

**INTERNAL CONTROL ENVIRONMENT AND OPERATIONAL EFFICIENCY
AMONG STATE REGULATORY AGENCIES IN KENYA**

BY

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MASTER OF SCIENCE IN COMMERCE (FINANCE AND ACCOUNTING)

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**A DISSERTATION SUBMITTED IN PARTIAL FULLFILLMENT OF THE
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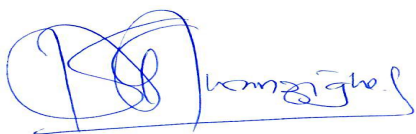
DECEMBER 2025

DECLARATION

Declaration by the Student

I declare that this dissertation is my original work and has not been previously published or submitted elsewhere for award of a degree. I also declare that this contains no material written or published by other people except where due reference is made and author duly acknowledged

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INTERNAL CONTROL ENVIRONMENT AND OPERATIONAL EFFICIENCY AMONG STATE REGULATORY AGENCIES IN KENYA

ABSTRACT

A well-structured internal control environment within state corporations can significantly enhance operational efficiency by strengthening risk management, streamlining administrative processes, and minimizing service delivery disruptions. Despite this, operational efficiency in state corporations is shaped by a combination of factors, including leadership effectiveness, employee competencies, and the level of technological integration. The complexities surrounding state corporations such as political interference, bureaucratic processes, and shifting policy frameworks further influence how internal controls impact efficiency. This study therefore examined the relationship between the internal control environment and operational efficiency among state regulatory agencies in Kenya. Specially, the study looked at how information communication, risk monitoring, risk assessment affects operational efficiency of state regulatory agencies as moderated by the organizational culture. The study was guided by the systems, institutional and moral hazard theories while reviewing past studies in relation to the study variables. The study adopted an explanatory research design while targeting all 123 state corporations in Kenya and obtain data from the heads of the internal audit section. Primary data was collected through a questionnaire and analysed using both quantitative and inferential statistics. The study results showed that Information Communication Technology ($r = 0.511$, $p < 0.01$), Risk Monitoring ($r = 0.443$, $p < 0.01$), and Risk Assessment ($r = 0.552$, $p < 0.01$) are positively and significantly correlated with Operational Efficiency. In addition, a linear regression model was used to examine the effects of the independent variables on the dependent variable, Operational Efficiency. The analysis revealed that Information Communication Technology ($r = 0.511$), Risk Monitoring ($r = 0.443$), and Risk Assessment ($r = 0.552$) are positively and significantly correlated with operational efficiency. The regression results further indicated that these predictors jointly explain 81.4% of the variation in operational efficiency. Furthermore, when Organizational Culture was introduced as a moderating variable, the model showed that it significantly affects the relationships between the predictors and operational efficiency. The study recommended that regulatory agencies strengthen Information Communication Technology by investing in modern infrastructure, training staff, and adopting innovations such as cloud-based systems and digital platforms to improve efficiency, transparency, and service delivery. It further recommends the institutionalization of Risk Monitoring through clear frameworks, automation, regular reporting, and fostering a culture of accountability to ensure timely identification and management of risks. Lastly, agencies should enhance Risk Assessment by adopting standardized tools, improving documentation, training staff, and embedding assessment practices at all organizational levels to support strategic planning and operational decision-making.

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DEDICATION

To my beloved wife and children. I dedicate this research endeavor to you with heartfelt gratitude and appreciation for your unwavering support, encouragement, and understanding throughout this journey. Your love, encouragement, and patience have been my guiding lights, inspiring me to overcome challenges, persevere through obstacles, and strive for excellence in pursuit of knowledge.

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DEFINITION OF KEY TERMS

Information Communication Technology (ICT): Integration of computing and telecommunications technologies that facilitate the processing, storage, and exchange of information through hardware, software, networks, and digital communication tools to enhance efficiency, decision making, and automation in organizations (Laudon & Laudon, 2022).

Operational Efficiency: Is the ability of an organization to deliver services or products using the least amount of resources while maintaining high quality and effectiveness. It involves optimizing processes, reducing waste, and improving productivity to achieve better performance outcomes (Drucker, 2021).

State Regulatory Agencies: These are government institutions responsible for enforcing laws, setting industry standards, and overseeing compliance within specific sectors. Their role is to ensure public safety, fair competition, and effective governance in areas such as finance, health, and environmental protection (Baldwin, Cave, & Lodge, 2020).

Risk Monitoring: Risk monitoring is the continuous process of tracking identified risks, evaluating their impact, and implementing mitigation measures to ensure organizational resilience. It involves assessing risk indicators, reporting changes, and updating risk management strategies (Fraser & Simkins, 2021).

Risk Assessment: Risk assessment is the systematic process of identifying, analyzing, and evaluating potential risks that could affect an organization's objectives. It helps in decision-making by prioritizing risks based on their likelihood and impact (Hopkin, 2022).

Organizational culture: Organizational culture refers to the strategic decisions, laws, regulations, and guidelines formulated by a government to address economic, social, and political issues. Policies influence governance structures, business environments, and public administration (Anderson, 2021).

CHAPTER ONE: INTRODUCTION

1.1 Background to the Study

Efficiency is a fundamental concept in organizational studies, reflecting the ability of institutions to achieve desired outcomes with optimal use of resources while minimizing waste and redundancy. In public institutions, operational efficiency is particularly critical as it determines the capacity to deliver quality services, implement policies effectively, and respond to stakeholder needs in a timely manner (Lagat & Okelo, 2016). Despite the implementation of governance frameworks and institutional policies aimed at improving performance, many public organizations continue to face challenges such as bureaucratic delays, inadequate coordination, and limited institutional capacity, which hinder effectiveness and service delivery (Samson et al., 2024). Understanding the determinants of operational efficiency is therefore essential for enhancing organizational performance, promoting accountability, and ensuring sustainable public sector outcomes. Insights into efficiency provide policymakers and administrators with guidance for streamlining processes, strengthening institutional resilience, and maximizing the societal impact of public institutions (IAR, 2025; PSASB, 2022).

Globally, operational efficiency has become the cornerstone of corporate strategy, with multinational behemoths like Amazon exemplifying its transformative power through AI orchestrated warehouse automation that has slashed fulfillment times by up to 50 percent while ballooning profitability. This pursuit, rooted in optimizing workflows, embracing data analytics, and upskilling workforces via Enterprise Resource Planning (ERP) systems, yields cascading benefits: heightened employee engagement, amplified customer satisfaction, and fortified financial returns. As organizations integrate predictive tools and foster seamless communication to eradicate redundancies, they not only minimize operational costs but cultivate agile

ecosystems capable of navigating geopolitical turbulence and technological disruptions. Indeed, the global imperative for such efficiency is underscored by the rapid proliferation of digital tools, where continuous audits and ROI analyses reveal untapped potentials, ensuring that innovation remains a perpetual engine for growth and market leadership (Wujarso, 2023).

Operational efficiency confronts a mosaic of formidable challenges juxtaposed against burgeoning opportunities, where bureaucratic labyrinths in nations like Kenya and Nigeria extend business setup timelines to an average of 7 to 8 days, exacerbated by infrastructural deficits that inflate logistics costs by 30 to 40 percent, yet the continents tech-savvy youth and resource ingenuity herald a renaissance. With over 40 percent of African organizations now experimenting with AI adoption as of 2024, the potential to unlock \$100 billion in annual economic value through generative AI alone signals a seismic shift toward streamlined processes and inclusive growth. Here, efficiency manifests through targeted interventions: mobilizing digital platforms for supply chain resilience, enhancing human resource development amid a 60 percent youth unemployment rate, and benchmarking against regional standards to combat corruption and fiscal leakages. As African enterprises pivot from survivalist models to innovation driven paradigms, leveraging big data and ERP to bridge urban rural divides, they are poised to redefine continental productivity, transforming systemic hurdles into catalysts for equitable prosperity (Lamprousis & Jonathan, 2025).

In Kenya, the Ethics and Anti-Corruption Commission (EACC) epitomizes this efficiency ethos, having integrated artificial intelligence and big data mining since 2024 to revolutionize investigative workflows, accelerating case resolutions by 35 percent while curtailing resource dissipation in a landscape marred by entrenched graft. Aligned with the nations AI Strategy 2025 to 2030, which emphasizes ethical data governance and edge

computing to localize processing, the EACCs strategic pivot, as outlined in its 2023 to 2028 plan, exemplifies how targeted tech infusion can amplify service delivery, bolster public trust, and align with devolved governance imperatives. By optimizing cost management through predictive analytics and fostering cross-agency collaborations, such initiatives not only enhance quality assurance but also embed adaptability into core operations, yielding measurable gains in ROI and stakeholder satisfaction. This Kenyan vanguard thus serves as a microcosm for the thesis's exploration, demonstrating how localized efficiency strategies can cascade into broader socio-economic dividends, fortifying anti-corruption architectures against evolving threats (EACC, 2024; Maina & Otieno, 2024).

Enhancing operational efficiency in organization ensures adoption of new technologies, mobilization of resources, development of human resources and appropriate utilization of scarce resources for the overall business operations (Lamprousis & Jonathan, 2025). Organizations that focus on efficiency can achieve superior service delivery, higher profitability, better employee engagement, and improved customer satisfaction. For instance, The Ethics and Anti-Corruption Commission (EACC) adopted artificial intelligence and big data mining to ensure efficiency is attained in all its operational levels (EACC, 2024). Improving operational efficiency requires strategic approaches such as leveraging on the latest technology, optimizing workflows and enhancing employee performance. Businesses can implement Enterprise Resource Planning (ERP) systems, artificial intelligence, and data analytics to streamline operations and reduce manual work. For example, Amazon utilizes automation in its warehouses, reducing operational costs and increasing delivery efficiency. Moreover, training employees in new technologies and management techniques enhances their productivity and ensures they contribute effectively to organizational goals. Effective communication and delegation also play a key role in improving

efficiency as they reduce redundancy and ensure tasks are completed on time. By continuously adopting innovative strategies, organizations can create a more productive workforce, reduce operational bottlenecks and maintain a competitive advantage (Wujarso, 2023).

1.1.1 Internal Control Environment

The internal control environment serves as the foundation of an organization's internal control system, influencing policies, procedures, and ethical standards that guide decision-making and operational efficiency. In accordance to Arens, Elder, and Beasley (2017), "the control environment sets the tone of an organization, influencing the control consciousness of its people, and is the foundation for all other components of internal control". This is to say that an organization's governance structure, leadership and ethical culture are used to determine how effectively internal control's function. A well-established internal control environment enhances compliance, reduces financial risks, and strengthens accountability. Moreover, the Committee of Sponsoring Organizations of the Treadway Commission (COSO, 2013) highlights that an effective internal control environment ensures that management can demonstrates integrity, enforces ethical values, and exercises oversight responsibilities, which are essential in achieving organizational objectives.

There are several frameworks that exist to guide the implementation of an effective internal control environment. The COSO Internal Control Integrated Framework is one of the most widely adopted models, providing five essential components which are control environment, risk assessment, control activities, information and communication, and monitoring activities (COSO, 2013). This framework is crucial for organizations seeking to enhance governance, compliance, and operational efficiency. Additionally, the International Standards for Supreme Audit Institutions (INTOSAI) Framework is designed specifically for government institutions,

ensuring that public agencies implement robust internal controls to enhance transparency and service delivery (INTOSAI, 2019). Another widely recognized framework is the ISO 31000 Risk Management Framework, which emphasizes risk assessment and mitigation strategies as essential components of internal controls, particularly for regulatory agencies responsible for overseeing compliance in financial, environmental, and administrative sectors (ISO, 2018).

The internal environment areas integral to this study are the ICT, risk monitoring and risk assessment. Information Communication Technology (ICT) includes the systems, processes, and tools used to support data processing, storage, and transmission for effective decision-making and operational efficiency (Marodin, Chiappetta, Godinho & Tortorella, 2023). ICT enhances transparency, accountability, and accuracy in financial reporting, reducing errors and fraud risks (Chege, Wang & Suntutu, 2020). In this study, ICT will be assessed through the adoption of digital systems such as Enterprise Resource Planning (ERP) software, automation of financial transactions, integration of cloud-based services, and the level of cybersecurity measures in place. Moreover, ICT effectiveness can be evaluated based on system reliability, ease of use, and the extent of digital transformation in regulatory operations.

Risk monitoring is the continuous process of identifying, evaluating, and addressing risks that may affect an organization's ability to achieve its objectives and it involves tracking key risk indicators, compliance audits, and internal control reviews (Munir, Jajja, Chatha, & Farooq 2020). Effective risk monitoring enhances operational efficiency by preventing financial losses, ensuring regulatory compliance, and improving decision-making processes. This will be measured by examining the frequency of internal audits, the existence of risk management committees, the use of real-time monitoring tools, and employees' responsiveness to identified

risks. Organizations with proactive risk monitoring frameworks tend to experience improved efficiency and reduced operational disruptions.

Risk assessment is the process of identifying potential risks, analyzing their impact, and developing mitigation strategies to minimize their effect on an organization's operations. It helps in prioritizing risks based on their likelihood and severity, thereby enhancing efficiency in resource allocation (Buer, Semini, Strandhagen, & Sgarbossa, 2021). The effectiveness of risk assessment is measured through the presence of formal risk assessment policies, periodic risk evaluation exercises, risk mitigation action plans, and management's involvement in risk identification (Munir *et al.*, 2020). Additionally, organizations with structured risk assessment frameworks tend to exhibit higher operational efficiency due to their ability to anticipate and respond to risks proactively.

1.1.2 Operational Efficiency

Organizational culture represents the collective system of values, beliefs, norms, and assumptions that guide how members of an organization perceive, think, and act (Putra *et al.*, 2021). It constitutes the invisible social framework within which formal structures and controls operate, shaping how individuals interpret organizational goals and responsibilities. Through shared rituals, symbols, and practices, culture influences employee attitudes toward change, risk, innovation, and compliance. A culture grounded in transparency, shared learning, and accountability fosters alignment between individual behavior and institutional objectives (Wulandari, Khafid, & Wahyuningrum, 2021). Conversely, cultures dominated by fear, uncertainty, or avoidance of rules tend to produce disengagement, silos, and informal behaviors that undermine formal governance systems. Thus, organizational culture functions as an informal yet powerful control mechanism, complementing formal systems by defining expectations,

guiding communication patterns, and shaping how organizational performance is achieved and sustained.

A strong and supportive organizational culture enhances operational performance by fostering engagement, commitment, and disciplined execution of tasks. Recent empirical studies affirm that when cultural values align with strategic priorities emphasizing accountability, innovation, and continuous improvement, organizations achieve superior control implementation and operational efficiency (Sudharma et al., 2023). Cultures that promote ethical behavior, participatory decision-making, and open communication strengthen trust and compliance, enabling employees to adhere to established procedures and report anomalies (Shaibu, Ciroma, Sani, & Aminu, 2024). In contrast, weak or conflicting cultural orientations can erode integrity and reduce the effectiveness of oversight mechanisms, leading to inefficiency and governance failures. Therefore, culture not only influences individual behavior but also determines the efficacy of formal systems, shaping how organizations respond to internal controls, external pressures, and environmental uncertainties, ultimately affecting institutional resilience and long-term performance outcomes.

In this study, organizational culture is conceptualized as a moderating variable influencing the relationship between the internal control environment and operational efficiency among state regulatory agencies in Kenya. A culture rooted in integrity, trust, accountability, and transparency can amplify the effectiveness of internal controls by reinforcing behavioral consistency, clarifying expectations, and nurturing ethical decision-making (Okwata, Wasike, & Andemariam, 2022). Conversely, a culture that tolerates informality, favoritism, or weak oversight may diminish the influence of internal controls, as employees are more likely to circumvent established processes or ignore compliance obligations. Consequently, organizational

culture determines whether control mechanisms translate into tangible efficiency gains or become procedural formalities. This underscores its critical moderating role: a strong culture strengthens the link between internal control systems and operational performance, while a weak culture attenuates it, shaping how state regulatory agencies achieve accountability, transparency, and sustainable efficiency (Sudharma, Haliah, & Nirwana, 2023).

