitoring and review. Similarly, Falqueto et

al. (2020) point out that internal controls at the institutional level often include comprehensive plans and auditing processes that verify management decisions and ensure the efficient execution of operational activities. These checks enhance the university's ability to remain resilient in the face of financial challenges, fostering a culture of continuous improvement and adaptive management.

The components of internal controls in public universities, including governance structures, monitoring activities, control activities, and budgetary control, form the backbone of institutional oversight. In the context of this study, internal controls was assessed through key indicators such as the control environment, monitoring activities, and control activities. Solomon (2020) explains that the control environment refers to the organizational structures, frameworks, policies, and processes that have been put in place to ensure effective management and accountability. These structures serve as the foundation for decision-making and create a system of checks and balances that promote ethical behavior while safeguarding the organization's assets. The control environment ensures that all institutional activities are carried out in a manner that mitigates risks, promotes transparency, and aligns with the university's mission and goals.

Control activities, as outlined by Tian et al. (2020), provide a framework for governing financial activities within an organization, establishing guidelines for transactions and decision-making. These policies are integral to the internal control system as they ensure that financial resources are managed prudently and in compliance with regulatory requirements. Mandal (2023) emphasizes that well-defined control activities play a critical role in mitigating financial risks, preventing fraud, and ensuring that financial activities are conducted with the highest level of accuracy and reliability. In the context of public universities, these policies help create a structured approach to budgeting, accounting, and reporting, thereby minimizing the risk of errors or

mismanagement of funds. Control activities also contribute to the overall internal control environment by clearly outlining procedures for compliance and accountability, which is essential for maintaining institutional integrity.

Monitoring activities represent another key component of internal controls, as they provide a systematic and independent evaluation of the organization's operations and financial records. Kassaye (2023) argues that regular audits are necessary to assess whether internal controls are functioning as intended and to identify areas where improvements may be needed. Audits provide a thorough review of an organization's processes, policies, and systems, offering assurance to both management and stakeholders that resources are being managed responsibly and in accordance with established standards. Kamara (2023) further highlights that the audit process plays a vital role in identifying potential risks and weaknesses in internal controls, allowing organizations to take corrective actions before significant issues arise. In public universities, this is particularly important, as the audit process helps to prevent financial mismanagement, fraud, and non-compliance, all of which could jeopardize the institution's financial sustainability. Arbogast (2022) adds that by regularly reviewing internal controls, audits enhance the overall stability and reliability of an organization's operations, contributing to its long-term success.

1.1.2 Liquidity

Liquidity, in the context of public universities, represents their capacity to meet short-term obligations as they arise. However, ensuring this capacity involves more than simply holding funds—it requires effective liquidity, which entails the strategic planning and controlling of financial resources to maintain an adequate liquidity position (Waswa, Mukras & Oima, 2018). With universities worldwide facing increasing financial pressures, there has been a global, regional, and local emphasis on the need for sound liquidity (Shrestha, 2018). Public universities

aim to maintain liquidity levels that not only meet operational needs but also optimize surplus generation from their activities (Kung'u, 2017). Achieving this balance necessitates effective working capital management, which involves careful coordination of current assets—such as cash, receivables, and short-term investments—and current liabilities, including debts and accounts payable (Mwashi & Miroga, 2018). The management of these two components is integral to the broader framework of internal controls within public universities (Sathyamoorthi, Mapharing & Dzimiri, 2020). Proper oversight of liquidity ensures that universities can avoid shortfalls that could compromise their ability to operate efficiently and meet financial commitments promptly.

In the context of public universities, successful liquidity heavily relies on maintaining a careful equilibrium between current assets and liabilities. Without an appropriate level of working capital, universities may encounter a funding gap that disrupts their ability to fulfill short-term financial obligations (Zimon, 2020). The interplay between these assets and liabilities forms the backbone of effective liquidity control. For instance, when current assets—such as cash and receivables—are not adequately funded, universities risk delaying essential payments, jeopardizing their financial standing and potentially their ability to continue operations without disruption. Thus, managing liquidity is not merely about having enough cash on hand; it involves a strategic approach to balancing inflows and outflows to maintain financial stability.

Current assets, which include readily accessible resources like cash and debtors, alongside short-term liabilities such as loans and creditors, play a vital role in determining a university's liquidity position (Adewusi & Adeleke, 2020). Inadequate funding to manage these elements can place public universities in precarious situations where they struggle to meet financial obligations on time. Failing to manage creditors effectively can lead to increased operational difficulties, making it harder for finance managers to implement efficient working capital strategies (Safi,

Muiruri & Ernest, 2021). This mismanagement of creditors may lead to cash flow bottlenecks, further straining the university's financial health and liquidity. Thus, effective creditor management is not just a financial necessity but a strategic tool for maintaining liquidity.

Moreover, finance managers in public universities must leverage the opportunity to optimize working capital through effective management of creditors and other short-term liabilities. When properly resourced, they can negotiate better terms with creditors and ensure that liabilities are managed in a way that supports the institution's broader financial goals. However, insufficient resources dedicated to creditor management could result in missed opportunities for optimizing working capital efficiency, which may further complicate liquidity issues (Seth, Chadha, Sharma & Ruparel, 2021). In such cases, finance managers may find themselves unable to create the flexibility needed to meet both immediate and future financial obligations. Therefore, effective liquidity in public universities goes beyond managing day-to-day cash flow—it involves strategic oversight of both assets and liabilities to ensure long-term financial health and operational success.

Effective working capital management plays a pivotal role in ensuring that public universities not only survive but thrive in a competitive and resource-constrained environment. Finance managers must continuously monitor and adjust the allocation of resources to optimize both operational efficiency and financial performance (Adewusi & Adeleke, 2020). This includes leveraging available resources, negotiating favorable terms with creditors, and aligning control activities with the institution’s strategic goals. When finance managers are equipped with the necessary tools and resources to manage liquidity, they can unlock opportunities for growth, improve financial resilience, and support the institution’s long-term sustainability. In essence, liquidity is a cornerstone of financial health in public universities. It not only supports the smooth

functioning of daily operations but also provides the foundation for achieving long-term goals, enhancing educational outcomes, and maintaining the trust of stakeholders. Without sufficient attention to liquidity and working capital management, public universities risk falling into financial instability, which can hinder their ability to deliver high-quality education, attract funding, and support the professional and academic growth of students and staff alike (Mwashi & Miroga, 2018).

1.1.3 Internal controls and liquidity

The connection between internal controls and liquidity in public universities can be observed through their interaction with other key constructs, particularly financial performance and profitability. This link remains largely inferential, as there is insufficient empirical evidence directly tying internal controls to liquidity alone. Nonetheless, studies in various contexts have demonstrated a relationship between internal controls and financial outcomes, which subsequently affect liquidity. For instance, Bimo et al. (2019) in Indonesia found that robust internal controls were associated with tax avoidance strategies, which in turn positively influenced liquidity. Although this study did not directly focus on liquidity, it highlighted how internal control mechanisms can create financial efficiencies that ultimately enhance liquidity. In Addis Ababa, Tesfaye (2019) similarly showed that internal controls had a positive impact on financial performance, which is closely linked to an institution's liquidity. Strong financial performance ensures that universities have sufficient resources to meet their short-term obligations, reinforcing the importance of internal controls in liquidity.

Ngari (2017) further emphasized the significant effect of internal controls on financial performance, suggesting that these controls play a critical role in ensuring public universities

maintain stable liquidity. By ensuring accurate financial reporting, reducing fraud, and promoting operational efficiency, internal controls directly contribute to improved financial outcomes, thereby supporting liquidity. Julie (2019) also noted that internal controls positively influence liquidity by enhancing financial performance, demonstrating how sound financial governance in public universities can lead to better liquidity.

Bett and Memba (2017) observed a significant relationship between internal controls and liquidity, with financial performance serving as the intermediary. They argue that when internal controls strengthen financial governance and accountability, universities are better positioned to manage liquidity effectively. Similarly, Njiru and Bunyasi (2016) disclosed that internal controls significantly interact with liquidity by improving the overall financial performance of an organization. Yego and Olouch (2018) confirmed that internal controls and financial performance are positively connected to liquidity. In public universities, this connection is critical, as effective internal controls help ensure proper budgetary allocations, timely collection of receivables, and prudent expenditure management. These practices contribute to maintaining an adequate liquidity position, allowing universities to meet short-term obligations while sustaining their operations and educational goals. Thus, internal controls are a fundamental component of financial management in public universities, supporting both their financial health and liquidity efforts.

1.1.4 Public universities in Kenya

Kenya's 35 public universities and four (4) constituent colleges, regulated by the Commission for University Education (CUE), face significant liquidity challenges despite their vital role in national development. Established in 2012 to succeed the Commission for Higher Education, CUE oversees university operations in the country, ensuring academic standards and governance (Guguyu, 2021; Mbiriri, 2022). Public universities contribute immensely to Kenya’s

economic growth by training skilled professionals and fostering knowledge creation, crucial for the country's aspirations, including the Vision 2030 goals (Mugendi & Githae, 2021). To support this, the government has provided financial assistance through capitation, aiming to strengthen these institutions as pillars of development (Kithinji, Wephukulu, Gekara & Mwanzia, 2022).

Despite this backing, many public universities are currently grappling with severe liquidity constraints, an issue that this proposed study aims to explore further. The problem is evident in the 2017, 2018 and 2019 audit reports, which highlighted the alarming state of liquidity in these institutions, revealing that many universities were operating with critically low working capital. In several cases, their current liabilities exceeded current assets, signaling deep financial distress (Chumba, Muturi & Oluoch, 2019). This financial instability has left public universities struggling to meet basic operational obligations, including paying salaries, wages, and other essential utilities. The growing inability to fulfill short-term obligations has heightened concerns about the long-term sustainability of these institutions (Kithinji, Wephukulu, Gekara & Mwanzia, 2023).

The extent of this liquidity crisis underscores a broader systemic issue that threatens the stability of public universities in Kenya. Inadequate cash flow, combined with rising operational costs and insufficient government funding, has put immense pressure on university management to navigate these challenges. This financial strain not only disrupts the day-to-day functioning of universities but also compromises their ability to deliver quality education and contribute to national development goals. Without effective intervention, the liquidity problem could further undermine the future viability of Kenya's public universities, risking their capacity to fulfill their educational mission and support the country's socio-economic progress.

1.2 Statement of the problem

Public universities in Kenya play a critical role in driving the nation's economic growth by providing education, fostering research, and contributing to knowledge creation. However, these institutions now face a serious threat to their financial sustainability due to rising service delivery costs and shrinking funding sources (Kwasi-Agyeman, 2020). The challenge of managing these escalating costs, alongside a continuous reduction in government financial support, has created immense pressure on public universities (Mamat, Ahmad & Said, 2021). While they are expected to maintain high standards in education, research, and infrastructure, their reliance on limited government capitation funds and poor financial management has further constrained their financial capacity (Asakania, 2021). These financial limitations have made it difficult for universities to effectively manage liquidity, compromising their ability to maintain a steady cash flow for essential operations. Guguyu (2021) noted that liquidity challenges have left public universities in Kenya unable to meet short-term obligations, including salary and wage payments.

Despite government efforts to harness public universities as key pillars in achieving Vision 2030 through economic, social, and political development, the unresolved liquidity issues cast doubt on the realization of this vision. Even with interventions aimed at resolving the financial distress caused by poor liquidity, the problem persists, leaving universities in a precarious position (Owuor, Agusioma & Wafula, 2021). The seriousness of this liquidity crisis is highlighted in the Auditor General's reports, which consistently paint a bleak picture of the financial health of Kenya's public universities. Moi University, for example, owed part-time lecturers Kshs.105.8 million and faced a negative working capital of Kshs.476.5 million, alongside an accumulated deficit of Kshs.3.2 billion (Auditor General, 2020). Similarly, the 2021/2022 Auditor General report showed that the University of Nairobi was struggling with a Kshs.2 billion deficit, Kshs.450

million tied up in stalled student accommodation projects, Kshs.4.8 billion in unpaid taxes to the Kenya Revenue Authority (KRA), and another Kshs.4.8 billion in unremitted pension contributions. Egerton University faced a deficit of Kshs.1.5 billion, with Kshs.6.1 billion in unremitted statutory deductions and Kshs.912 million locked in stalled projects. These financial constraints underscore the pressing need for more effective liquidity strategies.

Several studies have attempted to explore the relationship between internal controls and financial performance, although gaps remain in understanding how these controls affect liquidity in public uPast studies niversities. Tesfaye (2019), for instance, examined the link between internal controls and financial performance in selected manufacturing entities in Ethiopia, finding a significant relationship. However, this study's relevance to Kenyan public universities is limited due to its focus on a different context. Alemu (2020) analyzed internal controls at an organizational level using a case study of Hwassa Pepsi Cola Factory, which also showed proper authorization of transactions. Nonetheless, the case study design presents a methodological gap, making it difficult to generalize the findings to other sectors, particularly education. In Kenya, Ngari (2017) explored internal controls and their impact on financial performance in microfinance institutions. This study, however, did not directly address liquidity, leaving a gap in understanding how internal controls influence liquidity. Similarly, Julie (2019) investigated internal control practices in agro-processing firms in Kisumu, finding a significant link to financial performance but not directly examining liquidity as a dependent variable.

