

**ANTECEDENTS OF INTEGRATED REPORTING IN ENHANCING FINANCIAL
SUSTAINABILITY OF TIER I AND II COMMERCIAL BANKS IN KENYA**

BY

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MASTER OF SCIENCE IN COMMERCE (FINANCE AND ACCOUNTING)

KCA UNIVERSITY

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**A DISSERTATION SUBMITTED IN PARTIAL FULFILLMENT OF THE
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(FINANCE AND ACCOUNTING), TO SCHOOL OF BUSINESS AT KCA
UNIVERSITY**


OCTOBER 2025

DECLARATION AND APPROVAL

I declare that this thesis 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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ABSTRACT

This study investigated the antecedents of integrated reporting (IR) and their role in enhancing financial sustainability among Tier I and II commercial banks in Kenya. Integrated reporting had gained prominence globally as a strategic approach that combined financial and non-financial disclosures to provide a holistic view of organizational performance. Despite its growing importance, the adoption of IR remained limited and uneven across the Kenyan banking sector. The research focused on four key antecedents, firm size, leverage, firm age, and board size, and examined their influence on the adoption and quality of integrated reporting practices, ultimately assessing their contribution to financial sustainability, measured by the Altman Z score. The study anchored the independent variables, firm size, leverage, firm age, and board size, within relevant theoretical frameworks to explain their influence on integrated reporting and financial sustainability in Tier I and II commercial banks in Kenya. By applying legitimacy theory, agency theory, institutional theory, and resource dependence theory, the study built a strong conceptual foundation to examine how internal firm dynamics drove corporate transparency and sustainability reporting. The study adopted an explanatory research design using panel data collected from 17 Tier I and II banks between 2020 and 2024. Descriptive and inferential statistics, including panel regression models, were employed to test the hypothesized relationships. The findings revealed significant relationships between integrated reporting antecedents and financial sustainability among commercial banks in Kenya. Firm size demonstrated the strongest positive correlation with financial sustainability ($r = 0.523$, $p < 0.01$), indicating that larger banks exhibit superior financial health. Firm age showed a moderate positive correlation ($r = 0.346$, $p < 0.05$), suggesting established banks achieve better sustainability outcomes. Board size displayed a weak but significant positive correlation ($r = 0.298$, $p < 0.05$), while leverage showed a moderate negative correlation ($r = -0.412$, $p < 0.01$), indicating higher debt-to-equity ratios compromised financial sustainability. The fixed effects panel regression confirmed these predictors collectively explain 47.5% of financial sustainability variation. The study concluded that firm size, firm age, and board size significantly enhance financial sustainability, with firm size providing the strongest predictive power. Established banks benefit from institutional maturity and accumulated experience, while larger board sizes contribute through enhanced governance oversight. Conversely, excessive leverage substantially compromises financial sustainability by increasing financial risk and reducing long-term viability. The study recommended that bank management should pursue strategic growth initiatives to achieve optimal operational scale, maintain conservative debt-to-equity ratios within regulatory guidelines, and leverage institutional knowledge for competitive advantage. Regulatory authorities should consider these findings when developing prudential regulations, emphasizing leverage management and corporate governance guidelines. Investors should utilize firm size, leverage levels, and governance quality as key evaluation criteria for banking sector investments. Future research should incorporate additional variables such as management quality, technological innovation, and macroeconomic factors to explain the remaining 52.5% of financial sustainability variation.

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DEDICATION

I dedicate this research thesis first and foremost to Almighty God, whose grace, wisdom, and strength have sustained me throughout this academic journey. I further dedicate it to my beloved family, whose love, encouragement, and prayers have been my greatest source of motivation. To my friends and mentors, thank you for your support, guidance, and inspiration. This accomplishment reflects your belief in me and your presence every step of the way.

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ACRONYMS AND ABBREVIATIONS

CBK	Central Bank of Kenya
CMA	Capital Markets Authority
ESG	Environmental, Social, and Governance
ICT	Information and Communication Technology
IR	Integrated Reporting
LM	Lagrangian Multiplier
NACOSTI	National Commission for Science, Technology, and Innovation
NSE	Nairobi Securities Exchange
OLS	Ordinary Least Squares
ROA	Return on Assets
VIF	Variance Inflation Factor

TERMS AND DEFINITION

Integrated Reporting (IR)	A corporate reporting framework that integrates financial and non-financial data to provide a holistic picture of organizational performance and value creation over time. It aims to enhance accountability and sustainability through transparent communication to stakeholders (Eccles & Krzus, 2010; IIRC, 2021).
Financial Sustainability	The ability of a financial institution to generate sufficient income to cover operational costs, invest in future growth, and remain resilient to external shocks, while consistently delivering value to stakeholders (Adams & Simnett, 2021; Muturi & Muthoni, 2022).
Firm Size	The magnitude of a company's operations, commonly measured by total assets or annual turnover, and used as a proxy for its resource capacity and public visibility (Giordano & Naldi, 2021).
Leverage	The proportion of debt in a firm's capital structure, typically represented by the debt-to-equity ratio, influencing risk exposure and disclosure needs (Adams, 2022).
Firm Age	The number of years since a firm's incorporation, representing its operational maturity and accumulated experience in governance and reporting practices (Abubakar & Kaggwa, 2022).
Board Size	The total number of directors on a firm's board, reflecting its governance depth and potential for strategic oversight in

sustainability and reporting decisions (Mugambi & Wekesa, 2023).

Tier I and II Banks

The commercial banks in Kenya which had categorized by the Central Bank of Kenya as the banks with large market share and asset base known as Tier I banks and the banks with mid-sized market share and assets as Tier II banks (CBK, 2025).