1.1.3 Operational Efficiency among State Regulatory Agencies

According to the National Treasury and Planning report (2023), Kenya has 248 state corporations out of which 46 are commercial entities, 123 are regulatory agencies while 202 out of the total state corporations are non-commercial entities. Their model of operations varies with some of the tasked to oversee adherence to set policies and best practices in the economy. Often, state regulatory agencies are government institutions responsible for creating, enforcing and monitoring laws and policies to ensure compliance with public safety and economic stability. According to Furlong and Kerwin (2019), “Regulatory agencies are administrative bodies that oversee specific industries, enforcing rules to maintain order and efficiency”. These agencies derive their authority from the constitution and legislative acts which enables them to regulate businesses, financial institutions, environmental protection, and public services (National Treasury and Planning of Kenya, 2023). For instance; Central Bank of Kenya (CBK) regulates the banking sector to ensure monetary stability while the Energy and Petroleum Regulatory Authority (EPRA) are monitoring fuel prices and electricity tariffs. This is done through strict oversight enabling these agencies help maintain transparency, fairness and efficiency in various sectors of the economy.

The Constitution of Kenya (2010) provides the legal foundation for regulatory agencies, mandating them to promote transparency, fairness and public welfare. Article 46 grants consumers protection from unfair trade practices while Article 69 mandates environmental conservation through regulatory oversight. These provisions do empower agencies such as the Kenya Bureau of Standards (KEBS) to enforce product quality standards and the National Environmental Management Authority (NEMA) to regulate environmental compliance. Additionally, the Communications Authority of Kenya (CAK) to ensure fair competition in the telecommunications sector, protecting both businesses and consumers. These agencies operate under government ministries and are guided by specific legislative frameworks to ensure lawful and ethical service delivery across different industries (Mutangili, 2021).

The primary focus of state regulatory agencies in Kenya is to safeguard public interests by enforcing laws, setting industry standards and ensuring fair business practices. They play a critical role in economic regulation, consumer protection, environmental conservation, and service quality enforcement (Makindi & Mugatsia, 2024). For example, KEBS ensures that all imported and locally manufactured products meet safety and quality standards before reaching consumers and NEMA enforces policies that prevent environmental degradation by monitoring industrial activities. The impact of these agencies is evident in improved market stability, reduced corruption and enhanced public confidence in regulated industries (Njora & Yilmaz, 2022). Thus, by maintaining ethical and legal standards, regulatory agencies contribute to sustainable development, boosting investor confidence and consumer protection.

To evaluate the effectiveness of state regulatory agencies in Kenya involves assessing their enforcement capabilities, service efficiency and public satisfaction. Key performance indicators (KPIs) such as compliance rates, consumer complaint resolution and transparency in

operations help measure their success. Government bodies such as the Office of the Auditor-General and the Ethics and Anti-Corruption Commission (EACC) conduct audits to ensure accountability and prevent mismanagement of public resources and funds (Nyakundi, 2024). Agencies also use public feedback, stakeholder consultations, and industry benchmarking to review their effectiveness. For instance, the Competition Authority of Kenya (CAK) assesses market trends to ensure businesses operate fairly and ethically. Regular policy reviews, legislative amendments and technological advancements further enhance regulatory efficiency and service delivery in Kenya (Maina & Otieno, 2024). The current study will involve one hundred twenty-three (123) regulatory state agencies that serve a variety of roles depending on their mandate.

1.1.4 Internal Control Environment, Organizational culture and Operational Efficiency

The internal control environment consists of structures, policies, and procedures designed to promote accountability, mitigate risks, and enhance efficiency in organizations. Key components such as information communication technology, risk assessment, and risk monitoring play a role in influencing operational efficiency by improving decision-making, financial reporting, and process automation (COSO, 2020). Organizations that implement strong internal control mechanisms may experience improved operational workflows, reduced errors, and enhanced compliance with regulatory frameworks. However, the extent to which internal controls contribute to operational efficiency may vary depending on factors such as organizational culture, resource availability, and management commitment (Arwinge, 2021). Understanding these variations may provide insights into how organizations can optimize internal controls to improve efficiency.

Organizational culture can act as a catalyst for organizational efficiency by establishing legal and regulatory frameworks that organizations must adhere to. Policies related to financial reporting standards, corporate governance, risk management, and technology adoption can influence the implementation of internal controls (OECD, 2021). Having robust regulatory policies may enhance transparency and accountability, strengthening internal control mechanisms. Conversely, policy inconsistencies or overly rigid regulations may create bureaucratic inefficiencies that hinder operational effectiveness (Power, 2022).

A well-structured internal control environment may contribute to efficiency by improving risk management, streamlining processes, and reducing operational disruptions (Beasley et al., 2021). However, operational efficiency is influenced by multiple factors, including leadership effectiveness, workforce capabilities, and technological adoption. Organizations with robust internal controls may exhibit greater resilience to financial and operational risks, whereas inefficiencies may arise in environments where controls are weak or inconsistently applied (Spira & Page, 2022). Given these complexities, further research may be required to assess how different elements of the internal control environment interact with external factors to shape organizational efficiency.

1.2 Statement of the Problem

State regulatory agencies are mandated to enforce laws, ensure compliance, and promote accountability across various sectors. However, these agencies often face operational inefficiencies due to weak internal control systems, resulting in challenges such as corruption, financial mismanagement, poor service delivery, and weak reporting structures (Onyango, 2021). The absence of effective internal control mechanisms compromises transparency and accountability, creating loopholes for misappropriation of public resources. According to

Musyoki (2023), poor internal control measures significantly contribute to increased incidences of fraud, theft, and wastage in regulatory bodies. These weaknesses also lead to regulatory reporting non-compliance, inaccurate financial statements, and the erosion of public trust in the institutions (Boateng & Owusu, 2020). Without robust internal controls, state regulatory agencies struggle to deliver their mandates effectively, undermining institutional credibility and efficiency.

Despite the presence of a comprehensive legal and regulatory framework, weak internal controls remain a major contributor to operational inefficiencies within state institutions. The Kenya National Bureau of Statistics (KNBS, 2022) reported that only 46 percent of public sector entities had fully implemented internal control frameworks, reflecting widespread institutional weaknesses and capacity gaps. The Public Service Commission (PSC, 2023) further noted that nearly 38 percent of state agencies lacked effective risk management systems and internal audit functions, undermining compliance and accountability efforts. According to an Ethics and Anti-Corruption Commission (EACC, 2023) survey, 60 percent of Kenyans perceive corruption levels as high, largely due to weak enforcement mechanisms rooted in inadequate internal controls. The EACC (2024) also estimated that Kenya loses approximately Ksh 608 billion annually to corruption, equivalent to about 7.8 percent of the national GDP. These systemic deficiencies highlight the need for an in-depth empirical investigation into how internal control mechanisms influence operational efficiency in state regulatory agencies to strengthen institutional performance, transparency, and public accountability.

Several studies have explored internal controls and operational efficiency in public institutions, though gaps remain. For instance, Otieno and Moronge (2022) found that information communication technology (ICT) significantly enhanced efficiency in parastatals. Mutua and Mwangi (2021) linked risk monitoring to improved financial accountability in

regulatory agencies. Kariuki and Wambua (2020) showed that structured risk assessment positively affected strategic goal achievement. Njeri and Kimani (2023) emphasized that inconsistent government policy weakens governance and efficiency. Wanyama and Mutua (2019) revealed that weak internal controls and political interference hinder service delivery. However, the above studies focused on isolated factors affecting efficiency or did not relate their variables to operational efficiency like the current study creating a knowledge gap. This study sought to close this gap by integrating ICT, risk monitoring, and risk assessment while examining the moderating role of organizational culture on operational efficiency state regulatory agencies in Kenya.

1.3 Objectives of the Study

1.3.1 General Objective

To examine the effect of internal control environment on the operational efficiency among state regulatory agencies in Kenya.

1.3.2 Specific Objectives

- i. To determine the effect of information communication technology on the operational efficiency in state regulatory agencies in Kenya
- ii. To establish the effect of risk monitoring on the operational efficiency in state regulatory agencies in Kenya
- iii. To examine the influence of risk assessment on the operational efficiency in state regulatory agencies in Kenya
- iv. To assess the moderating effect of organizational culture on the relationship between internal control environment and operational efficiency among state regulatory agencies in Kenya

1.4 Research Questions

- i. How does information communication technology affect the operational efficiency in state regulatory agencies in Kenya?
- ii. What is the effect of risk monitoring on the operational efficiency in state regulatory agencies in Kenya?
- iii. How does risk assessment influence the operational efficiency in state regulatory agencies in Kenya?
- iv. What is the moderating effect of organizational culture on the relationship between internal control environment and operational efficiency among state regulatory agencies in Kenya?

1.5 Justification of the Study

This study is justified by the growing need to enhance the operational efficiency of state regulatory agencies, which continue to face challenges related to weak internal control systems, poor service delivery, and accountability gaps. While these agencies play a critical role in enforcing regulations and ensuring public sector compliance, there has been limited comprehensive analysis on how internal control components such as ICT, risk monitoring, and risk assessment contribute to their performance. Previous studies have often examined these factors in isolation, neglecting the broader interaction between internal mechanisms and external influences like organizational culture. By addressing these gaps, the study generated relevant insights that can guide institutional reforms, improve decision-making processes, and support the effective functioning of regulatory bodies. Ultimately, it offers practical solutions for strengthening governance and enhancing the reliability of public administration.

1.6 Significance of the Study

1.6.1 State Regulatory Agencies

The findings of this study could provide state regulatory agencies in Kenya with practical insights on how to strengthen their internal control systems, particularly in the areas of ICT, risk monitoring, and risk assessment. By identifying the specific internal control elements that influence operational efficiency, these agencies can enhance service delivery, reduce resource wastage, and build public trust.

1.6.2 Government of Kenya

This study supports the government's efforts in promoting good governance, transparency, and accountability by providing empirical evidence on how internal controls contribute to efficient regulatory performance. The results inform policy formulation and institutional reforms aimed at improving oversight, reducing corruption, and aligning agency operations with national development goals.

1.6.3 Auditors

Both internal and external benefits from the study by understanding how ICT systems, risk monitoring, and risk assessment practices impact operational performance. These insights could help auditors design more effective audit plans, assess control weaknesses accurately, and provide targeted recommendations to improve efficiency and compliance in public sector institutions.

1.6.4 Future Scholars

The study contributes to the growing body of knowledge on internal controls and public sector performance, particularly in the Kenyan context. It offers a valuable reference for future researchers interested in governance, efficiency, and regulatory management, and may also

inspire further studies exploring additional control variables or expanding to other counties or sectors.

1.7 Scope of the Study

This study focuses on state regulatory agencies in Kenya. It examines how internal control mechanisms, including information communication technology, risk monitoring, risk assessment, and government policies, affect operational efficiency. The research collected data from agency heads of internal audit section. The findings offer insights applicable to other regulatory agencies across Kenya, helping improve operational efficiency in the public sector. The study was done for a period of eight months between February and September 2025.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

This chapter presents the literature and discussed by past authors, the empirical review with researchable gaps, conceptualization of the topic, the discussion of the variables measures and finally a summary of the chapter.

2.2 Theoretical Review

2.2.1 Systems Theory

Systems Theory was developed by Ludwig von Bertalanffy in the 1940s as a response to the reductionist approach in science, proposing instead that systems should be viewed holistically (von Bertalanffy, 1968). The theory posits that an organization is a complex and interrelated system composed of various subsystems that must work together to achieve overall objectives. It emphasizes the interdependence of parts within a system, where a change in one component affects others. In organizational settings, Systems Theory explains how various elements (human resources, technology, processes, and external environments) must align and function

collectively for optimal performance. It encourages viewing organizations as open systems that interact with their environment and require constant feedback, adaptation, and coordination for sustainability and efficiency.

A major strength of Systems Theory lies in its holistic perspective, which helps organizations understand the interconnectivity of different departments, resources, and external environments (Skyttner, 2005). It encourages integration, coordination, and feedback loops, which are crucial for decision-making and performance improvement. The theory has evolved into General Systems Theory, which has been widely applied in fields such as healthcare, engineering, and public administration. Modern researchers have expanded the theory to include cybernetic systems and feedback mechanisms, allowing for real-time analysis and system-wide problem-solving (Checkland, 1999). Its adaptability makes it suitable for analyzing large, complex organizations like government agencies, which operate within dynamic environments and rely heavily on information flow and coordinated action for effective service delivery.

Despite its comprehensive nature, Systems Theory has been critiqued for being overly abstract and lacking in empirical specificity (Kast & Rosenzweig, 1972). Critics argue that it often fails to offer concrete operational guidelines or measurable variables, making it challenging to apply in practical research settings. Its focus on equilibrium and system harmony can also be unrealistic in contexts characterized by conflict, competition, or rapid change. Moreover, the theory may overlook the role of human agency and power dynamics within organizations, thereby underestimating political and cultural influences. The universal applicability claimed by its proponents has also been questioned, as different organizations and sectors may not exhibit the same systemic properties or respond uniformly to feedback and adjustments.

Systems Theory provides a useful lens for understanding how information communication technology (ICT) affects the operational efficiency of state regulatory agencies. ICT can be seen as a subsystem within the larger organizational system, facilitating communication, data processing, and service delivery. When properly integrated, ICT enables real-time feedback, improved coordination among departments, and efficient resource utilization all central principles of Systems Theory. It allows agencies to function more adaptively in dynamic regulatory environments by enhancing their responsiveness and reducing redundancy. Systems Theory thus supports the notion that the success of ICT initiatives depends on their alignment with other organizational subsystems, promoting overall operational synergy and effectiveness in public sector governance.

2.2.2 Institutional Theory

Institutional Theory, was proposed by John W. Meyer and Brian Rowan (1977). The theory postulates that organizational behavior is strongly influenced by institutional pressures and norms within the environment (Meyer & Rowan, 1977). The theory argues that organizations adopt certain structures, processes, and practices not purely for efficiency but to gain legitimacy, stability, and social acceptance. DiMaggio and Powell (1983) expanded the theory by introducing three forms of institutional isomorphism: coercive, mimetic, and normative, which explain how organizations conform to regulations, imitate successful peers, or adhere to professional standards. The theory highlights how organizational conformity to these pressures shapes their operational and strategic decisions, influencing performance, structure, and the implementation of reforms across public and private institutions.

A key reason for continued application of the theory in management today is its ability to explain why organizations often resemble each other in structure and practices, especially within

highly regulated environments (Scott, 2014). The theory emphasizes the importance of social norms, legal regulations, and professional standards in shaping organizational behavior beyond just economic or technical efficiency. The theory has been particularly useful in public administration research by showing how state agencies align themselves with national and global governance frameworks. It also offers a framework to understand how legitimacy and compliance impact policy implementation. Scholars have built on the theory by integrating it with concepts like organizational learning and governance, making it adaptable to modern contexts such as ICT adoption and public-sector reforms.

Despite its broad applicability, Institutional Theory has been criticized for focusing too much on conformity and neglecting agency, innovation, and resistance (Greenwood et al., 2008). The theory assumes that organizations passively comply with external pressures without considering their capacity for strategic choice and adaptation. Additionally, it offers limited explanations for how and why institutional changes occur, often lacking mechanisms to describe organizational transformation. Another critique is its generalization across sectors, which may not account for contextual differences in resource availability, leadership, and organizational culture. Furthermore, its emphasis on legitimacy over efficiency can undermine practical considerations, especially in public institutions where performance outcomes are crucial for citizen satisfaction and accountability.

Institutional Theory is relevant in this study to explain how state regulatory agencies adopt and implement risk monitoring practices to enhance operational efficiency. Regulatory agencies often operate under coercive pressures from laws and policy frameworks, compelling them to establish risk oversight mechanisms to meet compliance standards. Mimetic isomorphism can drive agencies to replicate successful risk monitoring models from peer

institutions, while normative pressures may arise from professional auditing or regulatory bodies promoting standardized monitoring protocols. These institutional pressures ensure that agencies integrate systematic risk monitoring not only to improve efficiency but also to gain legitimacy. Thus, the theory helps explain how external norms and internal conformity pressures drive performance-enhancing practices in public-sector organizations

2.2.3 Moral Hazard Theory

The Moral Hazard Theory was initially conceptualized by Arrow, (1963). The theory explains situations where one party engages in risky behavior because they do not bear the full consequences of that risk, often due to asymmetric information. In organizational contexts, moral hazard arises when employees, agents, or institutions take on excessive risk because they are shielded from the outcomes, often through insurance, regulatory cover, or oversight gaps. The theory highlights the importance of proper oversight, incentives, and information transparency to curb risky decisions. It has been widely applied in finance, insurance, governance, and public administration to understand behavior under conditions of imperfect accountability.

One of the strengths of the Moral Hazard Theory lies in its explanatory power regarding risk-taking behavior in environments characterized by information asymmetry and limited accountability. The theory has evolved to address principal-agent relationships, especially in public institutions where those managing public resources may not bear direct consequences for inefficiency or failures (Eisenhardt, 1989). It has informed regulatory reforms, performance contracts, and monitoring mechanisms by emphasizing the need for alignment between responsibility and risk exposure. The theory also contributes to risk management literature by advocating for systems that detect, disclose, and correct misaligned incentives, such as performance-based accountability. Over time, scholars have extended its application to

governance, financial regulation, and crisis prevention, strengthening its relevance in organizational risk assessment.