The reviewed studies highlight important gaps in the literature. While Tesfaye (2019) provided insight into internal controls and financial performance in Ethiopia, its context differs from Kenya's public universities. Alemu (2020)'s case study approach and Ngari (2017)'s focus on financial performance in microfinance institutions further demonstrate the need for more

research on liquidity within public universities. These gaps, particularly the lack of empirical evidence on how internal controls affect liquidity in public institutions, form the basis for this study. Existing research tends to emphasize broader financial controls or external regulatory measures, often neglecting the internal processes that directly influence liquidity. Moreover, little is known about how different internal control frameworks impact liquidity in various organizational settings. This study sought to fill these gaps by investigating the link between internal controls and liquidity in Kenya's public universities, with the goal of enhancing financial resilience and operational stability in these institutions.

1.3 Research Objective

The study was guided by the following general and specific objectives:

1.3.1 General objective

The study sought to establish the effect of internal controls on liquidity among public universities in Kenya

1.3.2 Specific objectives

The study was guided by the following specific objectives:

i. To establish the effect of control environment on liquidity among public universities in Kenya

ii. To analyze the effect of control activities on liquidity among public universities in Kenya

iii. To determine the effect of monitoring activities on liquidity among public universities in Kenya

1.4 Research Hypotheses

The study was based the following hypotheses:

Ho1: *Control environment has no statistically significant effect on liquidity among public universities in Kenya*

Ho2: *Control activities have no statistically significant effect on liquidity among public universities in Kenya*

Ho3: *Monitoring activities have no statistically significant effect on liquidity among public universities in Kenya*

1.5 Justification of the Study

The study will support effective decision making on the need to balance between current assets and liabilities for effective working capital management. Finance managers working in the public Universities was able to review their current liquidity practices. The board of public universities in Kenya will understand the need for having in place strong internal controls so as to mitigate conflict of interests. The study will support new policies on liquidity in the public universities. The study will contribute to academic literature by providing empirical evidence and theoretical frameworks that explain the relationship between internal control and liquidity. This can serve as a foundation for future research in related areas. Researchers can build upon the findings, exploring more contemporary aspects of internal controls and liquidity, leading to a deeper understanding of these critical financial components.

1.6 Significance of the Study

The study will contribute towards supporting and extending the views and arguments of the agency theory, stewardship theory and positive accounting theory. The study will further contribute towards theoretical concepts of internal control and liquidity. This will expand the existing knowledge and information on internal control and liquidity. Future scholars will have a chance to carry out similar empirical reviews by relying on this study.

Top management working among public universities in Kenya was able to embrace internal control mechanism with hope of enhancing their liquidity. The study will guide these managers in reviewing the current internal control mechanism so as to enhance liquidity. Managers working in these firms will have an opportunity of reviewing their internal control practices and propose right mechanisms of improvement.

Statutory institution and Policy makers working in these public universities will have in place right policies guiding internal control mechanisms. Policy makers in regulatory bodies like commission of Higher education was in position to develop relevant regulations and policies to stimulate effective internal control mechanism among these public universities. The study will support policy formulation for the entire education sector so as to have positive and meaningful contribution towards the education growth of Kenya's economy at large.

1.7 Scope of the Study

The study sought to establish the relationship between internal controls on liquidity. More specifically, the study determined the relationship between control environment, control activities as well as monitoring activities on liquidity. The study focused on public universities in Kenya. The study was conducted between the months of March and October 2024 using primary data.

Information from primary sources were gathered with aid of the questionnaire having closed ended questions.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

The chapter provides a review of literature covering theories and past empirical studies. It also focuses on the summary of the reviewed studies and gaps as well as operationalization of variables and the conceptual framework.

2.2 Theoretical Review

The study was guided by the agency theory, stewardship theory and control environment theory as discussed in the subsequent sections:

2.2.1 Agency theory

The proponent of this theory was Jensen and Meckling (1976) and it provides framework of the relationship existing between the principal and the agent. The principal is the entity or individual that delegates authority to an agent to act on their behalf. The agent, on the other hand, is the party entrusted with the responsibility to make decisions and take actions on behalf of the principal. In this framework, the principal involves the governing body or administration of the public university. This could include the government, board of trustees, the university board, or other top-level administrators while the agents will entail individuals responsible for day-to-day operations and financial management within the university lead by the accounting officer who is the vice chancellor. This might include managers, department heads, financial officers, or other administrators handling financial aspects in the university operations. Managers are premised to be self-interested individuals who may not have an extra incentive of engaging in actions that are best aligned with interests of the owners of the firm (Chanlat, 2019). This leads to conflict of interest between owners and managers of business enterprises. In mitigating these conflicts, the

theory requires owners of the firm to put in place mechanisms such as the board of director to provide oversight role by checking all actions undertaken by the managers (Christiaens, 2020).

The theory argues that managers being internal to the firm have more information on the actual financial health of the firm as compared to the principals who are owners of the firm (Payne & Petrenko, 2019). It is the asymmetrical information that greatly affects the ability of the owners to carry out monitoring of whether or not the interests of managers are aligned with those of owners of the firm (Khalid, Hussin, Sarea & Shaarani, 2021). It is recognized from this theory that incomplete information linked with the relationship between owners and managers could be unfavorable leading to a situation referred to as moral hazard (Cherian, Safdar-Sial, Tran, Hwang, Khanh & Ahmed, 2020). Having in place strong internal controls is one of an important avenue that shareholders can leverage to mitigate conflict of interest between them and those in management positions in the firm (Shogren & Raley, 2022).

Agency theory is highly relevant to a study on internal control and liquidity as it addresses the conflicts of interest that arise between managers (agents) and shareholders (principals). In this study, effective internal controls serve as mechanisms to align the interests of managers with those of shareholders by ensuring that managers act in the best interest of the company, thereby safeguarding assets and enhancing financial performance. Proper liquidity, as part of these internal controls, ensures that the company can meet its short-term obligations and operate smoothly without financial distress. By mitigating the risks of mismanagement and potential agency problems, robust internal controls and sound liquidity practices contribute to the overall financial health and stability of the organization, ultimately protecting shareholder value. Thus, the theory was applied in testing the empirical link existing between internal controls and liquidity hence the relevance of it to the present study.

2.2.2 Stewardship theory

The proponent of this theory was by Davis, Schoorman and Donaldson (1997) and it is in sharp contrast with the agency theory. In this theory, a steward is a manager who is not guided by self-interested behavior and always engages in actions that are well aligned with those of owners of the firm (Chrisman, 2019). Being stewards, this theory requires managers to take part in safeguarding assets of the firm would therefore carry out activities that maximize wealth of owners (Verma, Viswanathan, Hwee & Toh, 2019). In this theoretical perspective, success of an organization that steward manages is key motivating factor that greatly satisfy them and which they always seek to achieve (Murtaza, Mahmood, Saleem, Ahmad, Sharif & Molnár, 2021).

By being involved in actions and decisions that contribute towards success of the firm, stewards' belief that this would safeguard their employment tenure. It also gives a sense of accomplishment (Löhde, Campopiano & Calabrò, 2021). It is premised from theory that stewards are delegated with responsibilities and endowed with adequate resources that should effectively manage as stewards so as to maximize wealth of their owners (Löhde, Campopiano & Calabrò, 2021). The present study covers internal audit as one of the important components of internal controls of the firm. One of the key responsibilities of a steward is effective protection and monitoring of effective use of resources to derive maximum value for shareholders (Torfing & Bentzen, 2020).

Stewardship theory emphasizes the importance of managerial responsibility and accountability in utilizing resources entrusted to them for the benefit of stakeholders. In a study focusing on internal control and liquidity, stewardship theory becomes relevant as it emphasizes the role of managers in safeguarding assets and ensuring efficient use of resources to maintain liquidity. Managers, acting as stewards, are expected to implement robust internal control systems

to mitigate risks associated with liquidity, thereby protecting stakeholders' interests. Through stewardship, managers are incentivized to prioritize the organization's long-term sustainability by making prudent decisions regarding liquidity, ensuring transparency, and minimizing the likelihood of mismanagement or fraud. Thus, stewardship theory provides a theoretical framework for understanding managerial behavior in the context of internal control and liquidity, highlighting the importance of accountability and trust in corporate governance. Hence, the theory was used to underpin this variable of internal audit.

2.2.3 Control environment theory

The theory was developed jointly by the Committee of Sponsoring Organizations in 1992. The control environment theory emphasizes the importance of creating a positive and strong control environment within an organization. This involves establishing a culture of integrity, ethical behavior, and a commitment to internal controls. A robust control environment can enhance the effectiveness of internal controls (Sudirman, et al, 2021). The theory argue that a strong control environment is fundamental for achieving organizational objectives and mitigating risks. They contend that by establishing a positive control environment, organizations can cultivate a culture of compliance, ethical behavior, and accountability among employees (Lee, 2020). This theory suggests that the management at the top, set by leadership, plays a crucial role in shaping the control environment. Leaders who prioritize transparency, integrity, and a commitment to compliance contribute to a climate where employees are more likely to adhere to established controls and procedures (Enwereuzor, Adeyemi & Onyishi, 2020).

Additionally, proponents of the control environment theory highlight the role of organizational structure, policies, and communication channels in shaping the control environment. The theory suggests that a well-defined organizational structure, clear policies and

procedures, and effective communication channels contribute to a more controlled and regulated environment (Kalyuzhnova, 2021). By fostering a culture of responsibility and adherence to established guidelines, organizations can enhance their ability to manage risks and ensure the achievement of strategic objectives (Plant, van Hillegersberg & Aldea, 2022). While the Control Environment Theory provides a valuable framework for understanding and implementing internal controls, it is not without its criticisms. Control Environment Theory may not adequately address the unique characteristics and challenges of specific industries (Li et al., 2022). The theory may not give enough attention to external factors that can impact internal control and liquidity, such as changes in regulatory environments, economic conditions, or geopolitical risks. Critics argue that a more comprehensive model should consider the interconnectedness of internal and external factors (Odunko, 2022).

Control environment theory is highly pertinent in a study focusing on internal control and liquidity as it forms the foundation upon which effective control mechanisms are built within an organization. This theory emphasizes the importance of management's attitudes, actions, and ethical values in shaping the control environment. In the study on liquidity, a robust control environment ensures that policies and procedures are in place to monitor and regulate cash flows, investments, and financial risks effectively. By understanding how the control environment influences decision-making processes and organizational behavior, researchers can assess its impact on liquidity practices, helping to identify areas for improvement and strengthen internal controls to safeguard liquidity positions. The control environment theory is essential to the present study as it emphasize the importance of organizational culture, leadership values, and structural elements in creating an environment that promotes effective control and governance within an organization.

2.2.4 Attribution theory

Attribution theory, introduced by Bernard Weiner and his colleagues in the early 1970s, delves into how people interpret actions and behaviors, assigning causes to them. Scholars in this field investigate whether actions stem from individual traits or situational factors. For instance, if people perceive that others would behave differently in the same circumstances, they attribute the outcome to the individual; if they believe most would react similarly, they attribute it to the situation. These attributions are termed dispositional or situational, respectively (Weiner, 1972). Attribution theory has been applied in various contexts, including understanding the motivation disparity between high and low achievers. It suggests that high achievers embrace challenges, attributing success to effort and ability while attributing failure to external factors like luck. Interestingly, people tend to attribute others' negative behaviors internally while excusing their own actions as situational.

In the realm of auditing and accounting, attribution theory has implications for responsibility. Auditors are expected to assess internal controls, evaluate their effectiveness, and test their operational efficiency to ensure accurate financial reporting. Failure to detect fraud risks can lead to accountability for auditors. Consequently, there's a call for continuous improvement in internal control systems and oversight from management to mitigate fraud risks effectively. In educational institutions, the theory underscores the importance of auditors taking responsibility for detecting and addressing mistakes and deception. Auditors and accountants should be held answerable to management for oversight failures. Additionally, evaluators should ensure the adequacy of audit and accounting services to timely identify and address fraud.

Attribution theory is highly relevant as it provides insights into how individuals attribute causes to events or outcomes. In the realm of corporate finance, understanding how managers

attribute success or failure in liquidity practices can shed light on their behaviors and decision-making processes. For instance, if managers attribute successful liquidity to their own skills or effective internal control mechanisms, they may be more inclined to continue or improve upon those practices. Conversely, if they attribute failures to external factors beyond their control, they might be less motivated to adapt or change their strategies. Therefore, by integrating attribution theory into the study, researchers can gain a deeper understanding of the psychological mechanisms driving managerial decisions on liquidity and internal control.

2.3 Empirical Review

The section is a review of past empirical studies guided by the formulated objectives of the study:

2.3.1 Control environment and liquidity

Omar and Yusuf (2021) did a study that focused on establishing the implication of control environment on financial performance of universities in Tanzania. The adopted design in this inquiry was descriptive survey and the focus was on public universities. Participants were drawn from accounts/finance as well and administration functions and the sample added up to 62 participants. Information gathering was supported by questionnaire that had both closed and open ended items. After processing of the gathered information, it became apparent that internal control environment and financial performance were significantly linked with one another. The study creates the gap with the current study, as it focused on financial performance and the study was done in Tanzania.