Despite its insights, the Moral Hazard Theory faces criticism for assuming rational and self-interested behavior without sufficiently considering ethical, cultural, or institutional constraints (Holmstrom, 1979). It tends to oversimplify complex organizational behaviors by attributing risk-taking solely to misaligned incentives. Additionally, it may overemphasize the need for surveillance and control, potentially stifling innovation and trust among employees. In public sector environments, the theory might not fully capture the non-financial motivations influencing decision-making, such as public interest, integrity, or duty. Moreover, its focus on deterrence can sometimes lead to rigid bureaucracy and excessive compliance measures that hamper operational flexibility. These limitations suggest the need to integrate moral hazard insights with broader governance and behavioral frameworks.

This theory provides offers a path for understanding how risk assessment can influence operational efficiency in state regulatory agencies. When agencies conduct rigorous risk assessments, they can identify areas where decision-makers may be prone to moral hazard (engaging in actions that expose the institution to inefficiency or failure without personal consequences). By addressing these gaps through transparent risk evaluation, performance tracking, and accountability systems, agencies can mitigate opportunistic behaviors and encourage prudent operational practices. The theory supports the integration of checks and balances, such as internal audits, compliance units, and incentive-aligned decision-making structures, which enhance efficiency by minimizing unmonitored risk-taking.

2.2.4 Fraud Triangle Theory

The Fraud Triangle Theory was introduced by Cressey (1953) to explain the conditions that foster fraudulent behavior within organizations. The theory proposes that three interrelated elements, namely pressure, opportunity, and rationalization, must coexist for an individual to commit fraud. Pressure represents the motivation or incentive driving the act, such as financial stress, job insecurity, or performance demands. Opportunity occurs when weak internal controls, limited oversight, or gaps in accountability make it possible to perpetrate and conceal wrongdoing. Rationalization involves the process of self-justification, where individuals convince themselves that their unethical behavior is acceptable or necessary (Albrecht et al., 2015). Together, these elements form a conceptual model for understanding how personal and structural factors interact to produce fraud. Over the years, the theory has gained prominence in auditing, governance, and ethics, guiding the development of preventive strategies and risk management systems (Dorminey et al., 2012).

A major strength of the Fraud Triangle Theory lies in its practical usefulness in detecting, preventing, and interpreting fraudulent behavior across diverse institutional contexts. It offers a systematic approach for designing internal control mechanisms that address both procedural weaknesses and psychological motivations (Zahra et al., 2020). By linking individual behavior to organizational vulnerabilities, the theory has informed auditing standards, forensic investigations, and corporate governance reforms. Subsequent extensions, including the Fraud Diamond and Fraud Pentagon, have incorporated additional variables such as capability and arrogance to strengthen predictive accuracy (Lokanan, 2019). These developments have broadened the theory's application to dynamic environments characterized by complex control systems. Its

continued relevance demonstrates its ability to integrate behavioral and organizational perspectives in explaining the root causes of unethical conduct (Free, 2015).

Despite its strengths, the Fraud Triangle Theory has faced criticism for focusing too heavily on individual actions while overlooking institutional and cultural influences that contribute to fraud. It assumes that pressure, opportunity, and rationalization must always coexist, yet evidence shows that fraud can occur even when one element is absent or minimal (Morales et al., 2014). The model also does not fully consider the influence of leadership behavior, ethical tone, or organizational values in shaping employee decisions (Gbegi and Adebisi, 2021). In complex public sector settings, fraud may arise from collusion, ineffective supervision, or entrenched cultural norms that tolerate misconduct. Scholars therefore advocate for a broader perspective that integrates ethical, institutional, and behavioral insights to create stronger fraud deterrence frameworks (Rae and Subramaniam, 2008).

In the context of this study, the Fraud Triangle Theory provides a foundation for examining how organizational culture moderates the relationship between the internal control environment and operational efficiency among state regulatory agencies in Kenya. A positive culture that promotes transparency, accountability, and ethical conduct can reduce both opportunity and rationalization by discouraging misconduct and reinforcing adherence to procedures. Conversely, a weak culture that tolerates unethical practices can undermine internal control systems, allowing inefficiency and fraudulent activity to persist. Organizational culture therefore determines how control policies are interpreted and applied, influencing the extent to which they enhance efficiency. This theory underscores the importance of aligning internal control mechanisms with cultural values that encourage integrity and responsible behavior, ultimately strengthening operational performance and public trust within regulatory institutions.

2.3 Empirical Review

This section reviews past works by authors in relation to study variables while indicating the gaps to be filled by the current study.

2.3.1 Information Communication Technology and Operational Efficiency

Brynjolfsson and McAfee (2024) analyzed the impact of ICT investments on operational efficiency across 200 banks in the USA. The study adopted a mixed-method approach. The study findings indicated that companies allocating more than 15% of their annual operational budget to ICT tools such as enterprise resource planning systems and cloud-based solutions experienced a 25% improvement in operational efficiency. These improvements were evident in reduced transaction costs, faster decision-making, and seamless communication across departments. The study further found that real-time data analytics facilitated by ICT helped in optimizing resource use and aligning organizational strategies with market trends. Firms that adopted collaborative ICT platforms reported a 20% increase in internal productivity due to reduced duplication of tasks.

Additionally, automation of business processes minimized human error, thereby enhancing quality and service consistency. The study concluded that ICT is a critical driver of efficiency, especially when its integration is aligned with organizational goals and adequately supported by skilled personnel and change management initiatives.

Ismail and King (2018) conducted a quantitative study involving 150 small and medium enterprises (SMEs) to examine the relationship between ICT adoption and operational efficiency in Malaysia. Using regression analysis, the study revealed that firms that actively utilized digital tools such as automated inventory systems, point-of-sale technologies, and cloud-based financial management software achieved a 32% increase in operational efficiency. The efficiency gains

were mostly noted in improved transaction speed, reduction in manual errors, and enhanced customer service response times. Moreover, the integration of ICT was associated with better internal communication, which led to more informed decision-making and reduced administrative overheads. The study also identified that SMEs with a dedicated ICT support team experienced significantly higher returns on their technology investments. Notably, ICT adoption helped in enhancing the scalability of operations without necessarily increasing the number of employees.

Sharma and Singh (2020) explored the effect of ICT on operational efficiency in manufacturing firms in India. The study adopted a cross-sectional research design involving 120 companies. Using structural equation modeling (SEM), the study found that organizations integrating ICT systems such as supply chain management software, automated production planning tools, and digital procurement platforms recorded a 28% improvement in order fulfillment speed and a 20% reduction in operational costs. The adoption of ICT facilitated better coordination between departments, resulting in reduced bottlenecks and faster cycle times. Additionally, firms reported improved forecasting accuracy and inventory control, which significantly lowered wastage and overproduction. The use of real-time monitoring systems enhanced quality assurance processes and minimized downtime. The study emphasized that ICT adoption led to increased responsiveness to market changes and enhanced operational agility. However, the effectiveness of these technologies was found to depend heavily on the level of employee ICT competence and the availability of stable technological infrastructure within the firms.

Okoli and Mbachu (2019) studied the role of ICT in enhancing operational efficiency among commercial banks in Nigeria the study used a descriptive survey and targeted 180 bank

employees. The data, analyzed using SPSS, showed that the implementation of ICT tools like mobile banking platforms, core banking software, and automated teller machines led to a 35% reduction in service delivery time and a 22% increase in customer satisfaction. The use of ICT minimized manual documentation, improved record accuracy, and allowed for real-time access to customer data, which facilitated faster service and decision-making. Additionally, internal communication systems such as intranet portals and instant messaging platforms enhanced employee collaboration and information dissemination. The study also noted improvements in transaction processing speed and reduced queue times at service counters. ICT contributed to better monitoring and evaluation of branch performance, enabling timely strategic adjustments.

Mtebe and Raisamo (2020) assessed the contribution of ICT to operational efficiency in public service institutions in Tanzania. The study adopted a survey design and targeted 100 government employees. The study revealed that the introduction of ICT tools such as digital records management, electronic document tracking systems, and e-governance platforms led to a 30% reduction in service processing time and a 25% decline in bureaucratic delays. The study also revealed that ICT systems facilitated better interdepartmental coordination, allowing for quicker approvals and streamlined service delivery. Furthermore, automated scheduling and workflow management tools helped reduce redundancy in task execution. The study highlighted that ICT not only enhanced efficiency but also improved accountability and transparency in public institutions. However, it was also found that limited ICT infrastructure and insufficient training among staff were key challenges that needed to be addressed to maximize the benefits of ICT implementation in the public sector.

Kajuju, Gichohi, and Serede (2022) conducted a study in Kenya to assess the role of information and communication technology in the management of diplomatic records and its

effect on operational efficiency at the Ministry of Foreign Affairs. The researchers adopted a descriptive survey design and targeted 87 employees across various departments within the ministry. Data was collected using structured questionnaires and analyzed using descriptive statistics and regression analysis. The findings revealed that the implementation of ICT significantly enhanced operational efficiency by improving access to information, streamlining records creation and retrieval processes, and enabling secure data storage and sharing. The study found that ICT tools contributed to a 31% improvement in response time to inter-ministerial and diplomatic communication. However, it also highlighted persistent challenges, including limited ICT infrastructure, budget constraints, and inadequate training for staff handling digital records. The study concluded that with better investment in ICT tools and capacity building, state regulatory agencies could achieve more efficient and responsive operations.

Khaemba and Otieno (2021) evaluated how ICT influences operational performance among manufacturing firms in Nairobi County. Employing a descriptive design and surveying 120 employees, the study used regression analysis to establish that firms using ICT in inventory control, procurement, and internal communication reported a 33% increase in operational efficiency. The study showed that ICT systems contributed to an 18% reduction in procurement cycle time and a 22% improvement in demand forecasting accuracy. Employees noted that automated systems minimized human error and reduced paperwork, thereby enhancing the speed and quality of operations. In addition, ICT facilitated real-time updates across departments, improving decision-making processes and minimizing production delays. The research also found that businesses with dedicated ICT personnel and periodic training programs achieved more sustainable efficiency improvements. The study emphasized the need for increased

investment in ICT infrastructure and staff capacity development to maintain competitive advantage and optimize operational outcomes.

Chiro and Kyalo (2024) examined the effect of digital integration on the performance of the Information and Communication Technology Authority in Kenya, focusing on how various ICT components influence operational outcomes. Using a descriptive research design, the study targeted 94 ICT staff members and employed semi-structured questionnaires to collect data. The findings revealed that digital integration through tools such as data analytics, cloud-based information storage systems, and modern IT infrastructure had a strong positive correlation with improved performance metrics. Specifically, data analytics enabled quicker decision-making by reducing the time required to generate performance reports by 35%, while robust IT infrastructure enhanced system uptime and service reliability by 29%. The study also underscored the importance of top management support in successful ICT implementation, noting that agencies with proactive leadership recorded better alignment between technology and strategic goals. Despite the gains, the study acknowledged barriers like inadequate cybersecurity frameworks and limited ICT funding, which could hamper sustained efficiency improvements.

2.3.2 Risk Monitoring and Operational Efficiency

Richter and Schlegel (2021) assessed the role of risk monitoring systems in enhancing operational efficiency among medium-sized manufacturing firms in Germany. The study used a quantitative approach, employing structured questionnaires distributed to 170 risk managers. Data was analyzed using regression analysis to establish relationships between risk monitoring indicators and efficiency outcomes. Findings revealed that firms that adopted real-time risk dashboards and automated incident reporting mechanisms recorded a 29% increase in production stability and a 24% reduction in unexpected operational downtimes. Risk monitoring improved

communication between departments, allowing for faster identification and response to operational anomalies. Furthermore, companies that conducted weekly risk assessments experienced a 19% improvement in decision-making speed and greater adherence to operational timelines. The study concluded that structured risk monitoring practices are crucial for operational sustainability and emphasized the role of digital monitoring tools in achieving proactive risk management.

Silva and Tavares (2022) investigated the impact of enterprise-wide risk monitoring systems on operational efficiency within the public health sector in Brazil. The study employed a descriptive survey method involving 140 administrative officers across federal hospitals. Data was analyzed using SPSS to determine correlations between risk monitoring tools and key performance metrics. Results showed that hospitals utilizing centralized risk monitoring platforms experienced a 26% improvement in service delivery time and a 31% reduction in medical supply wastage. Continuous monitoring also helped in identifying compliance gaps early, leading to a 22% improvement in regulatory adherence. Moreover, the integration of ICT-based risk dashboards led to better coordination between procurement and clinical departments, significantly reducing delays in service provision. The study found that institutions with risk response protocols embedded in daily operations recorded fewer administrative bottlenecks.

Tan and Wong (2023) explored how automated risk monitoring systems affect the operational efficiency of logistics firms in Singapore. The study applied a mixed-method approach, incorporating structured interviews and survey questionnaires administered to 120 logistics managers. Quantitative analysis revealed that firms utilizing AI-powered risk detection software saw a 34% decrease in cargo handling errors and a 27% improvement in delivery timelines. Risk monitoring tools enhanced route optimization and inventory tracking, thereby

reducing operational bottlenecks and excess warehousing costs. Qualitative findings also showed that employees perceived risk monitoring as a tool for strategic decision-making, citing improved visibility across supply chains. Additionally, the adoption of predictive analytics allowed for faster identification of logistical risks such as delays or equipment failures. The study concluded that a robust risk monitoring framework significantly enhances efficiency, especially in dynamic sectors like logistics where operations depend on timely and accurate decision-making.

Boateng and Owusu (2020) examined the influence of risk monitoring practices on operational efficiency within the energy sector in Ghana. The researchers used a cross-sectional design, surveying 150 operational and compliance officers from three state-owned energy agencies. Data was analyzed through regression models to assess the impact of structured risk assessments and reporting systems. The results indicated that companies that routinely conducted risk reviews every month observed a 21% improvement in project completion timelines and a 17% reduction in resource wastage. The study also found that the implementation of risk alert systems led to quicker resolution of maintenance issues, improving overall equipment uptime by 25%. Furthermore, agencies with decentralized risk monitoring units recorded better interdepartmental collaboration, which contributed to streamlined decision-making. The study concluded that risk monitoring not only prevents disruptions but also enhances the predictability of operations.

Bokello, Muhammad, and Enock (2024) investigated the effect of risk assessment on public financial management in selected local governments in Uganda. The study employed a cross-sectional descriptive survey design, targeting 280 staff members across different departments within eight local government districts in Northern Uganda. Data were gathered

using structured questionnaires and analyzed to determine how risk identification, analysis, and response influence financial management functions. The findings showed that risk assessment had a significant positive effect on budgeting, revenue collection, expenditure control, and financial reporting. Specifically, local governments that actively conducted risk assessments were able to anticipate financial risks more effectively and apply mitigation strategies that resulted in enhanced financial transparency and accountability. The study emphasized the need to strengthen institutional frameworks for risk management and recommended building capacity among local government officials through regular training in risk assessment practices. The results supported the conclusion that structured risk monitoring contributes meaningfully to improved operational and financial efficiency in public sector institutions.

Otieno, Ogutu, Ndemo, and Pokhariyal (2020) examined the influence of enterprise risk management (ERM) on organizational performance among Kenyan state-owned corporations. Using a cross-sectional survey design, data were collected from 92 state corporations through structured questionnaires. The study aimed to assess whether ERM, as a strategic management tool introduced in public organizations during government reforms in 2009, had a tangible effect on improving organizational performance. Descriptive and inferential statistical analyses were conducted to determine the relationship between ERM practices and organizational outcomes. The findings indicated that ERM had a statistically significant positive effect on organizational performance, affirming the relevance of risk monitoring in public sector efficiency. Specifically, organizations that effectively implemented ERM experienced improvements in meeting their strategic goals, managing operational risks, and sustaining service delivery. The study advanced the contingency theory by validating its application in the public sector context, emphasizing that aligning risk practices with organizational environments leads to better performance.

Mutua and Kimani (2022) assessed the effect of risk monitoring mechanisms on operational efficiency within commercial banks in Kenya. The researchers applied a descriptive survey design targeting 95 risk managers from Tier I and Tier II banks. Data was collected using questionnaires and analyzed through descriptive statistics and regression modeling. Results showed that banks with centralized risk monitoring systems reported a 31% improvement in internal control efficiency and a 28% reduction in fraud-related operational losses. Risk dashboards enabled timely alerts on transactional anomalies, enhancing decision-making speed. Moreover, integration of monitoring systems with performance management tools facilitated improved resource allocation and accountability. The study found that banks conducting weekly risk reviews were more agile in responding to both market and operational risks. The authors emphasized that risk monitoring plays a significant role in safeguarding operational continuity, especially in the highly regulated financial sector.