Clarke (2020) focused on establishing the implication of the effectiveness from internal control environment. The adopted methodologies included desk review approach where relevant

information was reviewed as documented in various academic reports. It emerged that firms do when their established internal control environments work to foster effective execution of operations. The paper noted that when internal control environment is enhanced effectively and properly, an organization was in good position of generating value to owners including shareholder. This can also allow an organization to ensure its daily operations are well aligned with best practices in the industry as well as regulations and laws for management of risks that firms are exposed to. The study creates a methodological gap since the study focused on desk review approach while the present study focuses on empirical research study where data was collected and analyzed from the public universities in Kenya.

Katusiime, Mabonga, Kirabo and Sunday (2018) did a study whose main focus was on control environment and activities and their connection with financial performance taking a case of Kampala International University that operates in Uganda. Gathering of information to aid in analysis was guided by primary as well as secondary sources and the embraced design was descriptive in nature. Processing of the information gathered was aided by regression. It was clear after analysis that personal ethics and integrity did not significantly impact on financial performance while control activities were significant. Control environment aspects that were investigated include ethical values and integrity of the people responsible for creation of control environment, competence and commitment of these personnel, organizational structure, managerial style as well as the management philosophy of the board of directors in an entity. The study creates a conceptual gap since the study focused on financial performance while the present study focuses liquidity as the dependent variable.

Kinyua, Gakure, Gekara and Orwa (2015) did an assessment of internal control environment and its link with financial performance of Kenya's listed entities. The embraced

design was survey and 62 listed entities in Kenya were covered. The adopted method of sampling was stratified and random in nature. Information in its primary and auxiliary nature was obtained guided by questionnaire and data gathering sheet. After the gathered information had been processed, it was noted that internal control environment and financial performance were interconnected with each other in significant terms. The study creates a conceptual gap since the study focused on financial performance while the present study focuses liquidity as the dependent variable.

2.3.2 Control activities and liquidity

Bokpin and Abor (2009) conducted an analysis on how control activities policy influences the corporate performance of firms in emerging markets. They utilized a fixed effects panel model estimation technique in their study. The findings revealed that control activities have adverse effects on both return on assets and return on equity, while showing a positive correlation with the market-to-book value ratio. Additionally, the study found a positive relationship between control activities and return on assets as well as return on equity. The study creates a conceptual gap since the study focused on corporate performance while the present study focuses liquidity as the dependent variable.

Roy Chowdhury, Shroff and Verdi (2019) conducted an analysis of control activities, disclosure and their interplay with investments at a corporate point of view. The approach adopted in this study entailed systematic review of relevant literature to draw insights. The paper theorized that one key accounting linked question is if and the degree to which financial reporting contribute towards an enhancement in right allocation of capital to relevant projects for investment purpose. The study noted that effective financial reporting mechanisms significantly contribute towards an improvement in the quality of investment decisions made by investors in the firm. The study

creates a conceptual gap since the study focused on financial reporting, disclosure with investments at a corporate.

Core (2020) conducted an inquiry into financial reporting and its interlink with incentives and pay. This study also entailed systematic review of relevant literature. Two critical effects from financial reporting were analyzed in this paper; the first one was determination of whether an enhancement in earnings results into more incentives. The second issue was determination of whether mis-measurement of pay may lead to its misuse. The paper indicated that high utilization of earnings within incentives leads to more incentive at a relatively lower cost. It was shown that adoption of incorrect accounting contributes towards misuse of the components of pay. The study creates a conceptual gap since the study focused on financial reporting and incentives and pay while the present study focuses on internal control on liquidity.

Ali (2018) did an investigation into financial reporting quality and its interplay with market share focusing on Kenya's listed enterprises. Financial reporting quality was pegged on qualitative aspects and attributes and the adopted design was descriptive in nature. Listed entities in Kenya across the period 2011 all through to 2017 were targeted in this study. Listed financial entities were however not included on account that they were highly regulated and this was believed to have an implication on their financial reporting. In total, 60 firms were sampled through stratified and random technique, but 13 from these had to be dropped on various account like their lack of clear information on earnings per share. FRQ was analyzed with aid of content analysis. It emerged after processing of the gathered information that timeliness, understandability, relevance and faithful presentation significantly increased the market share whereas comparability led to a decrease.

2.3.3 Monitoring activities and liquidity

Nurdiono and Gamayuni (2018) studied internal audit competency and the link with internal audit quality. The study was done in government agencies in Indonesia. The information was obtained from primary sources guided by questionnaire and partial least square method guided the processing of the obtained view from respondents. After analysis, it was shown that the competency of the internal audit has significant implication on internal audit quality. The study creates a conceptual gap since the study focuses on internal audit competency on internal audit quality while the present study focuses on internal control on liquidity.

Chang, Chen, Cheng and Chi (2019) did an investigation into attributes of internal audit and effectiveness of internal controls. The study was done using a data set in Taiwan. After processing of the gathered information, it emerged that large internal audit teams have potential of enhancing the effectiveness of the auditing process. On the other hand, the competence of the internal auditor was found to be directly linked with effectiveness in internal controls. Al-Farooque, Buachoom and Sun (2020) did an analysis of the internal audit committee and financial performance. The study covered listed firms in Thailand and the analysis entailed the use of OLS. Processed data indicated that internal audit committees positively enhance financial performance of an entity.

Budiman (2021) did a study to empirically investigate the individual and combined effects of audit opinions, the implementation of audit recommendations, and the findings of state losses by the Indonesian Supreme Audit Board (BPK) on corruption in Indonesian ministries and institutions. Using multiple linear regression analysis, the research employed a purposive sampling method, analyzing data from 72 ministries collected from BPK and the Corruption Eradication

Commission (KPK) for the years 2014 to 2017. The study found that neither audit opinions nor the implementation of audit recommendations influence corruption levels in Indonesian ministries and institutions, while findings of state losses do have an impact. Moreover, the combined effect of audit opinions, implementation of audit recommendations, and findings of state losses does not significantly affect corruption cases. BPK can leverage these results to develop auditing strategies and recommendations that are more effective in combating corruption.

Onay (2021) did a study on the factors affecting the internal audit effectiveness of the Turkish private sector organizations. The main objective of the study was to investigate the factors that influence the effectiveness of internal audits (IAE) in Turkey. Data was collected from 187 internal auditors who are members of The Institute of Internal Auditors-Turkey and work in private sector organizations, using a questionnaire developed from an item pool assessment. The study examined the relationship between IAE and six key factors identified through Principal Component Analysis, using Multiple Regression Analysis. The findings indicated that the characteristics of internal audits directly affect IAE. The study concluded that the factors impacting IAE are, in order, management's support, competence, independence, involvement in risk management activities, and collaboration with external auditors.

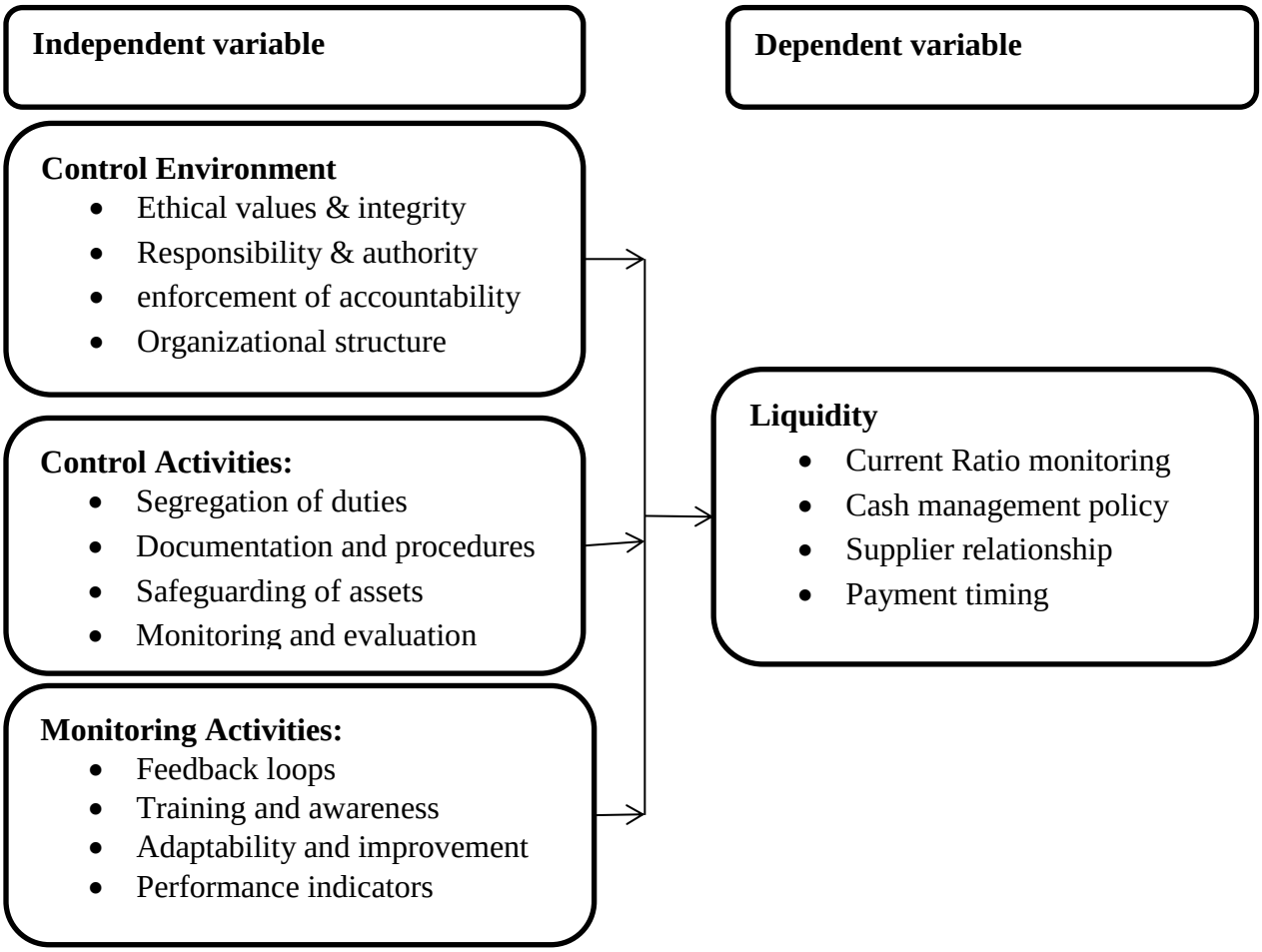
Alzeban (2020) did a study on the relationship between the audit committee, internal audit and firm performance. This study investigated how audit committees (ACs) influence the effectiveness of internal audit (IA) in helping organizations achieve their goals. It specifically looks at whether ACs mediate the relationship between IA and firm performance (FP). Data were collected through survey questionnaires from chief internal auditors (CIAs) and annual reports of 119 publicly listed companies in Saudi Arabia (SA) and the United Arab Emirates (UAE). The study uses ordinary least squares (OLS) regression and mediation tests to evaluate its hypotheses.

The results show that the independence of ACs and having members with expertise in accounting and auditing mediate the impact of IA independence and size on FP. However, there is no mediation effect found between IA competence and FP. Additionally, AC meetings do not mediate the influence of IA characteristics on FP.

2.4 Conceptual Framework

The independent variable for this study is internal control which are control environment, control activities and monitoring activities. The dependent variable is liquidity which for this study is measured by two constructs namely current ratio and operating Cashflow ratio. It is hypothesized that implementation of internal control would enhance liquidity. Figure 2.1 is the conceptual framework that was used to guide the study:

FIGURE 1
Conceptual Framework



2.5 Operationalization of Variables

Table 1 is a breakdown of how the study variables was operationalized:

TABLE 1
Operationalization of Variables

Type of variable	Indicators	Scale of measurement	Type of data	Type of analysis
Independent Control environment	• Ethical values & integrity • Responsibility & authority • enforcement of accountability	Ordinal scale	Primary	Descriptive statistics through means and standard deviations

	• Organizational structure			Inferential statistics through correlation & Regression analysis
Independent Control Activities	• Segregation of duties • Documentation and procedures • Safeguarding of assets • Monitoring and evaluation	Ordinal scale	Primary	Descriptive statistics through means and standard deviations Inferential statistics through correlation & Regression analysis
Independent Monitoring Activities	• Feedback loops • Training and awareness • Adaptability and improvement • Performance indicators	Ordinal scale	Primary	Descriptive statistics through means and standard deviations Inferential statistics through correlation & Regression analysis
Dependent Liquidity	• Current Ratio monitoring • Cash management policy • Supplier relationship • Payment timing	Ordinal	Primary	Descriptive statistics through means and standard deviations

CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Introduction

The chapter details the research design adopted, targeted population and means of carrying out sampling. Information on how data was gathered including the associated procedures as well as how the same was processed is also detailed.