Mburu (2024) investigated the impact of risk assessment on securing consignment journey management in Kenya, focusing on logistics firms. The study adopted a descriptive research design and targeted a population of 1,500 registered logistics firms as recorded by the Kenya National Bureau of Statistics. A representative sample of 200 logistics professionals was selected using a 95% confidence level and a 5% margin of error. Structured questionnaires were used for data collection, and the responses were analyzed using both descriptive and inferential statistics through SPSS. The study found a significant positive correlation between systematic risk assessments and operational efficiency, specifically a correlation coefficient of $r = 0.67$ at a significance level of $p < 0.01$. The study revealed that risks such as theft, road accidents, and corruption considerably affected delivery processes. Firms that implemented structured risk assessment procedures reported fewer theft incidents and reduced delays in deliveries. The

findings concluded that effective risk monitoring mechanisms significantly enhance the security and efficiency of consignment journeys in Kenya.

2.3.3 Risk Assessment and Operational Efficiency

Amran, Malek, Ismail, and Nor (2024) conducted a Comparison Study of Risk-based Auditing in Four Developed Countries, which aimed to identify and compare the best practices of the risk-based audit (RBA) approach used in Canada, Denmark, Australia, and the United Kingdom. The study employed a thorough literature review methodology, examining secondary data from various sources. The findings revealed that all four countries, except Denmark, used the ISO 31000:2018 framework as a guidance tool in their RBA practices. The research highlighted that the RBA approach in these countries followed comparable risk determination, assessment, and control techniques. The study also noted that the risk governance structure adopted by these countries was based on the Three Lines of Defence concept. The authors concluded that internal auditors in these countries could enhance auditing procedures to improve public sector delivery systems' effectiveness. This research underscores the importance of adopting structured risk-based auditing practices to improve the operational efficiency of public sector organizations.

Altuntas, Berry-Stölzle, and Cummins (2021) investigated Enterprise risk management and economies of scale and scope: evidence from the German insurance industry. Using a quantitative approach, the study involved administering structured questionnaires to 170 risk managers and analyzed the data through regression techniques. The findings revealed that companies employing real-time risk dashboards and automated reporting mechanisms observed a 29% improvement in production stability and a 24% reduction in unexpected operational downtimes. Furthermore, risk monitoring practices improved communication between departments, enabling quicker identification and response to operational issues. Companies that

conducted regular risk assessments reported a 19% improvement in decision-making speed and a stronger adherence to operational timelines. The study concluded that adopting proactive risk monitoring and digital monitoring tools was crucial for sustaining operational efficiency and mitigating potential risks. This research underscores the importance of real-time monitoring in enhancing operational efficiency within organizations, particularly in sectors like insurance, where risk management is critical for business continuity.

Fadun and Oye (2020) explored Impacts of operational risk management on financial performance: a case of commercial banks in Nigeria. The study used secondary data from audited financial statements of selected commercial banks in Nigeria, covering a 10-year period from 2008 to 2017. Data was analyzed using the Linear Multiple Regression Model. The study found a positive relationship between operational risk management practices and the financial performance of banks. Specifically, sound operational risk management practices contributed positively to the banks' financial performance by reducing losses arising from operational failures. This result emphasized that effective risk management strategies not only enhance financial stability but also improve the overall operational efficiency of banks. Furthermore, the findings revealed that operational risk management practices provided a buffer against unexpected financial shocks, leading to more predictable outcomes. The study concluded that the implementation of robust operational risk management frameworks is crucial for maintaining the financial health of commercial banks, as it reduces operational losses and supports better financial performance.

Amoah and Pretorius (2020) evaluated the impact of risk assessment on project performance in small construction firms in South Africa. The study focused on a case study of a single construction company to assess how risk management processes influenced project

deliverables. Data were collected through structured questionnaires administered to 16 project execution staff, interviews with two managing directors, and observations from 11 project site meetings. Additionally, 15 monthly project reports and close-out reports were reviewed, alongside a sample of 105 completed projects. These included renovation, new construction, and civil/structural works. The data were analyzed using Excel analytical tools and content analysis. The study found that small construction firms, particularly the case study company, lacked formalized risk management processes. Despite this, several projects still met performance indicators, suggesting that risk management was not always directly tied to project success. The study identified issues like payment delays, labor disputes, and subcontractor-related problems as major causes of project failures, highlighting the gaps in risk management practices in small construction firms.

Mugwaneza (2024) examined the effect of risk management practices on organizational performance at Prime Insurance Ltd, Rwanda. The research aimed to explore how different risk management practices such as risk identification, assessment, mitigation, and monitoring affect the organizational performance of the company. The study used an explanatory research design to understand the relationship between risk management and organizational performance. The study surveyed 82 participants from Prime Insurance's headquarters in Kigali, using a census approach due to the small population size. Both primary and secondary data were collected, with secondary data drawn from relevant academic sources and primary data obtained via questionnaires. The reliability of the data was confirmed through test-retest reliability and correlation analysis. The findings revealed significant positive relationships between all four risk management practices (identification, assessment, mitigation, and monitoring) and organizational performance, with regression values of 0.3825, 0.3642, 0.5542, and R^2 of 79.2%,

respectively, all with p-values less than 0.05. These results suggest that effective risk management practices substantially improve organizational performance at Prime Insurance Ltd.

Samson, Oseno, and Nanyama (2024) investigated the effect of risk assessment and management on the operational performance of the Kenya Revenue Authority (KRA). The study aimed to analyze how effective risk assessment and management influence KRA's ability to optimize internal controls, reduce revenue mobilization costs, and address negative variances in revenue targets. A causal research design was employed to establish a cause-and-effect relationship between risk management and operational performance. The study targeted 253 employees, including finance, audit, and investigation personnel, with a sample size of 155 respondents. The data revealed a significant relationship between risk assessment and management and the operational performance of KRA. Specifically, the study found that while risk management had a positive impact on certain operational aspects, the relationship was negative concerning fundamental risk factors. These findings suggest that while risk management contributes to operational performance, managing certain basic risk elements may pose challenges that hinder optimal performance.

Kariuki (2023) explored the effect of operational risk management practices on the performance of Kenya Revenue Authority (KRA) in tax revenue collection. The study aimed to assess how various risk management practices impact KRA's efficiency in national revenue collection, with the intention of benefiting both policymakers and academics. The study focused on KRA employees over a period from 2018 to 2022 and was grounded in four theories: Neo-institutional theory, stakeholder theory, contingency theory, and agency theory. A descriptive research design was used, and the study sampled 294 divisional representatives from a population of 3906 KRA employees, employing stratified, purposive, and judgmental sampling

methods. A survey questionnaire was distributed using a drop-and-pick method to ensure a high response rate. Data were analyzed in two stages: first, a confirmatory factor analysis, followed by structural regression equation modeling using the lavaan programming language in R. The study found that risk analysis and identification had a significant positive effect on KRA's performance, while risk control and evaluation had positive but insignificant effects. The study concluded with policy recommendations emphasizing the need for harmonizing risk analysis and identification practices to enhance revenue collection efficiency.

2.3.4 Organizational culture and Operational Efficiency

Organizational culture refers to the system of shared assumptions, values, and beliefs that govern how individuals behave within institutions. It significantly shapes how internal policies and procedures are understood and implemented, ultimately influencing organizational behavior and performance (Alam et al., 2021). A culture that promotes integrity, transparency, and accountability enhances the likelihood of employees adhering to internal control systems, thereby improving operational efficiency (Schein & Schein, 2021). Conversely, in environments where the culture tolerates non-compliance, political interference, or weak enforcement, internal controls are often rendered ineffective, regardless of their design or intent

When a performance-oriented culture exists, internal control mechanisms such as information communication technology, risk monitoring, and risk assessment are more likely to be implemented effectively and yield positive outcomes (Mutinda, & Mwikali, 2023). For instance, a strong culture that fosters ethical behavior and accountability can amplify the benefits of risk management systems, ensuring that policies are not only in place but also actively followed (Cameron & Quinn, 2022). This interaction demonstrates that organizational culture

does not merely support internal controls but also determines how effectively they are translated into operational gains.

Integrating organizational culture as a moderating variable provides a richer understanding of the institutional dynamics that affect internal control outcomes. Structural reforms alone, such as automation or control standardization, are often insufficient without a supportive cultural environment that reinforces their execution (Bokello, Muhammad & Enock, 2024). Studies have shown that cultural resistance can significantly delay or derail reform efforts, while a culture of continuous improvement and ethical commitment enhances both compliance and efficiency (Ogbonna & Harris, 2022). Therefore, examining organizational culture offers important insights into the conditions that enable internal control frameworks to function optimally and deliver sustained improvements in public sector performance.

2.4 Summary and Research Gaps

On ICT, while previous studies such as those by Kajuju, Gichohi, and Serede (2022) and Chiro and Kyalo (2024) have focused on ministries and ICT authorities, limited attention has been given to broader state regulatory bodies, whose mandates and operational structures differ significantly. Moreover, most studies emphasize general performance outcomes or sector-specific improvements, overlooking core indicators of operational efficiency such as turnaround time, resource utilization, inter-departmental coordination, and error minimization as a result of ICT adoption. The current study seeks to bridge this knowledge gap by offering focused, data-driven insights tailored to the regulatory context in Kenya.

On risk monitoring studies, such as Richter and Schlegel (2021), Silva and Tavares (2022), and Tan and Wong (2023), have explored the impact of risk monitoring on operational efficiency in sectors like manufacturing, healthcare, logistics, and energy, a significant gap

remains in understanding how risk monitoring influences operational efficiency in state regulatory agencies, particularly in Kenya. Although studies by Otieno *et al.*, (2020) and Bokello, Muhammad, and Enock (2024) discuss risk management within state-owned corporations and local governments, they do not address the specific role of risk monitoring in regulatory agencies tasked with governance and policy enforcement. Furthermore, while research has demonstrated the positive effects of risk monitoring on operational outcomes in various sectors, such as reduced downtimes, improved service delivery, and better decision-making, these findings have not been directly applied to the public sector regulatory context. Therefore, the proposed study aims to fill these contextual and empirical gaps by examining how risk monitoring practices in state regulatory agencies in Kenya enhance operational efficiency, governance, and compliance enforcement.

Whereas studies have been done risk assessment in different set ups and how it influences success in businesses, studies such as Amran *et al.*, (2024) and Altuntas *et al.*, (2021) focused on developed countries and large organizations, leaving a gap in understanding how risk-based auditing and risk assessment practices apply in developing countries such as Kenya. Secondly, while studies like those by Fadun and Oye (2020) and Mugwaneza (2024) demonstrate a positive relationship between risk assessment and performance, they largely rely on secondary data, which may limit the generalizability and objectivity of findings unlike the current study which collected primary data. Moreover, research by Amoah and Pretorius (2020) reveals that even in the absence of formal risk management structures, project success can be achieved, suggesting the need for further exploration into contextual and informal risk-handling mechanisms. Additionally, Kariuki (2023) and Samson *et al.*, (2024) present mixed results on the effectiveness

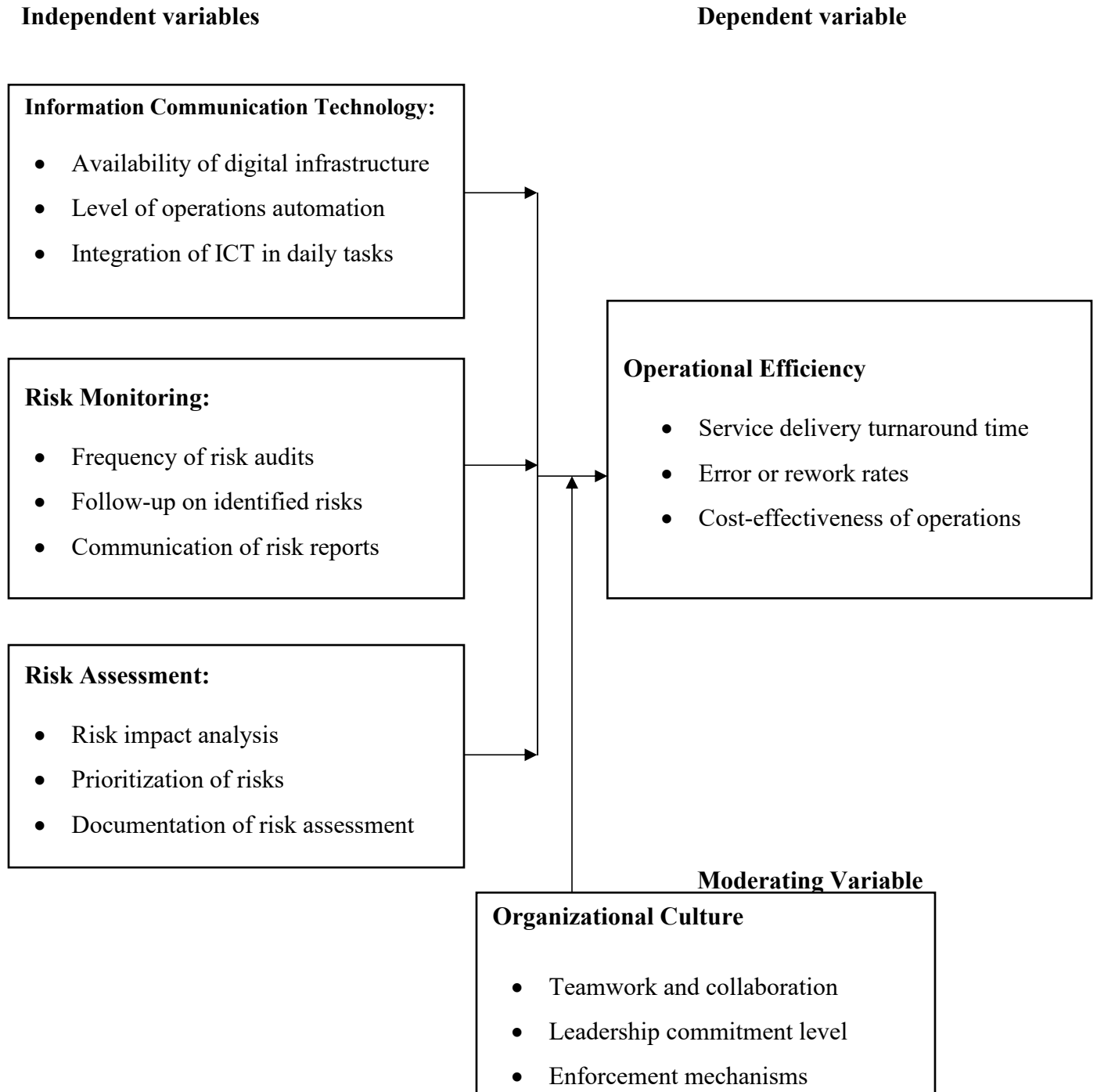
of different risk components, indicating a lack of consensus on which risk practices most significantly influence performance.

2.5 Conceptual Framework

A conceptual framework illustrates the presumed relationships among variables in a study, serving as a visual representation that guides the research process (Kothari, 2014). In this context, the independent variables are information communication technology, risk monitoring, and risk assessment while the dependent variable is operational efficiency of state regulatory agencies. The interaction of these independent and the dependent variables were moderated by organizational culture.

FIGURE 1

Conceptual Framework



Source (Researcher, 2025)

2.5.1 Variable Operationalization Matrix

TABLE 1

Operationalization Matrix

Variable Type	Variable	Indicators	Measurement/Scale
Independent Variable	Information	- Availability of digital infrastructure	Interval
	Communication	- Level of operations automation	
	Technology	- Integration of ICT in daily tasks	
Independent Variable	Risk	- Frequency of risk audits	Interval
	Monitoring	- Follow-up on identified risks	
		- Communication of risk reports	
Independent Variable	Risk	- Risk impact analysis	Interval
	Assessment	- Prioritization of risks	
		- Documentation of risk assessment	
Moderating Variable	Organizational culture	- Teamwork and collaboration	Interval
		- Leadership commitment level	
		- Enforcement mechanisms	
Dependent Variable	Operational Efficiency	- Service delivery turnaround time	Interval
		- Error or rework rates	
		- Cost-effectiveness of operations	

CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Introduction

This chapter explains in details the design, followed by a discussion on the population of interest, sampling and determination of sample size, the data instrument employed to obtain data as well as the procedure and finally the chosen method of analysis.

3.2 Research Design

A research design refers to the overall plan or framework that guides the collection, measurement, and analysis of data to address research objectives and test hypotheses (Creswell & Creswell, 2018). This study adopted an explanatory research design to examine the causal relationships between the internal control environment and operational efficiency among state regulatory agencies in Kenya. The design was appropriate because it focuses on identifying how independent variables such as information communication technology, risk monitoring, and risk assessment influence the dependent variable, operational efficiency (Hair et al., 2021). It also allows the testing of the moderating role of organizational culture to determine how it affects the strength and direction of these relationships. Explanatory research design emphasizes the establishment of cause and effect linkages among variables, facilitating empirical testing of theoretical propositions using quantitative data and inferential statistics. This design aligns with the positivist research paradigm, which seeks objective and measurable evidence to explain relationships and generate policy-relevant insights (Saunders et al., 2019).

3.3 Target Population

Target population refers to the complete set of individuals, groups, or items that share specific characteristics and are of interest to a researcher. According to Creswell (2014), the target population is the entire group to which the researcher intends to generalize the findings of the

study. It is essential to clearly define the target population in order to make meaningful conclusions from the sample selected for the study. Similarly, Sekaran and Bougie (2016) define target population as the specific group of individuals from which a researcher intends to collect data and make inferences. A well-defined target population helps in ensuring that the sample selected accurately represents the broader group, enhancing the study's generalizability and relevance. In this study, the target population was all state regulatory agencies in Kenya. Data available from the public service board, these state regulatory agencies/Authorities are 123 operating in different ministries and sectors of the economy as shown in Appendix (i). All these were targeted to provide the required data for analysis. From these agencies, all heads of audit sections were targeted to provide data for the study.

3.4 Sampling and Sampling Design

Sampling refers to the process of selecting a subset of individuals, groups, or items from the target population to participate in a study, allowing the researcher to make inferences about the entire population (Creswell, 2014). A sampling design is the strategy or plan used to select the sample, ensuring that it is representative of the population and that the study findings are generalizable (Sekaran & Bougie, 2016). In this study, a census sampling technique was employed, given that the target population of state regulatory agencies in Kenya was relatively small and accessible. All 123 state regulatory agencies were included in the study to ensure comprehensive coverage and to minimize sampling error. Within these agencies, the heads of audit sections were purposively selected as respondents, as they possess the requisite knowledge and experience to provide accurate and relevant data on the internal control environment and operational efficiency. This approach ensured that the data collected were both reliable and representative of the population under study.

3.5 Data Collection Instruments

The primary data for this study were collected using a questionnaire, which is a structured research instrument consisting of a series of questions designed to elicit specific information from respondents (Creswell, 2014). The questionnaire was chosen since it allowed the researcher to reach a large number of respondents across multiple state regulatory agencies efficiently, ensuring comprehensive coverage without requiring extensive travel or face-to-face interactions. Second, it provided respondents the flexibility to complete the questions at their convenience, minimizing disruption to their daily work schedules and increasing the likelihood of accurate and thoughtful responses. Third, the standardized format of the questionnaire facilitated the systematic collection of comparable data, which enhanced consistency and reliability in the analysis. The questionnaire assisted in this study by providing direct insights from heads of audit sections, who are knowledgeable about internal control practices and operational efficiency within their agencies. It enabled the collection of structured quantitative data, which could be analyzed to examine patterns, relationships, and trends relevant to the study objectives.

3.5.1 Reliability of Research Instruments

The questionnaire was roughly scrutinized with the aim of establishing its collective reliability by analyzing the internal consistency. It was evaluated by the use of the Cronbach alpha. Internal consistency analyses the relationships that exist between various questions on the same test. Further, measures whether the different questions which hypothesize to measure a common factor and give the same results. According to Castillo (2009), the Cronbach alpha offers the thumb rules as follows; Excellent is >0.9 , Good is >0.8 , Acceptable is >0.7 , Questionable is >0.6 , Poor is >0.5 and <0.5 is Unacceptable. The cut point for determinant value of the reliability of the study was be 0.7.

3.5.2 Validity of Research Instruments

According to Cooper and Schindler (2012), the study instrument must be precise on what the research is aimed at measuring. Therefore the test is taken through a process of measuring the validity in order to assess the level to which the tool measures what the researcher wishes to study. The study employed different tactics in the validation of the content and layout of the instrument (Kothari, 2014). Validity in this study was conducted through peer validation, supervisors review and finally a pilot study. A total of 10 questionnaires were presented to state agencies employees who were not be part of the final data collection.

3.6 Data Collection Procedure

To facilitate data collection, the researcher first obtained an introduction letter from the School of Business at KCA University and clearance from the National Commission for Science, Technology, and Innovation (NACOSTI). These authorizations were presented to the management of each state regulatory agency to secure permission for the study and establish credibility, ensuring full cooperation from the respondents. Data were collected using a combination of physical and online questionnaires. Physical questionnaires were administered through a drop-and-pick method, allowing respondents adequate time to complete them at their convenience while minimizing disruption to their work schedules. Online questionnaires were shared via email to reach respondents in remote locations or those preferring digital submission. This dual approach increased accessibility, enhanced the response rate, and allowed the researcher to clarify any questions where necessary, thereby improving the accuracy, completeness, and reliability of the data collected for analysis.

3.7 Data Analysis and Presentation

According to Neuman (2010) data analysis encompasses examining, refining, altering, and modeling data to reveal significant insights, patterns, and trends. This process utilizes diverse statistical and computational methods to interpret data, derive conclusions, and facilitate informed decision-making. In this study, a mixture of descriptive qualitative and quantitative statistics was utilized to analyze the collected data, facilitating rapid comprehension and interpretation by readers. Prior to analysis, all questionnaires were inspected to ensure consistency, completeness, and accuracy. Subsequently, the research data was coded using SPSS to facilitate clustering of responses into various categories for analysis using descriptive statistics. The findings were presented using frequency tables and pie charts to enhance clarity and understanding with calculated mean and standard deviations from the responses for each question was determined. Additionally, a linear regression was performed to evaluate the relationship between the independent and the dependent variable. The equation was as follows:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \varepsilon \dots\dots\dots(\text{equation i})$$

Whereby the variables were identified as follows:

A second model with the moderating variable was formulated as below:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 M + \beta_5 M * X_1 + \beta_6 M * X_2 + \beta_7 M * X_3 + \varepsilon \dots\dots\dots(\text{equation ii})$$

The moderator is factored in as an interaction effect.

Where;

Y = Operational Efficiency

X₁ = Information Communication Technology

X₂ = Risk Monitoring

X₃ = Risk Assessment

M = Organizational culture

While β_1 , β_2 , and β_3 were coefficients of determination, β_0 was the constant term and ε was the error term.

$M * X_1$ = ICT * Organizational culture (interaction term)

$M * X_2$ = Risk Monitoring * Organizational culture (interaction term)

$M * X_3$ = Risk Assessment * Organizational culture (interaction term)

3.7 Diagnostic Tests

3.7.1 Normality test

In the regression analysis, it was assumed that the dataset follows a normal distribution (Henry, 2002). To verify this assumption, the study conducted a test to assess the normality of the study variables. One of the primary tests to be used is the Shapiro–Wilk test. A normality test in statistics evaluates how well the collected data aligns with a normal distribution based on the scale used during data collection. This process is essential in determining the most appropriate analytical model for the study. In this research, the suitability of applying a normal distribution model was assessed, and if the data exhibits skewness (either to the left or right) necessary adjustments were made accordingly

3.7.2 Homoscedasticity Test

According to Rucker et al. (2011), homoscedasticity refers to a condition in linear regression where the variance of the error terms remains constant across all levels of the predictor and outcome variables. The Homoscedasticity Test was done using a scatterplot of standardized residuals plotted against standardized predicted values to evaluate whether the variance of the residuals remained constant across the regression model. In this diagnostic approach, the

scatterplot provides a visual assessment of the assumption of homoscedasticity, which is essential for ensuring the validity of regression analysis.

3.7.3 Multicollinearity

Multicollinearity refers to a situation in multiple regression analysis where predictor variables are highly interrelated, which can interfere with the ability to assess the individual effect of each variable on the dependent variable (Paul, 2006). As noted by Kothari (2014), it represents the degree of association between two or more independent variables within a regression model. High multicollinearity complicates the interpretation of regression coefficients. Cooper and Schindler (2012) suggest that when the Variance Inflation Factor (VIF) is below 5, multicollinearity is not considered problematic. In this study, Pearson correlation analysis was used to assess the strength of relationships between the variables. Where multicollinearity is detected and the VIF values are found to be less than 5, the variables were regarded as suitable for inclusion in the model.

3.8 Ethical Considerations

This study upheld high ethical standards throughout its planning, execution, and reporting processes. First and foremost, informed consent was obtained from all participants prior to data collection. The researcher ensured that participants understand the purpose, procedures, potential risks, and benefits of the study before they agree to participate voluntarily. A consent form accompanied the questionnaire, clearly outlining the respondents' right to withdraw at any point without any consequences.

Additionally, confidentiality and anonymity were strictly maintained. Respondents were not required to disclose their names or any identifying information, and the responses were treated with strict confidentiality. The data collected was used solely for academic purposes and

stored securely to prevent unauthorized access. Any published results were presented in aggregate form to avoid identification of individual participants.

The study also sought clearance from the relevant ethics review board at KCA University and obtain official authorization from the NACOSTI. These were presented to the participants to secure approval to access respondents and administer the research instruments. Finally, the research adhered to principles of academic integrity, ensuring that all sources used are properly cited, and that the findings are reported honestly without fabrication, falsification, or misrepresentation of data.

CHAPTER FOUR: RESULTS AND DISCUSSION

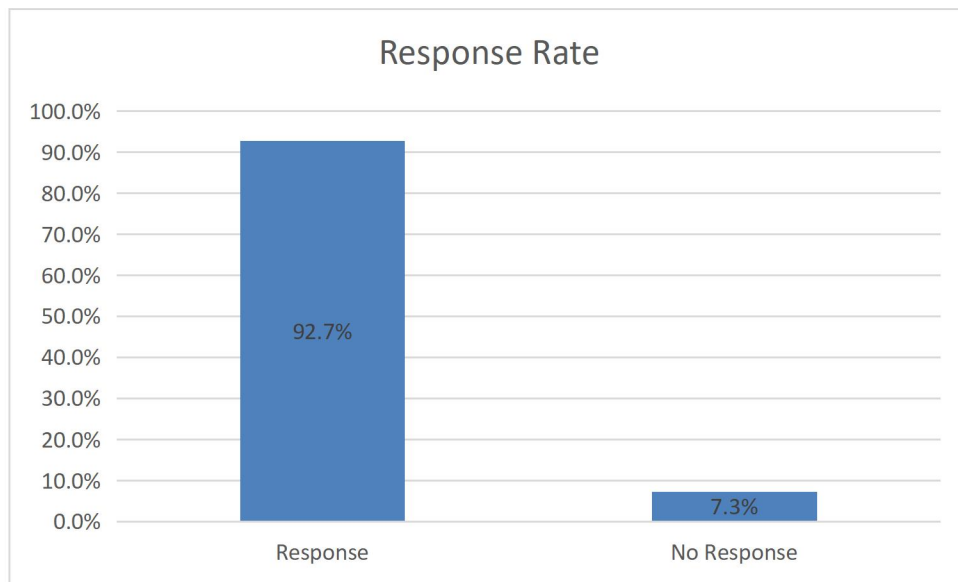
4.1 Introduction

This chapter presents the results of the analysed data obtained from the research participants in line with the study objectives. The data presented was on the demographic information, the descriptive and inferential analysis.

4.2 Response Rate

The research distributed a total of 123 questionnaires to heads of audit sections in all state regulatory agencies in Kenya. The respondents were allowed a total of 4 working days to fill and return the questionnaires. After the allowed period, the researcher collected back 114 filled questionnaires. This is shown in figure 2.

FIGURE 2
Response Rate



Source, (Research Data, 2025)

From Figure 1, the response rate was 92.7%, representing 114 returned questionnaires out of the 123 distributed to heads of audit sections in state regulatory agencies Kenya. Only 9

questionnaires, translating to 7.3%, were not returned within the four working days provided. This high response rate implies that the study achieved substantial cooperation from the targeted respondents, thereby ensuring that the data collected is both valid and representative of the population under investigation. According to Mugenda and Mugenda (2013) a response rate above 70% is considered adequate in scientific research and therefore, the response rate in this study is excellent and enhances the reliability and credibility of subsequent findings.

4.3 Demographic Analysis

The participants were requested to provide responses on a set of questions regarding their general work issues ranging from gender, education levels and work experience. The responses are shown in table 2 below.

TABLE 2

Question	Options	Response (%)
Please indicate your gender	Male	75.4
	Female	24.6
Please specify your age bracket	18–25 years	
	26–35 years	20.2
	36–45 years	32.5
	46–55 years	43.0
	56 years and above	4.4
How many years have you worked in this agency?	Less than 1 year	1.8
	1–5 years	12.3
	6–10 years	23.7
	More than 10 years	62.3
Educational Qualification (highest level completed)	Bachelor’s Degree	5.3
	Master’s Degree	74.6
	PhD Holder	20.2

Demographic Analysis

Source, (Research Data, 2025)

From Table 2, the demographic characteristics of the respondents reveal insightful patterns. In terms of gender, the results indicate that 75.4% of the respondents were male while

24.6% were female. This suggests that audit leadership positions in state regulatory agencies within Kenya are still male-dominated, though female representation is notable at nearly a quarter of the sample.

Regarding age distribution, the majority of respondents fell within the 46–55 years bracket (43.0%), followed by 36–45 years (32.5%) and 26–35 years (20.2%), while only 4.4% were aged 56 years and above. Interestingly, no respondents were within the 18–25 years category, reflecting the professional experience required for senior audit roles. This age distribution shows that most audit section heads are in their mid to late careers, aligning with the expectation of accumulated expertise for such positions.

Work experience within the agencies further supports this finding. A significant 62.3% had worked for more than 10 years, while 23.7% had served between 6–10 years, and 12.3% between 1–5 years. Only 1.8% had less than one year of experience. This indicates a workforce with considerable institutional knowledge and continuity, which may contribute positively to organizational memory and stability in regulatory oversight. In terms of academic qualifications, the majority of respondents held Master's Degrees (74.6%), followed by PhDs (20.2%) and a small proportion with Bachelor's Degrees (5.3%). This demonstrates that heads of audit sections in regulatory agencies are highly educated, with nearly all having postgraduate qualifications. Such high academic achievement suggests strong technical competence and a solid foundation for handling the complex responsibilities associated with auditing in the public sector.

4.4 Descriptive analysis

4.4.1 Information Communication Technology and Operational Efficiency

The respondents were presented with statements based on a five-point Likert scale to provide their level of agreement or disagreement on ICT and how it affects operational efficiency in state regulatory agencies in Kenya. The findings were presented in table 3.

TABLE 3

Information Communication Technology and Operational Efficiency

Question	N	Mean	SD
ICT systems have streamlined operational processes in our agency.	114	3.5965	.86954
The use of ICT has reduced the time required to complete tasks.	114	4.1140	.67521
ICT tools have enhanced communication within and between departments.	114	4.2982	.62301
The agency has invested adequately in modern ICT infrastructure.	114	3.9825	.77554
ICT training provided to staff enhances service delivery.	114	4.1579	.65956
System automation has reduced human error in operations.	114	3.7105	.82787

Source, (Research Data, 2025)

Information Communication Technology (ICT) plays a pivotal role in enhancing operational efficiency across modern organizations. Its integration into organizational processes is widely recognized for improving communication, reducing delays, and supporting data-driven decision-making. Based on the responses collected using a five-point Likert scale, the findings reveal generally positive perceptions regarding the impact of ICT on operational performance.

The highest mean recorded was 4.2982, while the lowest was 3.5965, indicating strong agreement in some areas and moderate support in others. A majority of respondents agreed that ICT tools have significantly enhanced communication within and between departments ($\mu = 4.2982$; $SD = 0.62301$), emphasizing the role of digital platforms in fostering collaboration and information sharing. Similarly, ICT training was rated highly for its contribution to improved service delivery ($\mu = 4.1579$; $SD = 0.65956$), suggesting that capacity building is a critical component of digital transformation. In addition, the use of ICT to reduce the time required to complete tasks was also viewed favorably ($\mu = 4.1140$; $SD = 0.67521$), pointing to notable efficiency gains from process automation.