3.2 Research Design

Research design is a plan and structure that determines how data is to be gathered and processed in realization of the established objectives of the study (Liamputtong, 2019). Causal research design was adopted in this proposed study. Causal studies focus on examining a condition or an exact problem in order to understand the patterns of relationships among variables (Cooper & Schindler, 2020). Since the study only required to create correlations between variables at one point in time, and data was obtained from multiple organizations at the same time, this methodology was appropriate and it was successfully used by related studies of Omar and Yusuf (2021). According to Harvey, Michaud & Wilkinson, (2020), the purpose of using a causal research design is to obtain in-depth replies in order to develop a deeper knowledge of the phenomena being studied while also evaluating the cause-effect relationship between the variables and the general objective of the study. This study design was appropriate because it enabled the researcher to thoroughly explore the environments, procedures, and interactions related to a phenomenon, while also measuring attitudes and outcomes precisely. Additionally, the design helped the researcher to determine if there were any significant correlations between variables at any given moment (Saunders, 2018).

3.3 Target Population

Target population is a collection of people including elements that have similar attributes that the researcher has interest to uncover (Bougie & Sekaran, 2019). This study targeted 35 public universities and four constituent university colleges in Kenya (CUE, 2023) as shown on appendix I. From each of these universities, the study targeted internal auditors or their equivalents adding up to 39 respondents since they are deemed knowledgeable on the issues of internal control and liquidity. Thus, while the unit of analysis was the universities, internal auditors or their equivalents formed the unit of observation. In order to avoid biasness, the researcher conducted a pre-test with four internal auditors from four randomly selected auditors in order to identify and eliminate any potential biasness. The auditors used in the pilot testing were not involved in the final study. The researcher communicated clearly the purpose of the study to participants and obtain their informed consent. This helped in building trust and transparency, reducing the likelihood of biased responses.

3.4 Sample Size and Sampling Techniques

Sample size is small and representative elements that are selected from the entire target population to support robust generalization of findings (Harris, Holyfield, Jones, Ellis & Neal, 2019). This is carefully selected through an established sampling technique. Since the population of 39 respondents is small, census was adopted and thus no sampling was conducted. As observed by Strijker, Bosworth and Bouter (2020), census is ideal when the population has less than 200 elements which is the case for the present study.

3.5 Research Instrument

Research instrument is a tool that can be used to obtain information from respondents (Dźwigoł, 2019). This study relied on primary data with the use of a questionnaire to capture

respondents' input on the study objectives in relation to internal control. The questionnaire had both closed and open-ended questions, as well as the usage of a Likert scale in all independent variables. This scale facilitated a standardized way of analysis to generate findings. The questionnaire had sections to cover all the research objectives and variables.

3.6 Validity and Reliability

3.6.1 Validity of the research instrument

A study tool is said to be valid when it measures an aspect that it is designed to do so (Eden & Nielsen, 2020). Both content and construct validity was determined in this study with aid of two industry experts in the field of internal auditing and the supervisor. These professionals carefully reviewed the contents on the questionnaire and reported their suggestions that were incorporated in the final questionnaire before finally proceeding to the field.

3.6.2 Reliability of the research instrument

Reliable tools provide measurements that are consistent (Kara, 2020). The questionnaire was pilot tested among four purposively selected respondents from four public universities in Nairobi, County. These were however excluded from the final study as a strategy of countering biasness. The outcome from this pilot study was used as a basis for computation of Cronbach Alpha coefficient values whose interpretation was conducted at 0.7 as recommended by Thanem and Knights (2019).

3.7 Data Collection Procedure

Authority to gather information from respondents was obtained from KCA graduate school followed by a research permit. The questionnaire was administered through Google Forms method

to the public universities. Participants in the study were requested to share their information without interfering with their established daily duties.

3.8 Data Processing and Analysis

Data analysis entails processing of the gathered information to generate insights (Ghauri, Grønhaug & Strange, 2020). Once gathered, the information was keyed into excel to allow editing and formatting before exportation to SPSS version 25. Means and standard deviations were then generated as descriptive statistics followed by correlation, diagnostic tests then regression analysis. Below is the model that was adopted for processing of the gathered information:

$$\boldsymbol{Y= \beta_0+ \beta_1 X_1+\beta_2 X_2+\beta_3 X_3+\varepsilon}$$

Where Y= Liquidity

B_0 = Constant

β_1, β_2, and β_3 are Coefficients

ε = error term

X_1= Control Environment

X_2= Control Activities

X_3= Monitoring Activities

3.9 Diagnostic Tests

3.9.1 Normality

The investigation employed skewness and kurtosis statistics to assess the normality of residuals. The researcher adhered to the guideline proposed by Myoung (2008), which suggests that a variable can be considered to have a relatively normal distribution if its skewness and kurtosis values fall between the ranges of -1.0 to +1.0. The evaluation of departures from a Gaussian distribution was carried out using the Kolmogorov-Smirnov (K-S) and Shapiro-Wilks

(S-W) tests for normalcy, as suggested by Hair *et al*. (2010). Field (2009) posits that when a test does not produce statistical significance (P >.05), it can be inferred that the actual distribution is not significantly different from the expected normal distribution. Consequently, this suggests that the observed distribution can be considered as normal. It is of utmost importance to highlight that in cases when a dataset exhibits non-normal distribution, the applicability of specific statistical tests, such as F and t-statistics, becomes inappropriate (Hair *et al*., 2010). Hence, the assessment of normality assumes a crucial function in multivariate analysis, and it is highly recommended to verify it through the use of both univariate and multivariate techniques.

3.9.2 Homoscedasticity

The inquiry additionally assessed the assumption of variance homogeneity, which is often known as homoscedasticity. Field (2009) posits that the consistency of the variability of a particular variable is expected to be maintained across all levels of the remaining variables. According to Hair *et al.* (2010), the ability to accurately forecast the dependent variable is influenced by the specific levels of the independent variable, as noticeable variations in variables are noted among various groups. The existence of variability within a dataset has significant ramifications for the standard error, resulting in a reduced level of sensitivity during hypothesis testing. A scatterplot was used to test for this condition.

3.9.3 Linearity

The third assumption posits that multivariate approaches, such as factor analysis and regression analysis, which employ correlation measures of association, are predicated on the assumption of linearity. The concept of linearity pertains to the extent of correlation between changes in the dependent variable and adjustments in the independent variable. In order to evaluate the degree of linearity, the study adopted the F-statistics test, utilizing scatter plots to examine the

association between the standardized predicted values of the dependent variable (ZPRED) and the standardized residuals or errors (ZRESID).

3.9.4 Multicollinearity

The data underwent a verification process to ensure conformity, under the assumption that the independent variables do not exhibit multicollinearity. Multicollinearity refers to the occurrence of a substantial correlation between two or more independent variables in a regression model (Field, 2009). The presence of substantial collinearity poses challenges in determining the effects of individual independent variables (predictors) on the dependent variable. According to Field (2009), the inflation of the standard error has an impact on the magnitude of regression coefficients and restricts the significance of numerous associations. The present study utilized the Variance Inflation Factor (VIF) as a statistical tool to assess the presence of multicollinearity. When the Variance Inflation Factor (VIF) exceeds a threshold of 10 (VIF > 10), it indicates the presence of multicollinearity, which is a potential issue in the analysis.

3.9.5 Ethical Considerations

Before delving in data collection in the field, the researcher obtained a letter of introduction and a research permit. Prior to the commencement of the study, potential participants were duly informed about the potential risks associated with their involvement in the study. The participation in this study was entirely voluntary, and no coercion was applied. Informed consent from respondents was diligently obtained before their active involvement in the study. To safeguard the privacy of participants, a guarantee of confidentiality was extended, and respondents were not obligated to disclose their names anywhere on the questionnaire.

CHAPTER FOUR: RESULTS AND DISCUSSION

4.1 Introduction

This chapter reports study findings by presenting a comprehensive analysis of the data collected from the field. It also presents a discussion on the findings by comparing those findings with those of prior studies. The chapter starts with the pilot results for the study. The pilot study results were used to test for reliability and validity of the research instruments. After the pilot results, the descriptive results and inferential results are then presented.

4.2 Results of the Pilot Study

The study undertook a pilot test on 10% of the sample size which were four auditors from four public universities in Nairobi. This was in line with Creswell (2013) who suggests that a pilot study in academic research can be done with between 10% and 20% of the sample size. Out of the 4 targeted pilot test sample to whom the questionnaires were issued, all the four questionnaires were returned. The four auditors were not included in the final study, but were replaced by auditors from their organizations. This represented a 100% response rate for the pilot study. The questionnaires were then used to test for validity and reliability. The pilot sample size was regarded enough to yield realistic estimates for reliability and validity of the questionnaire.

4.2.1 Results for validity test of the research instrument

For the present study, two types of validities were tested; face and content validities. Face validity ensures that there is a logical link between research objectives and research questions, i.e., to test whether the content of the questionnaire appear suitable to its aims (Kothari, 2009). Content validity, on the other hand, measures the extent to which underlying constructs are represented in the research instrument, i.e., if the instrument measures knowledge of the content domain of which

it was designed to measure (Wilson, 2014) Face validity and content validities were tested using expert judgement. Three certified accountants were used to evaluate face and content validity as experts in the area. For face validity, the experts were requested to evaluate the appearance of the questions in terms of feasibility, readability, consistency of style and formatting and the clarity of the language used. The experts confirmed that based on these metrics, the research questionnaire was valid.

Content validity was measured using the Content Validity Index (CVI). As observed by (Waltz, C. *et al, (2010),* at least two or three experts in the area of the content to be measured can evaluate the validity of the items, and when only two or three experts are employed, content validity index (CVI) is used to measure the level of agreement between the experts. A formula suggested by Mason, (2010) was used to calculate the Content Validity Index (CVI); CVI = (Relevant Items/Total Items) after the two experts had rated the items in the questionnaire as relevant or irrelevant in terms of the content domain of which they were designed to measure. The average CVI obtained was 0.87, indicating that the instrument was valid in terms of content validity. Mason, (2010) observes that a CVI of greater than 0.7 is acceptable.

4.2.2 Results for reliability test of the research instrument

Reliability measures the level to which the items under consideration actually measure the same thing with similar conditions without biasness or error. Cronbach's alpha test was run for the items in each of the variables in the questionnaire. Cronbach's alpha is a reliability test technique that requires only a single test administration to provide a unique estimate of the reliability for a given test. According to George & Mallery, (2003) the alpha is an average value of the reliability coefficients one will obtain for all possible combinations of items when split into two half-tests.

For this study, the questions in the five variables for the four pre-test questionnaires were tested for reliability.

For Control environment, there were seven items under scrutiny. The questions were then subjected to Cronbach's alpha test and where a question was not contributing to reliability, it was dropped until the threshold of 0.7 was achieved. One item was altered since their alpha coefficient was not contributing to the reliability. For control activities, the seven items that were under scrutiny were equally given codes and then tested for reliability. Out of the seven items, none was expunged because they all seemed to contribute to the reliability of the tool. The monitoring activities construct had seven items of which all contributed to an alpha coefficient of over 0.7 and therefore were retained. Finally, for items forming the dependent variable, liquidity, a Cronbach's alpha of over 0.70 was obtained out of the seven items under scrutiny and so no item was dropped. This is shown in Table 2 below;

TABLE 2
Reliability Tests Results

Variable	Number of	Cronbach's	Conclusion
Control	7	0.758	Reliable
Control	7	0.739	Reliable
Monitoring	7	0.705	Reliable
Liquidity	7	0.736	Reliable
Overall Consistency α= 0.7402			

4.3 Study Response Rate

A total of 38 questionnaires were given out to the respondents. Since the researcher administered the questionnaires using Google Forms, 38 questionnaires were received back. This represented 97.4% of the total questionnaires issued. This was deemed appropriate for analysis. According to Gay (1992), any sample that is more than 60% of the population is considered representative. After the questionnaires were received, they were cleaned and coded for clarity. They information in the questionnaires was then summarized according to the research objectives.

4.4 Background Information of Respondents

In a study assessing the effect of internal controls on liquidity of public universities in Kenya, an assessment of background information is crucial for providing a comprehensive understanding of the qualifications, education, and experience of respondents. These aspects directly understand the respondents' ability to manage and implement internal controls related to liquidity. The following section provides the descriptive statistics of the data. The responses obtained from the respondents were recorded in Table 3.

4.4.1 Professional qualification

Asking respondents about their professional qualifications is crucial because professionals with these credentials typically possess specialized knowledge and experience in financial management and internal controls, both of which are vital to effective liquidity. The results reveal that 89.5% (N=34) of respondents hold professional qualifications, while 10.5% (N=4) do not. These figures indicate that the vast majority have the expertise needed to manage liquidity

effectively, providing a strong basis for implementing robust internal controls within public universities. This high level of qualification enhances the likelihood that internal control mechanisms are well understood and properly applied, supporting more efficient liquidity across the institutions.

TABLE 3
Background Information

		N	%
Professional Qualification			
	Yes	34	89.5
	No	4	10.5
	Total	**38**	**100.0**
Highest Level of Education	College	10	26.3
	Undergraduate	12	31.6
	Postgraduate	15	39.5
	PhD	1	2.6
	Total	**38**	**100.0**
Work Experience in	0 – 3 years	5	13.2
	4 – 6 years	15	39.5
	7 – 9 years	8	21.0
	Over 10 years	10	26.3
	Total	**38**	**100.0**
Period in Current Role	0 – 3 years	3	7.9
	4 – 6 years	19	50.0
	7 – 9 years	10	26.3
	Over 10 years	6	15.8
	Total	**38**	**100.0**

4.4.2 Highest level of education

The study sought to establish the highest education qualification of respondents in order to assess the general knowledge that would enable them to understand the questions in the questionnaire in relation to the effect of internal controls on liquidity of public universities in Kenya. The highest level of education plays a pivotal role in this study because individuals with advanced educational backgrounds are typically better equipped to understand and manage the intricacies of financial systems, particularly internal controls that are vital for effective liquidity. In this study, 39.5% (N=15) of respondents hold postgraduate degrees, indicating a significant proportion of participants with specialized knowledge and skills, which positions them to handle complex financial challenges. Additionally, 31.6% (N=12) possess undergraduate degrees, further contributing to the intellectual capacity needed to implement and oversee internal controls. Together, these two groups—postgraduate and undergraduate degree holders—account for a substantial 71.1% of respondents, reflecting a solid educational foundation that supports strong financial oversight. Meanwhile, 26.3% (N=10) of respondents hold college diplomas, suggesting that a sizeable portion of the participants bring practical knowledge to their roles, likely supplemented by hands-on experience in financial management. This group adds to the diversity of perspectives on liquidity, potentially offering pragmatic solutions based on their applied learning.

However, the presence of only 2.6% (N=1) of respondents with a PhD indicates a possible gap in the highest level of academic expertise. PhD holders typically bring advanced research skills and deep theoretical knowledge that are critical for addressing more complex financial and operational challenges. The limited representation at this level could suggest that while the institutions are equipped with a well-educated workforce, they may lack the most advanced

theoretical insights necessary for tackling intricate issues related to liquidity and financial systems management. This potential gap may point to a need for further development or recruitment at the highest academic level to enhance strategic oversight and long-term financial planning capabilities.

4.4.3 Work experience in university

Work experience plays a vital role in understanding internal controls and liquidity, as individuals with more experience tend to develop a deeper grasp of these processes over time. The results show that 39.5% (N=15) of respondents have 4 to 6 years of experience, which forms the largest group and suggests that a substantial portion of participants have accumulated enough experience to understand the ongoing challenges and dynamics of liquidity while still being relatively adaptable to changes. Information in Table 3 above shows that 26.3% (N=10) of the respondents have over 10 years of experience, indicating that these respondents bring a wealth of knowledge and insights from having navigated various financial environments and challenges over a long period. This group is particularly valuable for offering expertise on long-term financial management issues, such as handling liquidity crises or implementing enduring internal control measures. Their experience allows them to assess the effectiveness of internal controls over time and adapt them to fit evolving institutional needs. Additionally, 21.0% (N=8) of respondents fall within the 7 to 9 years range, signifying a group that combines a solid understanding of internal controls with a mid-level career maturity. They are well-positioned to provide feedback on how internal controls have developed in recent years and how these controls align with liquidity practices.

Lastly, the information in Table 3 above reveals that 13.2% (N=5) of the respondents have 0 to 3 years of experience, representing those newer to their roles who may not yet have a deep

history with internal controls but bring a fresh perspective and are likely to be more receptive to adopting new or improved systems. This mix of experience levels within the respondent pool offers a balanced view, enabling the study to capture insights on both the evolution of internal controls over time and the introduction of new financial practices. Those with longer tenures provide stability and knowledge from long-term financial oversight, while newer employees may introduce innovative approaches to liquidity, making the findings more comprehensive and reflective of diverse experiences.

4.4.4 Period in current Role

The period respondents have spent in their current roles is crucial because those with more time in their positions have likely developed a stronger familiarity with internal control systems and liquidity processes. The data shows that 50.0% (N=19) of respondents have been in their roles for 4 to 6 years, suggesting that the majority have had sufficient time to engage with and understand the university's financial systems, including liquidity controls. This group is likely to have a solid grasp of both day-to-day financial operations and mid-term strategies, making their insights valuable for assessing how internal controls impact liquidity. Additionally, 26.3% (N=10) of respondents have been in their roles for 7 to 9 years, indicating a group with deeper institutional knowledge and experience managing long-term financial challenges. Their extended tenure suggests that they have witnessed the evolution of internal controls and can offer a perspective on their effectiveness over time, especially in response to fluctuating liquidity demands.

Meanwhile, 15.8% (N=6) of respondents have been in their roles for over 10 years, positioning them as key figures in understanding long-term liquidity strategies. These individuals are likely to have a comprehensive view of the internal control systems' strengths and weaknesses, having navigated various financial cycles and institutional changes. Conversely, 7.9% (N=3**)** of

respondents have only been in their roles for 0 to 3 years. While this group may not have as much exposure to the long-term application of internal controls, they can bring fresh perspectives and may be more open to adopting innovative liquidity practices. However, their limited time in the position might mean they have yet to fully appreciate the long-term impact of internal control systems on liquidity. Overall, the majority of respondents have been in their roles long enough to provide meaningful insights into the effectiveness of internal controls and liquidity, with a diverse range of experience levels offering a balanced view of both short-term implementation and long-term financial oversight.

4.5 Descriptive Statistics

The study first analysed the data descriptively in order to describe the general central tendencies and measures of dispersion of the responses concerning the study variables. Conducting descriptive statistics is important because it helps summarize and organize data, providing a clear overview of key trends, distributions, and patterns. This allows researchers to make sense of large datasets, identify central tendencies and variability, and gain insights that inform further analysis or decision-making (Creswell, 2003). The questionnaire was designed to have 5-point Likert scale measurement which is a measurement with five response categories ranging from “Strongly disagree” (1) to “Strongly agree” (5) which requires the respondents to indicate a degree of agreement or disagreement with each of a series of statements related to explanatory variables. The information is presented in the sub-sections below.

4.5.1 Descriptive results on control environment

The first objective of the study was to establish the effect of control environment on liquidity among public universities in Kenya. The descriptive statistics for control environment based on the responses received is shown in Table 4 below.

TABLE 4
Descriptive Statistics on Control Environment

Statement	N	Min	Max	Mean	Std. Dev
Our institution have controls in place to exclude incurring expenditure in excess allocated funds	38	2	4	3.54	0.954
In my organization there is employee screening to ensure that employees implement the accounting and financial management system in	38	2	4	3.29	0.973
My organization values computer passwords and access authorization and exercises control over	38	2	4	3.48	0.890
Our institution have a pre- approval of actions and transactions by the supervisors.	38	4	5	4.10	0.301
Our organization has a well-developed Chart of Accounts.	38	4	5	4.01	0.598
The reporting system on organizational structures spells out all the responsibilities of	38	2	5	3.14	0.912
All the staff in our institution are aware of the internal control measures by the university to	38	3	5	4.11	0.311
Weighted Average				**3.59**	**0.879**

The reported mean score for the first question, which was asking about expenditure control, was 3.54 (SD = 0.954). This indicates that respondents generally believe their institution has effective controls to prevent expenditures from exceeding allocated funds. However, the variability in responses suggests that the application of these controls may not be uniform across all

departments. Some departments might implement stringent budget monitoring, while others may struggle with adherence, possibly due to resource allocation issues or lapses in financial oversight. This inconsistency highlights the need for a more standardized approach to expenditure control across the institution. The reported mean score for the second question regarding employee screening was 3.29 (SD = 0.973). This reflects a divided opinion about the effectiveness of employee screening processes in ensuring efficient implementation of the financial management system. The higher standard deviation indicates varying experiences among respondents, which may stem from differences in how screening practices are applied across departments. Some areas may have robust vetting processes, while others may not prioritize thorough screenings. This inconsistency could hinder the overall efficiency of the financial management system, emphasizing the need for uniform screening protocols.

Further, as demonstrated in Table 4, the mean score for the question about computer passwords and access authorization was 3.48 (SD = 0.890). This indicates that the respondents generally agree that their organization exercises control over computer passwords and access; however, the variability in responses suggests differing levels of enforcement and awareness regarding IT security protocols. Departments that handle sensitive financial information may have stricter access controls, while others may not prioritize password protection to the same extent. This disparity can create vulnerabilities in the organization's security measures, underscoring the importance of consistent IT practices across all units. The reported mean score for the question on pre-approval of actions and transactions was 4.10 (SD = 0.301), indicating strong agreement that such processes are well-implemented. The low standard deviation suggests a consistent understanding and enforcement of these controls among respondents. This widespread agreement may stem from the critical role that supervisory oversight plays in maintaining financial discipline

and preventing unauthorized transactions. Such effective pre-approval measures contribute significantly to the integrity of the institution's financial management practices.

For the question regarding the chart of accounts, the mean score was 4.01 (SD = 0.598), indicating general agreement that a well-developed chart exists. However, the presence of some variability suggests that while most staff appreciate the chart's value, a minority may encounter limitations regarding its detail or accessibility. This discrepancy could point to a need for continuous improvement in the chart of accounts to ensure it meets the evolving needs of all departments, thereby enhancing financial reporting and decision-making. The reported mean score for the question about the reporting system was 3.14 (SD = 0.912), indicating moderate agreement about the clarity of organizational structures and responsibilities. The wide range of opinions suggests that while some areas of the institution have well-defined roles, others may experience confusion or overlap in responsibilities. This variation may result from inconsistent communication or updates regarding reporting structures, which might not always be effectively conveyed to all staff. Addressing these communication gaps can enhance the overall effectiveness of the reporting system and clarify roles across the organization.

Lastly, the strong mean score of 4.11 (SD = 0.311) for the question on fraud prevention awareness reflects a high level of awareness among staff regarding internal control measures aimed at preventing fraud. The minimal variation in responses suggests that this awareness is consistently reinforced throughout the organization. Effective training programs and clear communication from leadership about the importance of safeguarding against fraud likely contribute to this high level of awareness. However, maintaining and enhancing this awareness is crucial to ensuring ongoing vigilance and adherence to fraud prevention protocols.

4.5.2 Descriptive results on control activities

The second objective of the study was to establish the effect of control activities on liquidity among public universities in Kenya. The descriptive statistics for control activities based on the responses received is shown in Table 5 below.

As shown in Table 5 above, the reported mean score for the statement regarding adherence to government regulations was 4.06 (SD = 0.891), indicating that respondents generally believe their university follows and abides by established government regulations. This high level of agreement suggests that there is a strong commitment to compliance, which is crucial for maintaining financial integrity and institutional credibility. However, the relatively moderate standard deviation indicates that while most respondents agree, some may have differing views based on their experiences with regulatory adherence in their specific departments. The mean score for the policy on quarterly performance reviews was 3.48 (SD = 0.979). This suggests that respondents recognize the importance of regular performance assessments to identify areas where the university may not meet its objectives. However, the moderate standard deviation indicates mixed perceptions regarding the effectiveness and implementation of these reviews across different departments. Some respondents may feel that these reviews adequately address performance issues, while others may perceive them as insufficient or inconsistent. This variability highlights the need for continuous improvement in performance evaluation practices to enhance overall accountability and goal attainment.

TABLE 5
Descriptive statistics on control activities

Statement	N	Min	Max	Mean	Std. Dev
The university follows and abides by set regulations by the government.	38	4	5	4.06	0.891
There is a policy to quarterly review of performance by the university to detect areas that are not at par with the set objectives.	38	2	4	3.48	0.979
The guidelines are enough to curb all the university's financial irregularities.	38	2	5	2.94	1.091
There are set internal policies and guidelines that govern the university's internal control systems	38	4	4	2.58	0.923
Stern action is taken by the relevant government body as a result of non-conformance with the regulations.	38	1	2	1.94	1.237
My university follows strictly the financial reporting guidelines stipulated to enhance financial performance.	38	1	5	2.58	1.201

Adherence to the set guidelines and policies positively contributes to financial performance of the university.	38	2	4	3.29	0.973
Weighted Average				**2.93**	**0.732**

The mean score for the statement about guidelines to curb financial irregularities was 2.94 (SD = 1.091), indicating that respondents have mixed feelings about the adequacy of existing guidelines. This score suggests that while some staff believe the guidelines are effective, many others may feel they are insufficient to address financial irregularities comprehensively. The higher standard deviation reflects a significant range of opinions, which may stem from differences in departmental practices or experiences with financial misconduct. This disparity underscores the need for a thorough review of existing guidelines and the development of more robust measures to prevent financial irregularities. Regarding the presence of internal policies and guidelines that govern internal control systems, the mean score was notably low at 2.58 (SD = 0.923). This indicates that respondents may feel that the existing internal policies are either inadequate or poorly communicated. The standard deviation suggests variability in perceptions, implying that while some areas may have clear policies, others may lack the necessary structure to govern their internal controls effectively. Addressing this gap is crucial for enhancing the university's internal control environment and ensuring consistent compliance with established policies.