Further, respondents expressed confidence in the level of investment in modern ICT infrastructure within their organizations ($\mu = 3.9825$; $SD = 0.77554$), though this area received slightly lower ratings compared to others, indicating possible disparities in implementation. The impact of system automation in reducing human error was moderately rated ($\mu = 3.7105$; $SD = 0.82787$), implying that while some benefits are evident, there may still be room for improvement in system integration or user engagement. The lowest mean score was recorded for the perception that ICT systems have streamlined operational processes ($\mu = 3.5965$; $SD = 0.86954$), suggesting that although ICT is seen as beneficial overall, its ability to fully optimize workflows may not be consistently experienced.

4.4.2 Risk Monitoring and Operational Efficiency

The respondents were presented with statements based on a five-point Likert scale to provide their level of agreement or disagreement on risk monitoring and how it affects operational efficiency in state regulatory agencies in Kenya. The findings were presented in table 4.

TABLE 4
Risk Monitoring and Operational Efficiency

Question	N	Mean	SD
The agency conducts regular risk assessments and reviews.	114	3.0965	.83050
There is a structured system in place for monitoring operational risks.	114	3.9825	.65151
Risk reports are used to make strategic decisions.	114	4.1842	.63198
Risk indicators are well defined and monitored consistently.	114	4.0877	.65933
The agency has dedicated staff for risk monitoring functions.	114	1.9211	.65371
Risk monitoring has helped reduce operational disruptions.	114	3.9825	.69106

Source, (Research Data, 2025)

Risk monitoring is a critical function that enhances organizational efficiency by identifying, assessing, and managing potential disruptions. The analysis of responses based on mean and standard deviation reveals varied perceptions among the respondents on how risk monitoring is practiced and its effect on efficiency. The findings demonstrate significant strengths in some areas, alongside notable weaknesses requiring attention. Notably, the highest mean recorded was 4.1842, while the lowest mean was 1.9211, reflecting wide variations in the implementation of risk monitoring practices.

From the results, the majority of respondents agreed that risk reports are utilized in making strategic decisions ($\mu = 4.1842$; $SD = 0.63198$). This indicates that information generated from risk monitoring is being applied effectively to guide organizational choices and policies, enhancing efficiency. Similarly, risk indicators were perceived to be well defined and consistently monitored ($\mu = 4.0877$; $SD = 0.65933$), showing structured practices that support effective oversight of potential risks. In addition, many respondents agreed that there is a structured system in place for monitoring operational risks ($\mu = 3.9825$; $SD = 0.65151$) and that

risk monitoring has contributed to reducing operational disruptions ($\mu = 3.9825$; $SD = 0.69106$). These results highlight the positive impact of risk monitoring mechanisms on operational stability.

Conversely, regular risk assessments and reviews were rated moderately, with a mean of 3.0965 and a standard deviation of 0.83050. This suggests that while assessments are conducted, they may not be as frequent or comprehensive as needed to ensure full preparedness. The lowest mean score was observed in the area of dedicated staff for risk monitoring ($\mu = 1.9211$; $SD = 0.65371$). This finding indicates a significant gap, implying that most organizations may lack specialized personnel responsible for this critical function. Without dedicated staff, risk monitoring practices are likely to be inconsistent or inadequate, which can undermine the sustainability of operational efficiency.

4.4.3 Risk Assessment and Operational Efficiency

The respondents were presented with statements based on a five-point Likert scale to provide their level of agreement or disagreement on risk monitoring and how it affects operational efficiency in state regulatory agencies in Kenya. The findings were presented in table 5.

TABLE 5
Risk Assessment and Operational Efficiency

Question	N	Mean	SD
Risk assessment is embedded in all key operational processes.	114	4.0965	.66478
Risk assessment results are used to inform management decisions.	114	3.9561	.67036
Risk assessment tools used are effective and reliable.	114	2.2895	.97512
The agency performs risk assessments periodically.	114	4.1053	.69599
Operational risks are documented and prioritized during assessment.	114	3.0614	.85482
Staff are trained on how to carry out proper risk assessments.	114	4.0702	.72526

Source, (Research Data, 2025)

Risk assessment serves as a vital mechanism for identifying and managing potential threats that may hinder operational efficiency. The analysis of responses based on mean and standard deviation highlights varying levels of implementation across different aspects of risk assessment. The findings reveal strong performance in several areas, while notable gaps persist in others. The highest mean recorded was 4.1053, whereas the lowest was 2.2895, indicating disparities in how risk assessment practices are perceived and applied.

From the results, the majority of respondents agreed that risk assessments are performed periodically ($\mu = 4.1053$; $SD = 0.69599$), reflecting consistency in applying this critical process. Similarly, embedding risk assessment into key operational processes ($\mu = 4.0965$; $SD = 0.66478$) and providing training for staff on how to conduct proper risk assessments ($\mu = 4.0702$; $SD = 0.72526$) were highly rated. These findings indicate that both integration and capacity-building

are prioritized, thereby strengthening operational efficiency. Additionally, a significant number of respondents affirmed that risk assessment results are used to inform management decisions ($\mu = 3.9561$; $SD = 0.67036$), showing that assessment outcomes contribute meaningfully to organizational decision-making.

Equally, the results show weaknesses in certain areas. Operational risks being documented and prioritized during assessment received only a moderate rating ($\mu = 3.0614$; $SD = 0.85482$). This suggests that while assessments are conducted, the systematic recording and prioritization of risks may be insufficient, potentially limiting their effectiveness in guiding actions. The lowest mean score was recorded for the effectiveness and reliability of tools used in conducting risk assessments ($\mu = 2.2895$; $SD = 0.97512$). This reflects a significant shortfall, implying that existing tools may not adequately support thorough and accurate assessments. Without reliable tools, the overall quality of risk assessments may be compromised, affecting their ability to safeguard operational efficiency.

4.4.4 Operational Efficiency

The respondents were presented with statements based on a five-point Likert scale to provide their level of agreement or disagreement on organizational operational efficiency as a result of internal control environment. The findings were presented in table 6.

TABLE 6
Operational Efficiency

Question	N	Mean	SD
The agency completes its tasks within planned timelines.	114	3.3421	.96697
Resource utilization in the agency is cost-effective.	114	2.5175	.94291
Services are delivered efficiently to stakeholders.	114	2.4737	.77814
The agency meets its performance targets consistently.	114	3.8684	.87758
There is minimal waste and redundancy in operational activities.	114	2.9298	.98412

Source, (Research Data, 2025)

Operational efficiency reflects the ability of an organization to accomplish its goals while minimizing waste, optimizing resource utilization, and ensuring that outputs are achieved in a timely and cost-effective manner. It is one of the most critical indicators of performance as it determines whether the systems, structures, and internal control mechanisms in place contribute to smooth and sustainable operations. The analysis of responses based on mean and standard deviation illustrates varied perceptions among respondents regarding efficiency, with some areas being rated fairly well while others reveal notable inefficiencies that undermine overall effectiveness. The results show that the highest mean recorded was 3.8684, while the lowest was 2.4737, signifying disparities in how different aspects of efficiency are experienced within the agency.

From the findings, the strongest area was the agency's ability to meet performance targets consistently ($\mu = 3.8684$; $SD = 0.87758$). This demonstrates that despite internal challenges, the institution manages to deliver on key objectives, an indication of resilience and a results-driven

culture. Similarly, task completion within planned timelines received a moderate rating ($\mu = 3.3421$; $SD = 0.96697$), suggesting that while deadlines are often met, there are inconsistencies that may arise from delays in processes, resource bottlenecks, or coordination gaps. These two dimensions indicate that while outputs are eventually achieved, the underlying processes may not always flow seamlessly.

On the other hand, weaknesses were apparent in the areas of cost-effectiveness, service delivery, and waste management. Resource utilization was poorly rated ($\mu = 2.5175$; $SD = 0.94291$), indicating that resources are not being used optimally and that there may be instances of underutilization or misallocation. Similarly, the delivery of services to stakeholders received the lowest mean score ($\mu = 2.4737$; $SD = 0.77814$), pointing to inefficiencies in how the agency provides timely and quality services to its clients or beneficiaries. This could be attributed to bureaucratic delays, inadequate systems, or lack of adequate capacity to meet stakeholder needs effectively. Furthermore, the issue of waste and redundancy in operational activities was also highlighted, with a mean of 2.9298 and a standard deviation of 0.98412. This suggests that duplication of efforts, inefficiencies in workflows, and avoidable costs remain a challenge, thereby reducing the overall effectiveness of operations.

4.4.5 Organizational Culture

The respondents were presented with statements based on a five-point Likert scale to provide their level of agreement or disagreement on the moderating effect of organizational culture on the relationship between internal control environment and operational efficiency in state regulatory agencies in Kenya. The findings were presented in table 7.

TABLE 7
Organizational Culture

Question	N	Mean	SD
Our organization promotes a culture of accountability and transparency in all operations.	114	4.0351	.73989
Employees are encouraged to adhere to ethical standards and internal control procedures.	114	3.5877	.92947
Management actively supports a culture of continuous improvement and learning.	114	4.0965	.70358
There is open communication and collaboration across departments to achieve efficiency.	114	4.1228	.65365
The organizational culture fosters compliance with internal policies and resistance to unethical practices.	114	4.2105	.61649

Source, (Research Data, 2025)

Organizational culture is a critical factor that shapes employee behavior, influences adherence to internal controls, and ultimately moderates the relationship between control mechanisms and operational efficiency. A strong culture enhances accountability, ethical behavior, and collaboration, while a weak one undermines the sustainability of efficiency. The analysis of responses based on mean and standard deviation illustrates generally positive perceptions of organizational culture, with most indicators receiving high mean scores. The highest mean recorded was 4.2105, while the lowest was 3.5877, suggesting that while cultural values are broadly upheld, there are areas that still require reinforcement.

The findings reveal that the strongest aspect of organizational culture is its ability to foster compliance with internal policies and discourage unethical practices ($\mu = 4.2105$; $SD = 0.61649$). This indicates that the prevailing culture promotes integrity and safeguards institutional reputation, which are essential for operational efficiency. Similarly, open communication and collaboration across departments received a high rating ($\mu = 4.1228$; $SD = 0.65365$), suggesting that teamwork and information sharing are well embedded in the agency's culture, thereby supporting efficiency and reducing operational silos. Management's support for continuous improvement and learning ($\mu = 4.0965$; $SD = 0.70358$) was also highly rated, reflecting leadership commitment to adaptability and professional growth, which are key in strengthening long-term efficiency.

Promotion of accountability and transparency in operations was also strongly endorsed ($\mu = 4.0351$; $SD = 0.73989$). This indicates that employees perceive a culture where decision-making and operations are conducted in a clear and responsible manner, which reduces risks of inefficiency and enhances trust in the organization's processes. However, the relatively lowest mean was recorded in the area of employees being encouraged to adhere to ethical standards and internal control procedures ($\mu = 3.5877$; $SD = 0.92947$). While this score is still above average, it implies that some gaps remain in consistently reinforcing ethical behavior and ensuring all staff strictly comply with established control procedures.

4.5 Diagnostic Tests

4.5.1 Normality Test

To assess whether the data collected for the study met the assumptions of normality required for parametric analysis, the Shapiro-Wilk test was employed. This test is recommended as it provides a reliable measure of distributional normality. The null hypothesis of the Shapiro-Wilk

test assumes that the data are normally distributed, while the alternative hypothesis suggests deviation from normality.

TABLE 8
Normality Test

	Shapiro-Wilk		
	Statistic	df	Sig.
Information Communication Technology	.965	114	.665
Risk Monitoring	.965	114	.417
Risk Assessment	.971	114	.201
Operational Efficiency	.966	114	.052
Organizational Culture	.953	114	.452

Source, (Research Data, 2025)

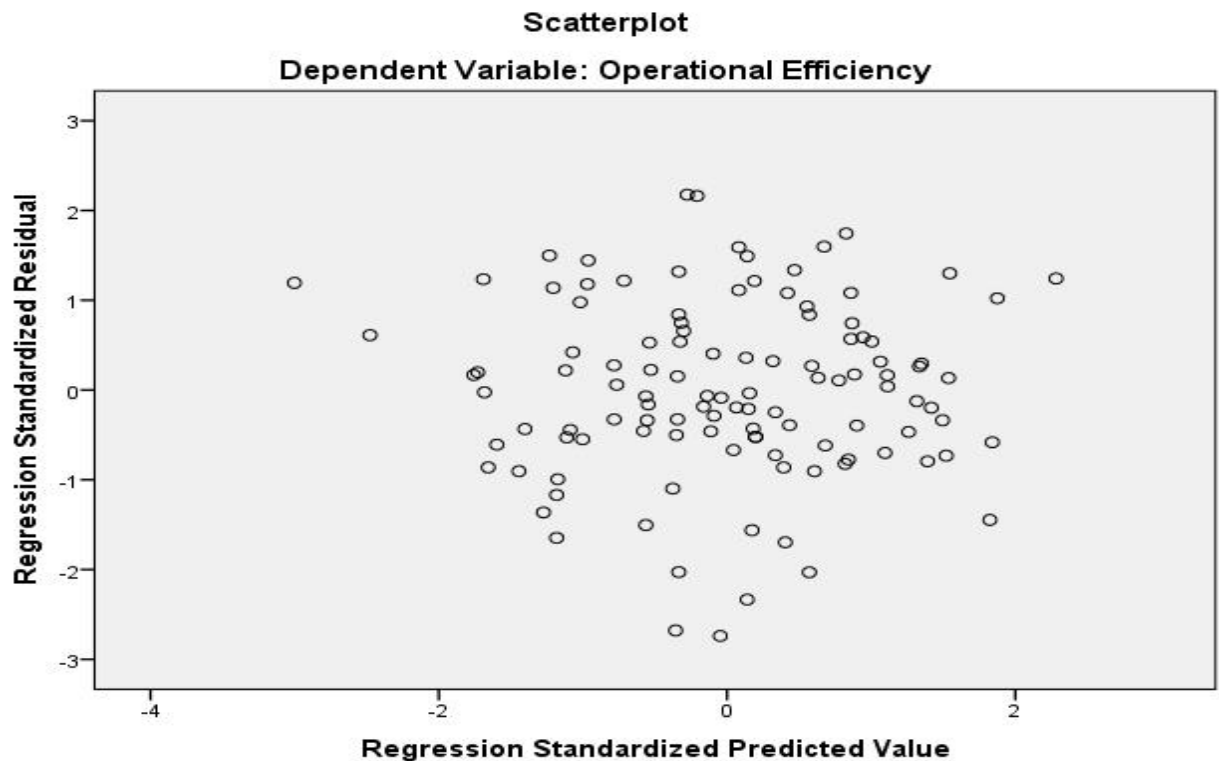
The Shapiro-Wilk test was conducted to determine whether the data for the study variables were normally distributed. The results show that all the variables had significance (p-values) greater than 0.05: Information Communication Technology ($p = 0.665$), Risk Monitoring ($p = 0.417$), Risk Assessment ($p = 0.201$), Operational Efficiency ($p = 0.052$), and Organizational Culture ($p = 0.452$). Since the p-values exceed the 0.05 threshold, the null hypothesis of normality could not be rejected, indicating that the data were approximately normally distributed. This confirms that the dataset met the assumption of normality, thus validating the suitability of applying parametric tests such as correlation and regression in subsequent analyses.

4.5.2 Homoscedasticity Test

The Homoscedasticity Test was done using a scatterplot of standardized residuals plotted against standardized predicted values to evaluate whether the variance of the residuals remained constant across the regression model. In this diagnostic approach, the scatterplot provides a visual assessment of the assumption of homoscedasticity, which is essential for ensuring the validity of regression analysis.

FIGURE 3

Homoscedasticity Test



Source, (Research Data, 2025)

The scatterplot of standardized residuals against standardized predicted values demonstrates that the residuals are randomly dispersed around the horizontal axis, with no discernible pattern, curvature, or systematic clustering. This random distribution indicates that

the variance of the residuals is relatively constant across the range of predicted values, thereby confirming that the assumption of homoscedasticity has been met. The absence of a funnel-shaped spread or organized trend suggests that the residuals exhibit equal variance and that the model's error terms are stable across different levels of the independent variables. This finding implies that the regression estimates are efficient and unbiased, supporting the statistical soundness of the model.

4.5.3 Multicollinearity

The study conducted a multicollinearity test using Variance Inflation Factor (VIF) values to examine whether there was a high correlation among the independent variables. This test was important to ensure that the predictors included in the regression model were independent of each other and that the estimates obtained would be reliable.