The mean score for the statement on government action in response to non-conformance was 1.94 (SD = 1.237). This low score suggests that respondents perceive a lack of stern action taken by government bodies when regulations are not followed. The high standard deviation

indicates a wide range of opinions, with some respondents possibly feeling that enforcement is inconsistent or ineffective. This perception can lead to a culture of non-compliance, where staff may not prioritize adherence to regulations, thereby undermining the integrity of the university's financial management. For the financial reporting guidelines, the mean score was also low at 2.58 (SD = 1.201). This reflects a belief among respondents that strict adherence to financial reporting guidelines is not consistently practiced within the university. The significant variation in responses may point to inconsistencies in how departments interpret and implement these guidelines, which can lead to discrepancies in financial performance reporting. Improving the clarity and enforcement of financial reporting guidelines is essential for enhancing overall financial accountability and performance.

Lastly, the mean score of 3.29 (SD = 0.973) for the statement about adherence to guidelines positively contributing to financial performance indicates a moderate agreement among respondents. This suggests that many staff members recognize the importance of following established policies and guidelines in enhancing financial outcomes. However, the presence of variability implies that some may still question the direct impact of adherence on overall financial performance, possibly due to a lack of visible outcomes from such adherence. Addressing these perceptions through targeted communication and performance metrics can reinforce the link between policy adherence and improved financial performance. Overall, the insights from these statements reflect a mixed perception of the university's regulatory compliance, internal policies, and their impact on financial performance. Addressing the identified gaps and inconsistencies will be critical for enhancing the overall control environment and ensuring the effective management of financial resources.

4.5.3 Descriptive results for monitoring activities

The third objective of the study was to establish the effect of monitoring activities on liquidity among public universities in Kenya. The descriptive statistics for control activities based on the responses received is shown in Table 6 below. The reported mean score for the statement regarding the frequency of internal audits, which are conducted twice a year to identify internal weaknesses, was 3.94 (SD = 0.794). This relatively high mean indicates that respondents generally believe that internal audits are adequately performed within their institution. The lower standard deviation suggests a consistent view among respondents about the frequency and effectiveness of these audits, reflecting a proactive approach to identifying and addressing internal weaknesses in financial and operational processes.

TABLE 6
Descriptive statistics on monitoring activities

Statement	N	Min	Max	Mean	Std. Dev
Internal audits are carried out twice a year to detect areas with internal weaknesses.	38	2	4	3.94	0.794
Internal audit findings are acted on immediately.	38	2	5	3.52	0.926
Internal audit findings are reported directly to top management and the audit and risk sub-committee of the board.	38	4	5	4.19	0.402

Comparison is made between plans and actual performance and the difference is reported often.	38	2	4	2.53	0.723
Corrective action is always taken on budget variance.	38	4	5	4.94	1.037
The reporting system on organizational structures spells out all the responsibilities of each section/unit in the organization.	38	1	5	3.89	0.985
My organization has a budget committee that monitors the budgeting process and its implementation.	38	1	4	2.94	1.250
Weighted Average				**3.824**	**0.839**

For the statement concerning the immediate action taken on internal audit findings, the mean score was 3.52 (SD = 0.926). This score suggests that while respondents agree that action is often taken in response to audit findings, there is some uncertainty about the immediacy of these actions. The variation in responses, indicated by the standard deviation, implies that some respondents may feel that the responsiveness to audit findings could be improved. This highlights the need for stronger mechanisms to ensure that audit recommendations are acted upon promptly to mitigate risks effectively. The mean score for the reporting of internal audit findings directly to top management and the audit and risk sub-committee of the board was notably high at 4.19 (SD = 0.402). This strong agreement indicates that respondents feel confident in the communication channels established within the organization. The low standard deviation suggests that there is a

consensus among respondents regarding the effectiveness of these reporting processes. This direct reporting structure is crucial for ensuring that internal audit findings are taken seriously and addressed at the highest levels of management. In terms of comparing plans to actual performance, the mean score was low at 2.53 (SD = 0.723). This indicates that respondents perceive a lack of consistent evaluation between planned objectives and actual outcomes. The moderate standard deviation suggests that while some respondents may feel that comparisons are occasionally made, many believe that this practice is insufficiently executed. Improving this area is essential for enhancing accountability and ensuring that the university remains aligned with its financial and operational goals.

The statement regarding taking corrective action on budget variance had an exceptionally high mean score of 4.94 (SD = 1.037). This indicates that respondents overwhelmingly agree that corrective actions are consistently implemented whenever budget variances occur. The high score suggests a strong culture of accountability and responsiveness to financial performance issues, which is vital for effective financial management and maintaining institutional integrity. Regarding the reporting system outlining responsibilities within the organizational structure, the mean score was 3.89 (SD = 0.985). This indicates a general agreement among respondents that the reporting system clearly defines the responsibilities of various sections or units within the organization. The relatively low standard deviation reflects a consistent understanding among respondents of their roles and responsibilities, which is critical for effective internal control and operational efficiency.

Lastly, the mean score for the existence of a budget committee that monitors the budgeting process was 2.94 (SD = 1.250). This suggests that respondents hold mixed views on the effectiveness of the budget committee in overseeing budgeting practices. The high standard

deviation indicates considerable variability in perceptions, which may point to inconsistencies in how the committee operates across different departments. Strengthening the role and visibility of the budget committee can help enhance its effectiveness and foster greater accountability in the budgeting process. Overall, the insights derived from these statements indicate a generally positive view of the internal audit processes and their effectiveness in the organization, along with some areas needing improvement. Addressing the identified gaps will be essential for enhancing internal controls and ensuring effective financial management within the university.

4.5.4 Descriptive statistics of liquidity

The study's dependent variable was liquidity. The descriptive results are presented in Table 7.

TABLE 7
Descriptive statistics of liquidity

Statement	N	Min	Max	Mean	Std. Dev
Our organization effectively monitors its current ratio to ensure it meets short-term obligations.	38	1	5	3.90	1.007
The current ratio adequately supports our organization's liquidity needs.	38	1	4	2.94	1.250
Our organization has a clearly defined cash management policy.	38	1	4	3.73	0.970

The cash management policy is effectively implemented in our organization.	38	1	3	2.42	0.905
The quality of our relationships with suppliers helps us obtain favorable payment terms..	38	1	4	3.74	0.945
Our organization strategically times its payments to optimize cash flow.	38	1	5	2.14	0.898
Our organization adjusts payment timings based on cash flow forecasts.	38	4	5	4.19	
Weighted Average				**2.23**	**0.973**

The reported mean score for the statement regarding the organization's monitoring of its current ratio to ensure it meets short-term obligations was 3.90 (SD = 1.007). This relatively high score indicates that respondents generally believe the organization effectively oversees its current ratio, which is crucial for maintaining liquidity. The moderate standard deviation suggests some variability in responses, implying that while most feel confident in the monitoring process, a minority may have concerns about its thoroughness or effectiveness. In assessing whether the current ratio adequately supports the organization's liquidity needs, the mean score was lower at 2.94 (SD = 1.250). This score indicates a mixed perception among respondents regarding the adequacy of the current ratio in meeting liquidity requirements. The high standard deviation reflects diverse opinions, suggesting that some respondents believe the current ratio does not sufficiently address the organization's liquidity challenges, pointing to a potential gap in financial management strategies.

Regarding the presence of a clearly defined cash management policy, the mean score was 3.73 (SD = 0.970). This indicates a general agreement among respondents that the organization has established a cash management policy, which is essential for effective liquidity. The moderate standard deviation suggests that while most respondents see the policy as clear, there may be some uncertainty among a few about its comprehensiveness or applicability across all organizational areas. However, when it comes to the effective implementation of the cash management policy, the mean score dropped significantly to 2.42 (SD = 0.905). This low score suggests that respondents feel the policy is not effectively put into practice within the organization. The standard deviation indicates a consensus on this point, highlighting a critical area for improvement. Ensuring that cash management policies are actively implemented is vital for achieving liquidity goals and enhancing overall financial stability.

The mean score for the quality of relationships with suppliers was 3.74 (SD = 0.945), indicating that respondents believe these relationships are beneficial for obtaining favorable payment terms. This score reflects a generally positive view of supplier relationships, which can be leveraged to optimize liquidity through better payment conditions. The moderate standard deviation indicates that while most respondents agree, there may still be some variability in individual experiences or perceptions regarding supplier interactions. In terms of the strategic timing of payments to optimize cash flow, the mean score was notably low at 2.14 (SD = 0.898). This suggests that respondents feel the organization does not effectively manage payment timings, which can adversely impact cash flow. The low score and standard deviation indicate a strong consensus that this aspect of cash management requires significant attention and improvement to enhance liquidity.

For the statement about adjusting payment timings based on cash flow forecasts, the mean score was 4.19 (SD = 0.000). This high score indicates that respondents overwhelmingly agree that the organization adjusts its payment timings in response to cash flow forecasts. The lack of variability in responses underscores a strong belief in the effectiveness of this practice, which is crucial for maintaining liquidity and ensuring that the organization can meet its short-term obligations. The overall weighted average of 2.23 (SD = 0.973) reflects significant concerns about the organization's liquidity practices. Addressing the areas identified—such as enhancing the implementation of cash management policies and optimizing payment strategies—will be essential for improving the organization's ability to manage liquidity effectively and ensure it can meet its short-term financial commitments.

4.6 Diagnostic Test Results

Before running the data for inferential analysis, various regression assumptions were tested to obtain unbiased estimates of study parameters. Diagnostic tests are conducted before regression analysis to ensure the validity of the regression model. They help identify issues like multicollinearity, heteroscedasticity, normality, and independence of residuals, which can distort results and lead to inaccurate conclusions. By addressing these potential problems, researchers can enhance the reliability and interpretability of their findings, ensuring that the model adequately reflects the underlying relationships among the variables being studied.

4.6.1 **Normality test results**

A normality test is essential because many statistical methods, including regression analysis, rely on the assumption that the residuals (errors) follow a normal distribution. If the residuals are not normally distributed, it can affect the validity of hypothesis tests, confidence

intervals, and the overall reliability of the regression model. By conducting a normality test, researchers can assess whether this assumption holds, allowing for appropriate adjustments or alternative analytical methods if necessary to ensure accurate and meaningful results. The results on normality tests are shown in Table 8 below.

For the control environment, the Shapiro-Wilk statistic is 0.325 with a p-value of 0.059. This result suggests a tendency towards normality since the p-value is above the conventional significance level of 0.05. The control activities yield a Shapiro-Wilk statistic of 0.346 and a p-value of 0.103. Similarly, this p-value indicates that we fail to reject the null hypothesis of normality, suggesting that the control activities data likely conforms to a normal distribution. In the case of monitoring activities, the Shapiro-Wilk statistic is 0.543 with a p-value of 0.092. Again, this indicates a failure to reject the null hypothesis of normality, although the p-value suggests there might be slight deviations from a normal distribution. Finally, for liquidity, the Shapiro-Wilk statistic is 0.123 with a p-value of 0.082. This result also supports the assumption of normality, as the p-value is above the significance threshold. Overall, while the Shapiro-Wilk test results suggest that all four variables do not show strong deviations from normality. Since the p-values of the five predictor variables and the outcome variable were found to be greater than the selected alpha level of 0.05, Razali and Wah (2011) suggests that the data have been obtained from a normally distributed population.

TABLE 8
Normality Test

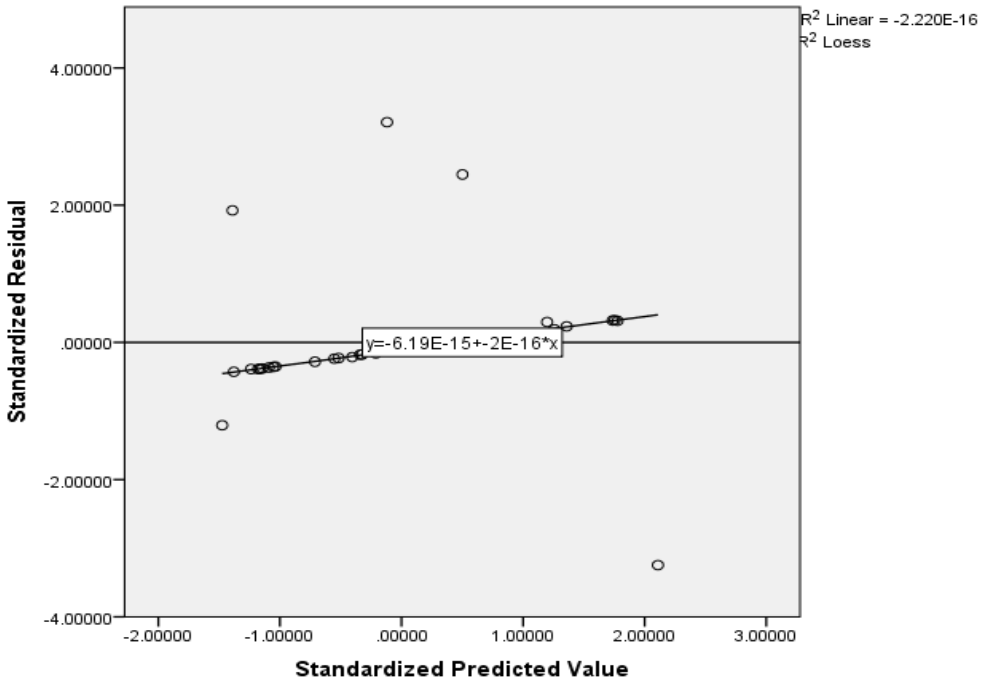
	Shapiro-Wilk		
	Statistic	**Df**	**Sig.**
Control Environment	.325	38	.059
Control Activities	.346	38	.103

Monitoring Activities	.543	38	.092
Liquidity	.123	38	.082

4.6.2 Homoscedasticity test results

Homoscedasticity is an assumption of equal or similar variances in different groups being compared. This is an important assumption of parametric statistical tests because they are sensitive to any dissimilarities. Conducting a homoscedasticity test is crucial in regression analysis because it assesses whether the variance of the residuals (errors) remains constant across all levels of the independent variable(s). Homoscedasticity ensures that the model's predictions are reliable and that statistical tests maintain their validity. If heteroscedasticity is present, it can lead to inefficient estimates, biased standard errors, and incorrect conclusions about the significance of predictors. By verifying homoscedasticity, researchers can enhance the robustness of their findings and make more accurate inferences about the relationships among variables, ultimately improving the quality of their statistical analysis. The results for the test based on the present study are presented in Figure 2 below.

FIGURE 2
Scatterplot for Homoscedasticity

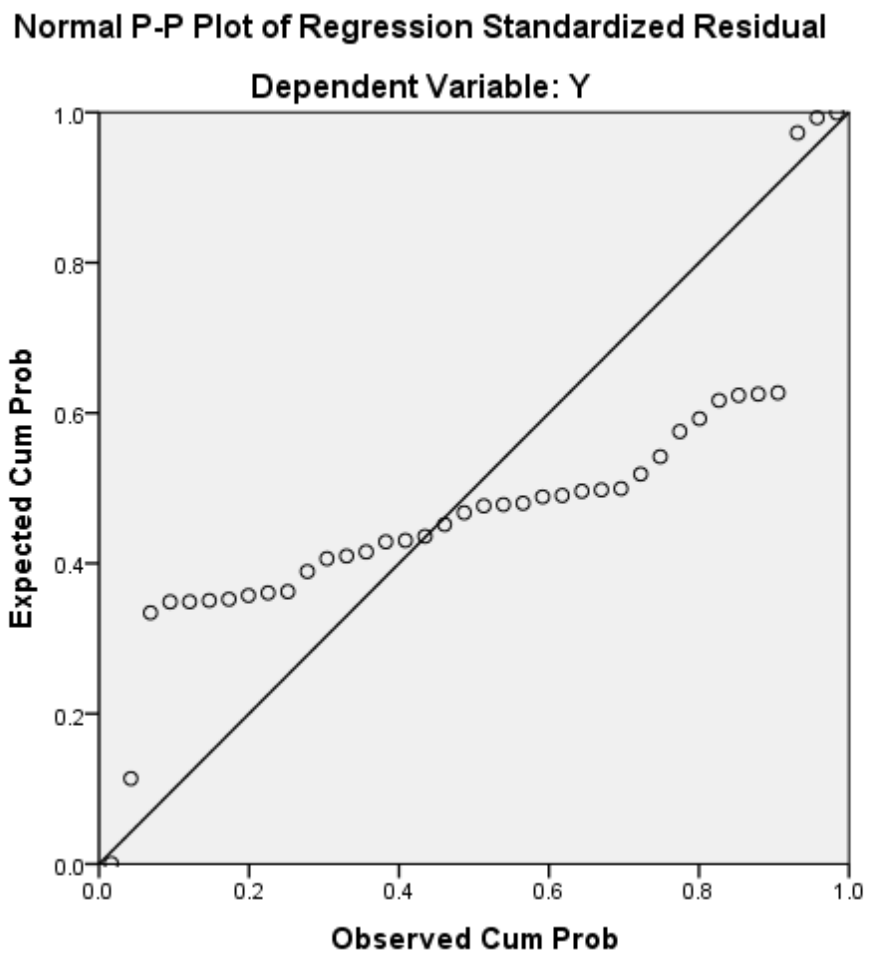


From figure 4.2, the scores are randomly scattered about a horizontal line. Tabachnick and Fidell (2007) explain the residuals and the variance of the residuals should be the same for all predicted scores. If this is true, the assumption is met and the scatter plot takes the shape of a rectangular pattern. The assumption was therefore met.

4.6.3 Linearity test

The objective of the linearity test is to determine whether the distribution of the data of the dependent variable and the independent variable forms a linear line pattern or not. The linearity assumption must be fulfilled because the regression used is linear regression. Figure 3 below shows the results of the output.

FIGURE 3
Normal P-P Plot for Linearity Testing



A positive linear line is formed. The data distribution forms a positive linear trend. Based on the results of the linearity test, it was concluded that the regression model has fulfilled the linearity assumption. Therefore, it was fit for linear regression since it met this condition for best linear unbiased estimators.

4.6.4 Multicollinearity test

In order to check for multicollinearity, Variance Inflation Factor (VIF) was used in this study. Multicollinearity is present if the VIF value is larger than 10, as stated by O'Brien (2007) using VIF. Table 9 shows the multicollinearity test results.

TABLE 9
Variance Inflation Factor

Variable	Tolerance	VIF
Control Environment	.344	2.905
Control Activities	.297	3.364
Monitoring Activities	.404	2.473

As demonstrated in Table 4.9, the Variance Inflation Factor for control environment, control activities and monitoring activities were found to be 2.905, 3.364 and 2.473 respectively. All three independent variables had a VIF less than 10. O'Brien (2007) suggested that VIF of 10 and below shows absence of multicollinearity between the predictor variables.

4.7 Correlation Analysis

Correlation analysis provides insights into the direction, strength, and significance of relationships among the study variables (Sekaran, 2000). To assess whether a relationship exists between the variables, a correlation analysis was performed. This analysis reveals how variables relate to each other, including the direction and significance of those relationships (Sekaran and Bougie, 2010). A positive correlation suggests that an increase in one variable leads to an increase

in another, while a negative correlation indicates that as one variable rises, the other tends to decrease (Sekaran, 2003).

The model that was to be fitted is as follows:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \varepsilon \quad \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots \quad 3.1$$

Where the variables are defined as:

Y– Liquidity

β_0 – The constant term

β_1,β_2, and β_3 are the coefficients to be estimated

X_1 – Control Environment

X_2 – Control Activities

X_3 – Monitoring Activities

ε - Error term.

Table 10 shows results of the correlation analysis.

TABLE 10
Correlation between Study Variables

	Y	X_1	X_2	X_3
Y	1			
X_1	.877***	1		
X_2	.831***	.742	1	
X_3	.835***	.746	.678	1

Note: * p < 0.10, ** p < 0.05, *** p < 0.01

As demonstrated in Table 10 above, the correlation between the control environment (X_1) and liquidity (Y) is strong and positive at 0.877 ($p < 0.001$). This indicates that as the effectiveness

of the control environment improves, liquidity also enhances. A robust control environment fosters a culture of accountability and transparency, leading to better financial practices and more efficient management of liquidity resources. For public universities in Kenya, strengthening the control environment could significantly improve their ability to manage funds effectively, ensuring they can meet operational needs and financial obligations. The control activities (X_2) show a strong positive correlation of 0.831 ($p < 0.001$) with liquidity (Y). This indicates that effective control activities are significantly associated with improved liquidity, indicating that if public universities implement and adhere to well-defined control activities, they can better monitor their financial transactions, minimize risks, and ensure that sufficient liquidity is available to meet obligations.

Table 10 also shows that monitoring activities ($X_{3)}$ exhibit a strong positive correlation of 0.835 ($p < 0.001$) with liquidity (Y), which highlights that effective monitoring practices contribute to enhanced liquidity. This seems to imply that by regularly assessing financial processes and performance, public universities can identify potential liquidity issues early, allowing for timely interventions and more strategic financial planning. This proactive approach can help universities maintain stability and achieve their educational goals.

The results above are in line with those of previous studies. For example, Omar and Yusuf (2021) examined the control environment's impact on the financial performance of public universities in Tanzania, finding a significant relationship through a descriptive survey of 62 participants. Similarly, Clarke (2020) emphasized the effectiveness of the internal control environment in generating value for organizations through a desk review approach. Katusiime et al. (2018) focused on control activities and their connection to financial performance at Kampala International University in Uganda, revealing that while control activities significantly affected performance, personal ethics did not. Lastly, Kinyua et al. (2015) assessed the link between the

internal control environment and financial performance among Kenya's listed entities, noting a significant connection. Collectively, these studies highlight the crucial role of internal controls in enhancing organizational outcomes, with the current study uniquely addressing liquidity rather than financial performance, thereby filling a methodological and conceptual gap in the existing literature on internal controls in higher education institutions.

4.8 Regression Analysis

A regression analysis is a statistical technique that relates a dependent variable to one or more independent (explanatory) variables. Regression tests the magnitude between the variables. Regression results for the analysis based on the collected and analysed data are shown in Table 11, Table 12 and Table 13.

TABLE 11
Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of Estimate	Sig
1	.940[a]	.884	.873	.19375	.000

a. Predictors: (Constant), X_1, X_2, X_3

b. Dependent Variable: Y

The output reveals a strong correlation between the independent variables and the dependent variable, liquidity, as indicated by the correlation coefficient (R) of 0.940. This high value signifies that the independent variables account for a substantial amount of variance in liquidity. The R Square value of 0.884 demonstrates that approximately 88.4% of the variance in liquidity is explained by the model, indicating an excellent fit. The Adjusted R Square value of 0.873 adjusts for the number of predictors, further confirming the model's validity. Additionally, the standard error of estimate, at 0.19375, shows the average distance between the observed values

and the regression line, suggesting a relatively small error in predictions. The significance value (Sig) of 0.000 indicates that the model is statistically significant, providing strong evidence against the null hypothesis and reinforcing the reliability of the model in explaining the relationships between the variables affecting liquidity.

Table 12 below on analysis of variance was also extracted to show the general relationship among the variables

TABLE 12
ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	9.702	3	3.234	86.146	.000[b]
	Residual	1.276	34	.038		
	Total	10.978	37			

a. Dependent Variable: *Y*

b. Predictors: (Constant), X_1, X_2, X_3

The output provides insights into the analysis of variance (ANOVA) for the regression model examining the impact of the independent variables on the dependent variable, liquidity (Y). The regression sum of squares is 9.702, which indicates the variability explained by the model, while the residual sum of squares is 1.276, representing the unexplained variability.

The F-statistic of 86.146 suggests a strong overall model fit, as it reflects the ratio of the mean square of the regression (3.234) to the mean square of the residual (0.038). The significance value (Sig.) of 0.000 indicates that the regression model is statistically significant, meaning that the independent variables collectively have a significant impact on liquidity. This result reinforces the validity of the model in capturing the relationships among the variables studied.

TABLE 13
Regression coefficients

		Unstandardized Coefficients		Standardized Coefficients		
	Model	**Beta**	**Std. Error**	**Beta**	**t-stat**	**Sig.**
1	(Constant)	.359	.234		1.539	.133
	X_1	.339	.083	.407	4.066	.000
	X_2	.317	.092	.313	3.444	.002
	X_3	.256	.073	.319	3.492	.001

Dependent Variable: ***Y***

The fitted model is therefore: $Y = 0.359 + 0.339X_1 + 0.317 X_2 + 0.256 X_3$

As shown in Table 13 above, the constant term of 0.359 implies that in the absence of any contributions from the independent variables, liquidity in public universities would maintain a baseline value of 0.359. Control environment (X_1) shows an unstandardized coefficient of 0.339, indicating that improving the control environment by one unit can lead to a notable increase of 33.9 percent in liquidity. The strong t-statistic of 4.066 and a significance value of 0.000 affirm this positive effect, emphasizing the critical role that a robust control environment plays in enhancing liquidity. For public universities, this means that investing in strengthening their control environment through better ethical standards, leadership integrity, and organizational culture can lead to substantial improvements in their financial management practices, ultimately enhancing their ability to meet short-term obligations. These results can be compared with those by Omar and Yusuf (2021) who conducted a study that highlighted the significant link between the internal control environment and the financial performance of public universities in Tanzania. Their findings, based on a descriptive survey involving 62 participants from accounting, finance, and administrative functions, emphasize the importance of a strong control environment in enhancing

financial performance. Clarke (2020) explored the effectiveness of the internal control environment through a desk review of existing academic literature. The study concluded that well-implemented internal controls are essential for organizations to execute their operations effectively, generating value for owners and ensuring alignment with industry best practices and regulatory standards. This methodological gap suggests a need for empirical research, as Clarke's findings lack data-driven evidence, while the current study utilizes quantitative data from public universities in Kenya.

Control activities (X_2), as shown in Table 13 has an unstandardized coefficient of 0.317, signifying that a one-unit increase in control activities translates to a 0.317 increase in liquidity. The significance of this variable, indicated by a t-statistic of 3.444 and a Sig. value of 0.002, underscores the importance of established control procedures and practices. This result suggests that implementing systematic control activities in public universities such as regular audits, compliance checks, and effective budget management can significantly bolster their liquidity. This improvement could enhance their financial stability and operational efficiency, allowing them to allocate resources more effectively. As reported by Bokpin and Abor (2009) who analyzed the influence of financial policy on corporate performance in emerging markets, and Roy Chowdhury, Shroff, and Verdi (2019) who conducted a systematic review on control activities impact on investment decisions, control activities are important in enhancing liquidity.