TABLE 9
Multicollinearity

Coefficients			
Model		Collinearity Statistics	
		Tolerance	VIF
1	(Constant)		
	Information Communication Technology	.960	1.041
	Risk Monitoring	.984	1.016
	Risk Assessment	.906	1.104
	Organizational Culture	.888	1.126
a. Dependent Variable: Operational Efficiency			

Source, (Research Data, 2025)

The results show that all tolerance values were well above the threshold of 0.1, ranging from 0.888 to 0.984, while all VIF values were far below the critical cutoff of 10, ranging from 1.016 to 1.126. Specifically, Information Communication Technology recorded a tolerance of 0.960 and VIF of 1.041, Risk Monitoring a tolerance of 0.984 and VIF of 1.016, Risk Assessment a tolerance of 0.906 and VIF of 1.104, and Organizational Culture a tolerance of 0.888 and VIF of 1.126. These results indicate that multicollinearity was not present among the predictor variables, meaning that each variable contributed uniquely to explaining operational efficiency. This confirms the suitability of the dataset for regression analysis without the risk of distortion arising from inter-variable correlations.

4.6 Inferential Statistics**4.6.1 Correlation**

To examine the relationship between the study variables, the researcher conducted a Spearman's rank correlation analysis using SPSS. This method applies the correlation coefficient (r) to measure the strength and direction of association between variables based on ranked data. This is shown in Table 10.

TABLE 10
Correlation Matrix

Correlations		Information Communication Technology	Risk Monitoring	Risk Assessment	Organization al Culture	Operation al Efficiency
Information Communication Technology	Pearson Correlation Sig. (2- tailed)	1				
Risk Monitoring	Pearson Correlation Sig. (2- tailed)	-.019	1			
Risk Assessment	Pearson Correlation Sig. (2- tailed)	.024	-.104	1		
Organization al Culture	Pearson Correlation Sig. (2- tailed)	-.160	-.113	.104	1	
Operational Efficiency	Pearson Correlation Sig. (2- tailed)	.511**	.443**	.552**	.343**	1
	N	114	114	114	114	114
**. Correlation is significant at the 0.01 level (2-tailed).						
Source, (Research Data, 2025)						

The correlation analysis revealed several significant positive relationships among the study variables, highlighting their combined influence on operational efficiency. Information Communication Technology (ICT) showed a strong and significant correlation with Operational Efficiency ($r = .511$, $p < .01$), indicating that greater technological adoption enhances process

automation, communication, and service delivery. Similarly, Risk Monitoring was positively correlated with Operational Efficiency ($r = .443, p < .01$), suggesting that continuous tracking and control of risks promote smoother operations and reduce disruptions. Risk Assessment also demonstrated a significant positive association with Operational Efficiency ($r = .552, p < .01$), implying that systematic evaluation of potential risks enhances decision-making and performance reliability. Lastly, Organizational Culture exhibited a moderate but significant positive correlation with Operational Efficiency ($r = .343, p < .01$), emphasizing that supportive cultural values strengthen institutional efficiency and effectiveness.

4.6.2 Direct Regression

The study employed regression analysis to examine the effect of the independent variables (Information Communication Technology, Risk Monitoring, and Risk Assessment) on the dependent variable, Operational Efficiency. This step was aimed at determining the direct influence of each predictor while holding the others constant. This is shown in Table 11.

TABLE 11
Model Summary

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.902a	.814	.809	.06768
a. Predictors: (Constant), Risk Assessment, Information Communication Technology, Risk Monitoring				
Source, (Research Data, 2025)				

The regression model presented in Table 11 produced an R Square value of 0.814, indicating that 81.4% of the variation in operational efficiency is explained by Information

Communication Technology, Risk Monitoring, and Risk Assessment. The Adjusted R Square value of 0.809 further confirms the model's robustness after adjusting for the number of predictors. Compared to the model without moderation, which had lower R Square and Adjusted R Square values, this result demonstrates that incorporating the moderating variable enhances the explanatory power of the model. The improvement implies that the moderator strengthens the relationship between the predictors and operational efficiency by accounting for additional variance that the initial model could not explain. The remaining 18.6% of unexplained variation suggests that other factors not included in the model may also influence operational efficiency among the agencies.

TABLE 12
Analysis of Variance

ANOVA						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2.203	3	.734	160.344	.000b
	Residual	.504	110	.005		
	Total	2.707	113			

a. Dependent Variable: Operational Efficiency

b. Predictors: (Constant), Risk Assessment, Information Communication Technology, Risk Monitoring

Source, (Research Data, 2025)

The ANOVA results show that the regression model produced an F-statistic of 160.344 with a significance value of 0.000. Since the p-value is less than the conventional threshold of 0.05, the model is statistically significant, meaning that the combination of the predictors

(Information Communication Technology, Risk Monitoring, and Risk Assessment) has a meaningful joint effect on Operational Efficiency.

TABLE 13
Regression Coefficients

Coefficient						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.553	.130		11.913	.000
	Information Communication Technology	.257	.021	.506	12.306	.000
	Risk Monitoring	.246	.020	.514	12.426	.000
	Risk Assessment	.263	.018	.593	14.340	.000
a. Dependent Variable: Operational Efficiency						
Source, (Research Data, 2025)						

The regression results presented in Table 13 show that all the independent variables; Information Communication Technology (ICT), Risk Monitoring, and Risk Assessment had positive and statistically significant effects on Operational Efficiency ($p < 0.05$). The model's constant ($B = 1.553$, $p = 0.000$) indicates that when all predictors are held constant, operational efficiency would stand at 1.553 units. ICT had a coefficient of 0.257 ($p = 0.000$), signifying that a one-unit increase in ICT adoption leads to a 0.257-unit improvement in operational efficiency, emphasizing the importance of digital systems in streamlining operations. Risk Monitoring recorded a coefficient of 0.246 ($p = 0.000$), suggesting that systematic risk tracking significantly enhances stability and performance. Likewise, Risk Assessment exhibited the strongest effect ($B = 0.263$, $p = 0.000$), demonstrating that effective identification and evaluation of risks substantially boost operational efficiency. These findings collectively imply that integrating ICT with robust risk management practices is critical in improving organizational performance and operational outcomes.

Fitting the Regression Model

The regression model for this study was

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \varepsilon \dots \dots \dots (\text{equation i})$$

Y = Operational Efficiency

X_1 = Information Communication Technology

X_2 = Risk Monitoring

X_3 = Risk Assessment

From the regression coefficients (Table 13), the fitted model becomes:

$$Y = 1.533 + 0.257X_1 + 0.246X_2 + 0.263X_3 + \varepsilon \dots \dots \dots (\text{equation i})$$

The fitted regression model shows that all predictors, Information Communication Technology (ICT), Risk Monitoring, and Risk Assessment, positively influence Operational Efficiency. The constant (1.553) represents the baseline level of operational efficiency when all independent variables are held constant. A one unit increase in ICT leads to a 0.257 unit rise in operational efficiency, indicating that technological advancements enhance productivity and streamline operations. Similarly, a one unit increase in Risk Monitoring improves operational efficiency by 0.246 units, implying that consistent tracking and management of risks strengthen organizational stability and performance. Risk Assessment had the strongest effect ($B = 0.263$), showing that organizations that frequently and systematically evaluate potential risks achieve greater efficiency through informed decision making and proactive control measures.

4.6.3 Moderating Effect

After testing the direct model, the study proceeded to introduce Organizational Culture as a moderating variable to establish whether it strengthened or weakened the relationship between the internal control environment and operational efficiency. This is shown in Table 14.

TABLE 14
Model Summary

Model Summary					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	
1	.913a	.833	.827	.00308	
a. Predictors: (Constant), Information Communication Technology, Risk Monitoring, Risk Assessment, Organizational Culture					
Source, (Research Data, 2025)					

After testing the direct relationships, the study introduced Organizational Culture as a moderating variable to determine whether it strengthened or weakened the relationship between the internal control environment and operational efficiency. The regression results presented in Table 15 show that the inclusion of the moderator increased the model's explanatory power, with an R^2 of 0.833 and an adjusted R^2 of 0.827, indicating that approximately 82.7% of the variation in operational efficiency was explained by the combined effects of ICT, Risk Monitoring, Risk Assessment, Organizational Culture, and their interaction terms. The model was statistically significant ($F = 44,492.580$, $p < 0.001$), confirming its robustness.

TABLE 15
Analysis of Variance

ANOVA						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2.706	7	.387	44492.580	.000b
	Residual	.001	106	.000		
	Total	2.707	113			
a. Dependent Variable: Operational Efficiency						
b. Predictors: (Constant), Risk assessment*organizational culture, Risk Assessment, Information Communication Technology, Organizational Culture, Risk Monitoring, Risk Monitoring*organizational culture, ICT*organizational culture						
Source, (Research Data, 2025)						

Table 15 presents the results of the Analysis of Variance (ANOVA) for the moderated regression model, which tested the overall significance of the relationship between the independent variables, the moderating variable, and operational efficiency. The findings indicate that the regression model was statistically significant ($F = 44,492.580$, $p = 0.000$), demonstrating that the combined effect of Information Communication Technology (ICT), Risk Monitoring, Risk Assessment, Organizational Culture, and their respective interaction terms significantly explains variations in operational efficiency.

TABLE 16**Regression**

Coefficients						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.603	.007		86.319	.000
	Information Communication Technology	.173	.035	.342	4.948	.000
	Risk Monitoring	.242	.034	.506	7.208	.000
	Risk Assessment	.244	.001	.551	302.932	.000
	Organizational Culture	.196	.001	.439	170.246	.000
	ICT*organizational culture	-.145	.048	-.390	-3.021	.003
	Risk Monitoring*organizational culture	.239	.070	.363	3.420	.001
	Risk assessment*organizational culture	.051	.067	.085	.766	.446
a. Dependent Variable: Operational Efficiency						
Source, (Research Data, 2025)						

Table 16 presents the results of the moderated multiple regression analysis examining the influence of Information Communication Technology (ICT), Risk Monitoring, Risk Assessment, and Organizational Culture on Operational Efficiency, as well as the moderating role of Organizational Culture on these relationships. The results indicate that the regression model was statistically significant, with all main predictors—ICT ($B = 0.173$, $p = 0.000$), Risk Monitoring ($B = 0.242$, $p = 0.000$), Risk Assessment ($B = 0.244$, $p = 0.000$), and Organizational Culture ($B = 0.196$, $p = 0.000$)—having positive and significant effects on Operational Efficiency. This suggests that improvements in technology adoption, systematic risk management, and a supportive organizational culture directly enhance efficiency and performance. In terms of moderation, the interaction between ICT and Organizational Culture was negative and significant

($B = -0.145$, $p = 0.003$), indicating that a strong culture slightly weakens the positive effect of ICT on Operational Efficiency. This implies that in organizations with rigid or highly traditional cultures, the potential of ICT to transform operations may be constrained. Conversely, the interaction between Risk Monitoring and Organizational Culture was positive and significant ($B = 0.239$, $p = 0.001$), suggesting that a supportive culture enhances the positive effect of risk monitoring on efficiency. This highlights the role of cultural values such as accountability and openness in strengthening monitoring systems and decision-making. However, the interaction between Risk Assessment and Organizational Culture was insignificant ($B = 0.051$, $p = 0.446$), implying that organizational culture does not significantly alter the relationship between risk assessment and operational efficiency.

Fitting the model after moderation

The model for moderation was as follows:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + M + M*X_1 + M*X_2 + M*X_3 + \varepsilon \dots\dots\dots(\text{equation ii})$$

The moderator is factored in as an interaction effect.

Where;

Y = Operational Efficiency

X_1 = Information Communication Technology

X_2 = Risk Monitoring

X_3 = Risk Assessment

M = Organizational culture

While β_1 , β_2 , and β_3 were coefficients of determination, β_0 was constant term and ε was the error term.

$M*X_1$ = ICT * Organizational culture (interaction term)

$M * X_2 = \text{Risk Monitoring} * \text{Organizational culture (interaction term)}$

$M * X_3 = \text{Risk Assessment} * \text{Organizational culture (interaction term)}$

Substituting the coefficients from your table:

Where:

$$Y = 0.603 + 0.173X_1 + 0.242X_2 + 0.244X_3 + 0.196M - 0.145(X_1 * M) + 0.239X_2 * M + 0.051(X_3 * M) + \varepsilon \dots \dots \dots \text{(equation ii)}$$

The constant value of 0.603 ($p = 0.000$) represents the baseline level of operational efficiency when all predictors and the moderator are held constant. A one unit increase in ICT leads to a 0.173 unit increase in operational efficiency, showing that digital tools and systems enhance performance. Similarly, a one unit increase in Risk Monitoring and Risk Assessment results in 0.242 and 0.244 unit increases in efficiency, respectively, confirming that structured risk management processes contribute significantly to stable and effective operations. Organizational Culture independently increases operational efficiency by 0.196 units, reflecting its vital role in promoting teamwork, accountability, and innovation. However, the negative interaction between ICT and culture suggests that rigid cultural norms may limit the adaptability and benefits of technological systems. Conversely, the positive and significant interaction between Risk Monitoring and culture indicates that culture strengthens monitoring effectiveness by encouraging openness and continuous improvement. The non significant interaction between Risk Assessment and culture implies that assessment practices may be less influenced by cultural factors, as they rely more on standardized and procedural frameworks.

CHAPTER FIVE: CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter covers summary of the findings, conclusion and recommendations based on the research findings. The chapter also highlights the findings on the relationship between the independent and the dependent variable, the conclusions from the findings, and the recommendations based on the conclusions which could help regulatory agencies in Kenya improve their operational efficiency.

5.2 Summary of Findings

5.2.1 ICT and Operational Efficiency

The study found out that Information Communication Technology (ICT) positively influences operational efficiency in state regulatory agencies in Kenya. The overall mean score was 3.98 with a standard deviation of 0.74, showing that respondents generally agreed that ICT enhances service delivery, improves communication, and reduces task completion time. Correlation analysis revealed that ICT is significantly related to operational efficiency ($r = 0.511$, $p < 0.01$), confirming its critical role in efficiency improvement. Regression results further showed that ICT has a positive and significant effect ($B = 0.257$, $p = 0.000$), indicating that a one-unit increase in ICT adoption leads to a 0.257-unit improvement in operational efficiency. Moreover, the moderating effect of organizational culture was significant and negative ($B = -0.145$, $p = 0.003$), suggesting that ICT's contribution may be slightly constrained in organizations with rigid cultural norms.

5.2.2 Risk Monitoring and Operational Efficiency

The study further found that risk monitoring plays an important role in supporting operational efficiency, with an overall mean of 3.54 and a standard deviation of 0.69, suggesting moderate

agreement. Respondents highlighted that risk reports and indicators guide decisions and reduce disruptions, although gaps existed in staffing and frequency of reviews. Correlation results confirmed that risk monitoring significantly and positively correlated with operational efficiency ($r = 0.443$, $p < 0.01$). Regression results supported this with a positive effect ($B = 0.246$, $p = 0.000$), showing that structured monitoring substantially boosts efficiency outcomes. The moderating effect of organizational culture was also significant and positive ($B = 0.239$, $p = 0.001$), implying that monitoring practices are more impactful in organizations that foster accountability, transparency, and compliance.

5.2.3 Risk Assessment and Operational Efficiency

Finally, the study established that risk assessment contributes significantly to operational efficiency with an overall mean of 3.60 and a standard deviation of 0.76. Respondents agreed that periodic assessments, embedding risk processes in operations, and staff training enhance efficiency, though challenges remained in reliability of tools and prioritization of risks. Correlation analysis confirmed a strong and significant relationship between risk assessment and operational efficiency ($r = 0.552$, $p < 0.01$). Regression results reported a positive and significant effect ($B = 0.263$, $p = 0.000$), signifying that systematic risk assessment strengthens efficiency. With organizational culture factored in, the interaction term was not significant ($B = 0.051$, $p = 0.446$), showing that risk assessments are effective regardless of cultural support.

5.2.4 Organizational Culture

On organizational culture, the study found that it plays a significant moderating role in the relationship between the internal control environment and operational efficiency among state regulatory agencies in Kenya. The moderated regression analysis revealed that organizational culture had a direct positive and significant effect on operational efficiency ($B = 0.196$, $p =$

0.000). Furthermore, the interaction between risk monitoring and organizational culture was positive and significant ($B = 0.239$, $p = 0.001$), indicating that a supportive culture enhances the effectiveness of monitoring systems. Conversely, the interaction between information communication technology and culture was negative and significant ($B = -0.145$, $p = 0.003$), suggesting that rigid cultural norms may constrain technological adaptability. However, the interaction between risk assessment and culture was insignificant ($B = 0.051$, $p = 0.446$).