Lastly, monitoring activities (X_3) exhibit an unstandardized coefficient of 0.256, implying that enhancing monitoring activities by one unit leads to a 0.256 increase in liquidity. With a t-statistic of 3.492 and a significance value of 0.001, this variable also demonstrates a strong and positive effect. For public universities, this finding indicates that developing robust monitoring systems such as continuous performance assessments and financial reporting, can provide timely

insights into liquidity status and risks. Consequently, these universities can proactively address potential financial issues, ensuring that they maintain sufficient liquidity to support their operations and educational objectives. The results are comparable to those by Nurdiono and Gamayuni (2018) who found a significant link between internal audit competency and quality in Indonesian government agencies. Chang et al. (2019) noted that larger audit teams enhance internal control effectiveness in Taiwan. Al-Farooque et al. (2020) highlighted a positive relationship between internal audit committees and financial performance in Thailand. Budiman (2021) revealed that findings of state losses impact corruption in Indonesia, while Onay (2021) identified key factors affecting internal audit effectiveness in Turkey.

CHAPTER FIVE: SUMMARY OF FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter presents a summary of findings and conclusion of the study findings. It also presents a discussion on the recommendations, limitations of the study and gives suggestions for further research.

5.2 Summary of Findings

This study sought to establish the effect of internal controls on the liquidity of public universities in Kenya. Specifically, it aimed to determine how the control environment influences liquidity within these institutions. Additionally, the study analyzed the impact of control activities on the liquidity processes of public universities in Kenya. Lastly, it sought to assess the effect of monitoring activities on liquidity, providing a comprehensive understanding of these relationships.

Based on results for the first objective, the analysis revealed that a stronger control environment significantly enhances liquidity, with an unstandardized coefficient of 0.339, indicating a 33.9% increase in liquidity for every unit improvement. The strong t-statistic of 4.066 and a significance value of 0.000 underscored this positive effect, highlighting the importance of ethical standards, leadership integrity, and organizational culture.

Based on objective two, the study findings indicate that control activities significantly and positively enhance liquidity in public universities, with an unstandardized coefficient of 0.317. This suggests that implementing systematic control measures—such as regular audits, compliance checks, and effective budget management—can lead to notable improvements in financial stability

and operational efficiency, allowing for better resource allocation. The positive effect was supported by a t-statistic of 3.444 and a significance value of 0.002.

Findings based on objective three showed that monitoring activities have a strong positive impact on liquidity, with an unstandardized coefficient of 0.256. This implies that enhancing monitoring systems, such as continuous performance assessments and financial reporting, can provide valuable insights into liquidity status and risks. Such proactive measures enable public universities to address potential financial issues promptly, ensuring they maintain sufficient liquidity for their operations and educational objectives. This finding is further corroborated by a t-statistic of 3.492 and a significance value of 0.001.

5.3 Conclusions

The study found that control environment has a significant positive effect on liquidity among the public universities in Kenya. The findings clearly demonstrate that a robust control environment plays a crucial role in enhancing liquidity within public universities in Kenya. This seems to imply that even small improvements in the control environment can lead to substantial enhancements in liquidity, with a notable increase for each unit of improvement. This strong effect emphasizes the necessity for public universities to prioritize ethical standards, leadership integrity, and a supportive organizational culture. The results advocate for ongoing efforts to strengthen the control environment, highlighting its significance in driving better financial management practices and supporting the institutions' overall operational efficiency.

The findings from the second objective clearly indicate that control activities have a significant and positive impact on liquidity in public universities. It is concluded that the implementation of systematic control measures, including regular audits, compliance checks, and

effective budget management, may lead to substantial improvements in financial stability and operational efficiency. These control activities may enable universities to allocate resources more effectively, enhancing their overall liquidity. Moreover, the results underscore the importance of establishing and maintaining robust control measures to ensure that public universities can effectively navigate their financial obligations and improve their operational performance. Prioritizing these activities will be essential for strengthening financial management practices within these institutions.

The findings from the third objective demonstrate that monitoring activities significantly enhance liquidity in public universities. By improving monitoring systems such as continuous performance assessments and financial reporting universities can gain valuable insights into their liquidity status and associated risks. These proactive measures allow institutions to identify and address potential financial issues promptly, ensuring they maintain adequate liquidity to support their operations and educational goals. The strong positive impact of monitoring activities highlights the necessity for public universities to invest in robust monitoring frameworks to effectively manage their financial resources. This focus on continuous oversight ultimately contributes to better financial health and operational resilience within these institutions.

5.4 Recommendations

Based on the findings and conclusions from the study, the following recommendations are put forth. To enhance liquidity, public universities in Kenya must prioritize the development of a robust control environment that fosters ethical standards and integrity throughout their operations. This can be achieved by implementing comprehensive training programs designed to instill these core values among staff and administrators, thereby promoting a culture of accountability and

transparency at all organizational levels. Additionally, universities should regularly assess and refine their organizational culture to ensure alignment with best practices in financial management, thus creating an environment conducive to sound financial practices. It is also essential to establish clear policies and guidelines that reinforce ethical behavior, as these will serve as a foundation for decision-making processes across the institution. By emphasizing the importance of a strong control environment and engaging stakeholders in discussions about these principles, public universities can cultivate a shared commitment to ethical practices. Moreover, regular reviews and updates of the control environment will help ensure its continued relevance and effectiveness, ultimately contributing to the institution's overall operational efficiency and financial health.

Public universities should take proactive measures to implement systematic control measures that significantly improve liquidity and financial stability. This includes conducting regular audits, performing compliance checks, and establishing effective budget management practices tailored to the unique needs of each institution. A dedicated team responsible for overseeing these control activities can ensure that they are consistently executed with precision and effectiveness. Moreover, universities must adopt best practices in financial management, which can help them navigate challenges more effectively. Investing in technology that facilitates real-time monitoring of financial activities is crucial, as it enables quicker responses to potential issues that may arise. Additionally, training staff on the importance of these control activities will further enhance their effectiveness and foster a culture of accountability within the institution.

In order to effectively manage liquidity, public universities must prioritize the enhancement of their monitoring activities through the implementation of robust monitoring systems that facilitate continuous performance assessments and accurate financial reporting. Such systems should be complemented by significant investments in advanced financial management

software that provides real-time insights into liquidity status while also identifying potential risks at an early stage. Furthermore, training programs designed to educate staff on the critical importance of monitoring activities will foster a culture of proactive financial management and vigilance. Establishing a dedicated team that is responsible for consistently monitoring financial performance will ensure that oversight is both thorough and effective. Additionally, universities should develop key performance indicators (KPIs) related to liquidity that allow for ongoing evaluation and adjustments to strategies as needed.

5.5 Suggestions for Further Research

This study was conducted under several limitations and assumptions. Based on these limitations and assumptions, the following suggestions for further are proposed. First, future research could investigate how internal control frameworks and their impact on liquidity vary between public universities and other sectors, such as private universities, government agencies, or non-profit organizations. This comparative analysis could identify unique challenges and best practices in internal control systems that enhance liquidity, providing insights that can be applied across different contexts. Secondly, a longitudinal study could assess the long-term effects of implementing various internal control measures on liquidity within public universities. By tracking changes in liquidity practices and financial performance over several years, this research could provide a deeper understanding of how consistent investment in internal controls influences financial stability and operational efficiency.

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APPENDIX I: RESEARCH QUESTIONNAIRE

The below research questionnaire seeks to capture data on the effect of internal control on liquidity of Public Universities in Kenya. The data that was collected was used for academic purposes only. Furthermore, the study will uphold anonymity of the respondents throughout the research.

PART A: GENERAL INFORMATION

1. Are you a registered professional accountant?

- ⌋ Yes ( )
- ⌋ No ( )

2. What is your highest level of education?

- ⌋ College Diploma ( )
- ⌋ Undergraduate Degree ( )
- ⌋ Postgraduate Degree ( )
- ⌋ PHD ( )

3. Period worked in this university

- ⌋ 0-3 years ( )
- ⌋ 4-6 years ( )
- ⌋ 7-9 years ( )
- ⌋ Over 10 years ( )

4. Period worked in the current role:

- ⌋ 0-3 years ( )
- ⌋ 4-6 years ( )
- ⌋ 7-9 years ( )
- ⌋ Over 10 years ( )

SECTION B: INTERNAL CONTROLS

CONTROL ENVIRONMENT

Please indicate in the table with a tick (√) or a cross (×) with a scale of 5= strongly agree 4= Agree 3= Disagree 2= Strongly Disagree 1= neither agree nor disagree. Kindly answer the following questions based on your agreement with the following statements on control environment within the firm. The scale level ranges from 1 – 5.

No	Statements	5	4	3	2	1
1.	Our institution have controls in place to exclude incurring expenditure in excess allocated funds					
2.	In my organization there is employee screening to ensure that employees implement the accounting and financial management system in place efficiently.					
3.	My organization values computer passwords and access authorization and exercises control over them.					
4.	Our institution have a pre- approval of actions and transactions by the supervisors.					
5.	Our organization has a well-developed Chart of Accounts.					
6.	The reporting system on organizational structures spells out all the responsibilities of each section/unit in the organization.					
7.	All the staff in our institution are aware of the internal control measures by the university to prevent fraud.					

CONTROL ACTIVITIES

Please indicate in the table with a tick (√) or a cross (×) with a scale of 5= strongly agree 4= Agree 3= Disagree 2= Strongly Disagree 1= neither agree nor disagree. Kindly answer the following questions based on your agreement with the following statements on control activities within the firm. The scale level ranges from 1 – 5.

No	Statements	5	4	3	2	1
1.	The university follows and abides by set regulations by the government.					
2.	There is a policy to quarterly review of performance by the university to detect areas that are not at par with the set objectives.					
3.	The guidelines are enough to curb all the university's financial irregularities.					
4.	There are set internal policies and guidelines that govern the university's internal control systems					
5.	Stern action is taken by the relevant government body as a result of non- conformance with the regulations.					
6.	My university follows strictly the financial reporting guidelines stipulated to enhance financial performance.					
7.	Adherence to the set guidelines and policies positively contributes to financial performance of the university.					

MONITORING ACTIVITIES

Please indicate in the table with a tick (√) or a cross (×) with a scale of 5= strongly agree 4= Agree 3= Disagree 2= Strongly Disagree 1= neither agree nor disagree. Kindly answer the

following questions based on your agreement with the following statements on monitoring activities within the firm. The scale level ranges from 1 – 5.

No	Monitoring activities	5	4	3	2	1
1.	Internal audits are carried out twice a year to detect areas with internal weaknesses.					
2.	Internal audit findings are acted on immediately.					
3.	Internal audit findings are reported directly to top management and the audit and risk sub-committee of the board.					
4.	Comparison is made between plans and actual performance and the difference is reported often.					
5.	Corrective action is always taken on budget variance.					
6.	The reporting system on organizational structures spells out all the responsibilities of each section/unit in the organization.					
7.	My organization has a budget committee that monitors the budgeting process and its implementation.					

SECTION C: LIQUIDITY

Please indicate in the table with a tick (√) or a cross (×) with a scale of 5= strongly agree 4= Agree 3= Disagree 2= Strongly Disagree 1= neither agree nor disagree. Kindly answer the following questions based on your agreement with the following statements on monitoring activities within the firm. The scale level ranges from 1 – 5.

No	Liquidity	5	4	3	2	1
1.	Our organization effectively monitors its current ratio to ensure it meets short-term obligations.					
2.	The current ratio adequately supports our					

	organization's liquidity needs.					
3.	Our organization has a clearly defined cash management policy.					
4.	The cash management policy is effectively implemented in our organization.					
5.	The quality of our relationships with suppliers helps us obtain favorable payment terms..					
6.	Our organization strategically times its payments to optimize cash flow.					
7.	Our organization adjusts payment timings based on cash flow forecasts.					

APPENDIX II: LIST OF CHARTERED PUBLIC UNIVERSITIES IN KENYA

1. University of Nairobi -
2. Moi University
3. Kenyatta University
4. Egerton University
5. Jomo Kenyatta University of Agriculture and Technology
6. Maseno University
7. Masinde Muliro University of Science and Technology
8. Dedan Kimathi University of Technology
9. Chuka University
10. Technical University of Kenya
11. Technical University of Mombasa
12. Pwani University
13. Kisii University
14. University of Eldoret
15. Maasai Mara University
16. Jaramogi Oginga Odinga University of Science and Technology
17. Laikipia University
18. South Eastern Kenya University
19. Meru University of Science and Technology
20. Multimedia University of Kenya
21. University of Kabianga
22. Karatina University
23. Kibabii University
24. Rongo University

25. The Co-operative University of Kenya

26. Taita Taveta University

27. Murang'a University of Technology

28 University of Embu

29. Machakos University

30. Kirinyaga University

31. Garissa University

32 Alupe University

33 Kaimosi Friends University

34 Tom Mboya University

35 Tharaka University

36. Turkana University College

37. Bomet University College

38. Kiotalel Samoei University College

39. Mama Ngina University College

Source: CUE (2023)