5.3 Conclusions

The study concludes that Information Communication Technology plays an integral role in improving operational efficiency within regulatory agencies. By enhancing communication, streamlining workflows, and reducing delays, ICT has become a central enabler of modern service delivery. It supports better coordination among staff and departments, while also providing tools that improve the speed and reliability of decision-making. The integration of ICT allows organizations to reduce paperwork, automate repetitive tasks, and provide stakeholders with more transparent services. However, the study also points out that these benefits are not fully realized due to challenges such as limited infrastructure, slow adoption of advanced systems, and gaps in system integration.

The study further establishes that risk monitoring plays a critical role in safeguarding operations and maintaining organizational stability. Through continuous monitoring, organizations are able to detect early warning signals, anticipate threats, and respond before risks escalate into major disruptions. Effective monitoring ensures that decision-makers have access to timely information that guides strategic choices and helps maintain continuity. It also builds confidence in operations by reducing uncertainty and enabling structured responses to potential threats. Despite this, weaknesses were observed in how often risks are monitored, the resources

allocated to this function, and the consistency of reporting. These gaps limit the effectiveness of monitoring in driving efficiency.

Finally, the study concludes that risk assessment significantly contributes to efficiency by equipping organizations with the capacity to identify, evaluate, and prioritize risks. A structured assessment process enables agencies to embed risk awareness into everyday operations, ensuring that decisions align with organizational objectives while addressing potential vulnerabilities. Risk assessment promotes accountability and supports resilience by preparing staff to handle uncertainties systematically. However, the study also highlights limitations such as inconsistent use of assessment tools, inadequate documentation, and weak prioritization mechanisms. These challenges reduce the reliability of assessments and weaken their overall contribution to efficiency. Strengthening risk assessment therefore requires adoption of standardized tools, consistent documentation practices, and training of personnel in risk management.

The study concluded that organizational culture is a critical determinant of how internal control mechanisms translate into operational efficiency within state regulatory agencies in Kenya. A strong culture that values transparency, accountability, and collaboration enhances the implementation and effectiveness of risk monitoring systems, thereby improving efficiency and performance outcomes. However, the study also revealed that organizational rigidity and traditional norms may limit the transformative potential of technology-driven processes, highlighting the need for cultural adaptability to complement technological advancement. The insignificant moderating effect between culture and risk assessment suggests that structured assessment frameworks operate effectively regardless of cultural influence. Thus, organizational culture both strengthens and constrains internal control outcomes, underscoring its dual role as an enabler of ethical performance and a potential barrier to innovation within public institutions.

5.4 Recommendations

5.4.1 Information Communication Technology

The study recommends that regulatory agencies prioritize investment in modern ICT infrastructure to fully leverage its potential in improving operational efficiency. This includes upgrading existing systems, automating workflows, and ensuring seamless integration across departments. Training programs should be provided to staff to build ICT competencies and enhance adoption of new technologies. Furthermore, agencies should embrace emerging innovations such as cloud-based solutions, digital records management, and real-time communication platforms to improve service delivery. Policymakers should also create supportive regulations that encourage technology adoption while safeguarding data security and privacy. To sustain efficiency gains, agencies need to allocate adequate budgets for ICT maintenance, continuous upgrades, and capacity building. Strengthening ICT integration will not only boost internal operations but also improve transparency, accountability, and stakeholder satisfaction in service delivery.

5.4.2 Risk Monitoring

The study recommends that agencies institutionalize comprehensive risk monitoring frameworks to ensure consistent oversight of risks across operations. This involves developing clear monitoring policies, assigning specialized staff, and embedding monitoring practices within daily workflows. Regular reporting mechanisms should be established to provide decision-makers with timely, accurate, and actionable information. Technology can also be leveraged to automate monitoring processes, analyze data trends, and generate alerts for emerging risks. Agencies should prioritize periodic reviews and evaluations of monitoring practices to ensure they remain

relevant and responsive to changing risk environments. Additionally, fostering a culture that values transparency and accountability will enhance staff commitment to risk monitoring.

5.4.3 Risk Assessment

The study recommends that regulatory agencies adopt standardized risk assessment tools and methodologies to improve the consistency and reliability of assessments. This should include structured guidelines for identifying, evaluating, and prioritizing risks in alignment with organizational goals. Agencies need to improve documentation processes to ensure assessments are recorded, tracked, and used as reference for strategic decisions. Staff training in risk management techniques should be enhanced to build capacity and promote shared responsibility in managing risks. Periodic reviews of assessment processes should be conducted to align them with best practices and emerging risk factors. Agencies should also consider embedding assessment practices into all levels of operations, ensuring they guide both strategic planning and routine decision-making.

5.4.4 Organizational Culture

The study recommends that state regulatory agencies in Kenya should deliberately cultivate a performance-oriented culture that supports innovation, accountability, and transparency to maximize the effectiveness of internal control systems. Managers should foster openness and collaboration to enhance the success of risk monitoring and strengthen institutional trust. Additionally, agencies should invest in change management programs that align cultural values with digital transformation initiatives to minimize resistance to new technologies. Regular training, ethical sensitization, and leadership development programs should also be institutionalized to reinforce integrity and compliance across all departments. By promoting adaptive and ethical cultural practices, regulatory agencies can improve the integration of

internal control mechanisms and achieve sustainable operational efficiency that supports good governance and public sector excellence.

5.5 Suggestions for further Studies

The researcher recommends a that future study can be done to explore the role of emerging technologies such as artificial intelligence, machine learning, and blockchain in enhancing operational efficiency within regulatory agencies. This would provide deeper insights into how advanced digital solutions can strengthen risk assessment, monitoring, and decision-making beyond traditional ICT adoption.

5.6 Limitations of the study

One key challenge was access to respondents, as regulatory agencies often operate under strict confidentiality rules that limit the sharing of internal information. Additionally, some respondents were initially hesitant to participate due to concerns about the sensitivity of issues related to operational efficiency and risk management. Another limitation was time constraints, which reduced the ability to conduct prolonged engagement with some agencies. These factors had the potential to affect the depth of data collected and the overall generalizability of the findings. However, the possession of an official introduction letter from Kenya College of Accountancy (KCA) and a research permit from the National Commission for Science, Technology and Innovation (NACOSTI) was instrumental in overcoming these challenges. The introduction letter provided formal credibility, showing respondents that the study was institutionally recognized and academically legitimate. The NACOSTI permit added legal authority, granting permission to collect data in government institutions and reassuring respondents that the research complied with national research regulations. Together, these

documents built trust, encouraged openness, and facilitated access to key information that might otherwise have been restricted.

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APPENDIX I: INTRODUCTION LETTER



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BOARD OF POSTGRADUATE STUDIES

KCAU/BPS/2025

Date: Monday, July 28, 2025

NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY & INNOVATION (NACOSTI)
P.O BOX 30623-00100
NAIROBI

Dear Sir/Madam,

RE: GILTONE MWAMBALA MWANZIGHE- REG NO. 15/04635

It is my distinct pleasure to introduce Giltone Mwambala Mwanzighe, a student at our institution pursuing a Master of Science in Commerce- Finance & Accounting degree within the School of Business.

Giltone is conducting research on the topic “*Internal control environment and operational efficiency among state regulatory agencies in Kenya*” His study has been reviewed and approved by the University’s Ethics Review Committee, Certificate No. KCAUSERCSOB201. Approval period is 21st July 2025 - 21st July 2026.

Any assistance accorded to him is highly appreciated.

Yours faithfully,

DR. JACKSON NDOLO
DIRECTOR, BOARD OF POST GRADUATE STUDIES

APPENDIX II: RESEARCH PERMIT

 REPUBLIC OF KENYA	 NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY & INNOVATION
Ref No: 774311	Date of Issue: 01/August/2025
RESEARCH LICENSE	
	
This is to Certify that Mr. GILTONE MWAMBALA MWANZIGHE of KCA University, has been licensed to conduct research as per the provision of the Science, Technology and Innovation Act, 2013 (Rev.2014) in Nairobi on the topic: INTERNAL CONTROL ENVIRONMENT AND OPERATIONAL EFFICIENCY AMONG STATE REGULATORY AGENCIES IN KENYA for the period ending : 01/August/2026.	
License No: NACOSTI/P/25/4177759	
774311	
Applicant Identification Number	Ag. Director General NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY & INNOVATION
	Verification QR Code
	
NOTE: This is a computer generated License. To verify the authenticity of this document, Scan the QR Code using QR scanner application.	
See overleaf for conditions	

APPENDIX III: QUESTIONNAIRE

Dear respondent,

Please answer all questions in the questionnaire. Do not include your name anywhere in the questionnaire.

SECTION A: BACKGROUND INFORMATION

1. Please indicate your gender

Male ()
Female ()
Prefer not to say ()

2. Please specify your age bracket

18–25 years ()
26–35 years ()
36–45 years ()
46–55 years ()
56 years and above ()

3. How many years have you worked in this agency?

Less than 1 year ()
1–5 years ()
6–10 years ()
More than 10 years ()

4. Educational Qualification:

What is your highest level of education completed?

Bachelor's Degree ()
Masters Degree ()
PhD Holder ()

Any other (Please specify _____)

SECTION B: INFORMATION COMMUNICATION TECHNOLOGY

Please indicate your level of agreement with the statements below given a scale of 1-5 where

1=strongly disagree, 2= disagree, 3= neutral, 4= agree, 5= strongly agree

	Question	1	2	3	4	5
4	ICT systems have streamlined operational processes in our agency.					
5	The use of ICT has reduced the time required to complete tasks.					
6	ICT tools have enhanced communication within and between departments.					
7	The agency has invested adequately in modern ICT infrastructure.					
8	ICT training provided to staff enhances service delivery.					
9	System automation has reduced human error in operations.					

SECTION C: RISK MONITORING

Please indicate your level of agreement with the statements below given a scale of 1-5 where

1=strongly disagree, 2= disagree, 3= neutral, 4= agree, 5= strongly agree

	Question	1	2	3	4	5
10	The agency conducts regular risk assessments and reviews.					
11	There is a structured system in place for monitoring operational risks.					
12	Risk reports are used to make strategic decisions.					
13	Risk indicators are well defined and monitored consistently.					
14	The agency has dedicated staff for risk monitoring functions.					
15	Risk monitoring has helped reduce operational disruptions.					

SECTION D: RISK ASSESSMENT

Please indicate your level of agreement with the statements below given a scale of 1-5 where

1=strongly disagree, 2= disagree, 3= neutral, 4= agree, 5= strongly agree

	Question	1	2	3	4	5
16	Risk assessment is embedded in all key operational processes.					
17	Risk assessment results are used to inform management decisions.					
18	Risk assessment tools used are effective and reliable.					
19	The agency performs risk assessments periodically.					
20	Operational risks are documented and prioritized during assessment.					
21	Staff are trained on how to carry out proper risk assessments.					

SECTION E: OPERATIONAL EFFICIENCY

Please indicate your level of agreement with the statements below given a scale of 1-5 where

1=strongly disagree, 2= disagree, 3= neutral, 4= agree, 5= strongly agree

	Question	1	2	3	4	5
22	The agency completes its tasks within planned timelines.					
23	Resource utilization in the agency is cost-effective.					
24	Services are delivered efficiently to stakeholders.					
25	The agency meets its performance targets consistently.					
26	There is minimal waste and redundancy in operational activities.					

SECTION F: ORGANIZATIONAL CULTURE

Please indicate your level of agreement with the statements below given a scale of 1-5 where

1=strongly disagree, 2= disagree, 3= neutral, 4= agree, 5= strongly agree

	Question	1	2	3	4	5
27	Our organization promotes a culture of accountability and transparency in all operations.					
28	Employees are encouraged to adhere to ethical standards and internal control procedures.					
29	Management actively supports a culture of continuous improvement and learning.					
30	There is open communication and collaboration across departments to achieve efficiency.					
31	The organizational culture fosters compliance with internal policies and resistance to unethical practices.					

APPENDIX IV: STATE REGULATORY AUTHORITY/AGENCY

S/No.	Regulatory Authority/Agency
1	Betting Control and Licensing Board
2	NGO Co-ordination Board
3	National Authority for the Campaign Against Alcohol and Drug Abuse
4	Independent Policing Oversight Authority
5	Private Security Regulatory Authority
6	National Cohesion and Integration Commission
7	Central Bank of Kenya
8	Kenya Revenue Authority
9	Capital Markets Authority
10	Competition Authority of Kenya
11	Insurance Regulatory Authority
12	Retirement Benefits Authority
13	Unclaimed Financial Assets Authority
14	Kenya Deposit Insurance Corporation
15	Privatization Authority
16	Public Procurement Regulatory Authority
17	Financial Reporting Centre
18	Kenya Institute of Supplies Management
19	Registration of Certified Public Secretaries Board
20	Institute of Certified Public Accountants
21	Institute of Certified Public Secretaries of Kenya
22	Kenya Accountants and Secretaries National Examination Board
23	Kenya Institute of Certified Investments and Financial Analysts
24	Kenya Roads Board
25	Kenya National Highways Authority
26	Kenya Urban Roads Authority
27	Kenya Rural Roads Authority
28	Engineers Board of Kenya
29	Kenya Engineering Technologists Registration Board
30	LAPSSET Corridor Development Authority
31	Kenya Airports Authority
32	Kenya Civil Aviation Authority
33	Kenya Ports Authority
34	National Transport and Safety Authority
35	The Nairobi Metropolitan Area Transport Authority
36	The Railway City Development Authority
37	Physical Planners Registration Board
38	Valuers Registration Board
39	Land Surveyors Board
40	Estate Agents Registration Board
41	National Construction Authority
42	The National Building Inspectorate
43	Board of Registered Architects and Quantity Surveyors

S/No.	Regulatory Authority/Agency
44	Building Surveyors Registration Board
45	Communications Authority of Kenya
46	Media Council of Kenya
47	Office of the Data Protection Commissioner
48	Konza Technopolis Development Authority
49	Kenya ICT Authority
50	Social Health Authority
51	Kenya Tissue and Transplant Authority
52	National Syndemic Diseases Control Council
53	Kenya Medical Practitioners & Dentist Council
54	Kenya Health Professionals Oversight Authority
55	Counsellors and Psychologists Board
56	Physiotherapy Council of Kenya
57	Clinical Officers Council of Kenya
58	Kenya Medical Laboratories Technicians and Technologists Board
59	Nursing Council of Kenya
60	Health Records and Information Managers Board
61	Pharmacy and Poisons Board
62	Public Health Officers and Technicians Council
63	Kenya Nuclear Regulatory Authority
64	Kenya National Examinations Council
65	Technical and Vocational Education and Training Authority
66	Curriculum Development Assessment and Certification Council
67	Kenya National Qualifications Authority
68	Commission for University Education
69	Kenya Universities and Colleges Placement Service
70	National Commission for Science Technology and Innovation
71	Universities Funding Board
72	Agriculture and Food Authority
73	Tea Board of Kenya
74	Kenya Plant Health Inspectorate Services (KEPHIS)
75	Pest Control Products Board
76	National Biosafety Authority
77	Kenya Veterinary Board
78	Veterinary Medicines Directorate
79	Kenya Leather Development Council
80	Kenya Dairy Board
81	Kenya Investment Authority
82	Export Processing Zones Authority
83	Special Economic Zones Authority
84	Warehouse Receipt Systems Council
85	Kenya Bureau of Standards
86	Kenya National Accreditation Services
87	Kenya Industrial Property Institute
88	Scrap Metal Council

S/No.	Regulatory Authority/Agency
89	Anti-Counterfeit Authority
90	Sacco Societies Regulatory Authority
91	Micro and Small Enterprise Authority
92	Kenya Film Classification Board
93	Kenya Film Commission
94	Kenya Anti-Doping Agency
95	National Environmental Management Authority
96	National Climate Change Council
97	Kenya Forest Service
98	Tourism Regulatory Authority
99	Kenya Wildlife Service
100	Water Services Regulatory Board
101	Water Resources Authority
102	Hydrologists Registration Board
103	National Water Harvesting and Storage Authority
104	National Irrigation Authority
105	Energy and Petroleum Regulatory Authority
106	National Drought Management Authority
107	Mineral Rights Board
108	Geologists Registration Board
109	Kenya Fisheries Service
110	Kenya Fish Marketing Authority
111	Kenya Maritime Authority
112	National Industrial Training Authority
113	Kenya National Labour Board and the Wages Council
114	National Employment Authority
115	National Social Security Fund
116	National Council for Persons with Disabilities
117	National Council for Children's Services
118	Kenya Copyright Board
119	Institute of Human Resource Management
120	Council for Legal Education
121	Auctioneers Licensing Board
122	Office of the Registrar of Political Parties
123	Advocates Complaints Commission