CHAPTER ONE: INTRODUCTION

1.1 Background of the Study

Integrated Reporting (IR) represents a significant evolution in corporate reporting, aiming to provide a comprehensive, future-oriented view of an organization's performance by integrating both financial and non-financial information. As global interest in corporate transparency, accountability, and long-term value creation grows, IR is increasingly recognized as a strategic instrument for enhancing financial sustainability. The International Integrated Reporting Council (IIRC), established in 2010, has been instrumental in promoting this framework. By 2021, over 2,000 companies globally had adopted IR, signaling a worldwide shift towards sustainability-oriented disclosures (IIRC, 2021), with countries like South Africa, the UK, and Australia leading in its corporate governance integration (KPMG, 2020).

Despite its rising global relevance, integrated reporting adoption and practice are often influenced by underlying organizational and situational factors, known as antecedents. These determinants dictate if, how, and to what extent IR is adopted within a firm. Key antecedents include board characteristics, the regulatory environment, firm size, leadership commitment, stakeholder pressure, and internal reporting capabilities. These factors not only influence the quality and scope of IR disclosures but also impact how integrated reporting contributes to financial sustainability (Ioannou & Serafeim, 2017; Tweedie & Whittington, 2015).

At the regional level, South Africa has pioneered the institutionalization of integrated reporting, with its corporate regulations actively promoting sustainability-oriented disclosure among public companies (Moolman & King, 2018). The Johannesburg Stock Exchange (JSE) serves as a regional exemplar in fostering IR adoption. However, IR implementation across the African continent remains patchy, largely due to disparities in governance maturity,

regulatory support, firm-level capability, and stakeholder awareness, all critical antecedents for effective IR. Challenges faced by African companies in adopting IR can often be traced to these antecedents, such as low awareness, insufficient training, weak regulatory policies, and limited organizational infrastructure (Moolman & King, 2018). These issues are particularly pertinent in developing economies, where corporations may operate in resource-constrained environments and might not fully grasp the long-term benefits of integrated reporting. Without strong board oversight, leadership buy-in, and effective stakeholder engagement, IR risks becoming a mere compliance exercise that fails to genuinely enhance financial sustainability (Nixon & Muthui, 2020).

In Kenya, integrated reporting among Tier I and II commercial banks is still in its nascent stages. Although governmental bodies like the Central Bank of Kenya (CBK) and the Nairobi Securities Exchange (NSE) have begun to encourage sustainability reporting, many banks remain rooted in traditional financial reporting (CBK, 2023). The factors contributing to this slow adoption underscore the significance of specific antecedents, including board size, firm age, leverage, and regulatory compliance, in shaping disclosure practices. Muturi and Mwaura (2020) note that only a few large financial institutions have made progress in integrating non-financial indicators, influenced by internal capacity, leadership orientation, and pressure from international stakeholders. Furthermore, the diffusion of integrated reporting in Kenyan banks is limited by insufficient technical skills for publishing ESG data, a lack of understanding regarding IR's strategic value, and inefficient internal control systems (Kinyua & Muathe, 2017). Cultural resistance, coupled with low prioritization of non-financial indicators, hampers institutionalization of IR. These conditions reveal that organizational antecedents, alongside external conditions, profoundly influence the rate and quality of integrated reporting and, consequently, the realization of financial sustainability.

Despite progressive frameworks like the CMA's guidelines and CBK's sustainability disclosure encouragement, implementation gaps persist, particularly in Tier I and II banks.

This research therefore aims to understand the antecedents of integrated reporting that enhance the financial sustainability of Tier I and II commercial banks in Kenya. It will identify both internal and external influences that determine the adoption, quality, and effectiveness of IR practices within the banking industry. The study specifically adopts board size, firm leverage, firm age, and firm size as key variables to unveil how these antecedents support or impede integrated reporting as a strategic sustainability tool. The findings will contribute to the ongoing global discourse on integrated reporting by providing a contextualized application within a developing economy and identifying practical levers for practitioners and policymakers to promote its adoption. Ultimately, this research will advance evidence-based guidelines to enable Tier I and II commercial banks in Kenya to align their reporting activities with global norms, ensuring their financial resilience and accountability to stakeholders in a dynamic business environment.

1.1.1 Antecedents of Integrated Reporting

Integrated Reporting (IR) antecedents are the internal and external factors that drive its successful adoption. Globally, these include leadership commitment, robust governance, and long-term value creation processes, fostering transparency and stakeholder inclusion, as described by Adams (2022). Regionally in Sub-Saharan Africa, Muwanga and Mbalamy (2023) highlight institutional pressures, stakeholder demands, and leadership responsiveness to reporting requirements, driven by donor demands, regulatory shifts, and industry peer influence. They note that regional capital markets further motivate compliance with international IR standards. In Kenya, Wanjiru and Kihara (2023) identify firm-specific variables like board effectiveness, technological capacity, and alignment with sustainability

goals, emphasizing both regulatory and internal organizational drivers such as investor confidence and competitive advantage.

Empirical research has operationalized these antecedents using various proxies. Globally, Giordano and Naldi (2021) link firm size, board composition (independent and diverse), and lower leverage to higher IR quality, attributing this to increased public scrutiny and stakeholder demands. In East and West Africa, Abubakar and Kaggwa (2022) found that older firms with established governance structures, and those with institutional ownership, were more likely to adopt IR due to greater stakeholder sensitivity. Locally in Kenya, Mutiso and Kairu (2022) identified audit committee independence, firm size, ICT infrastructure, and board size as significant antecedents, highlighting the importance of strong internal governance and technological readiness.

This research focused on four key antecedents: firm size (total assets/yearly income), representing resources and stakeholder exposure; leverage (debt-to-equity ratio), influencing financial flexibility; firm age, indicating organizational maturity and experience; and board size (number of directors), reflecting governance capacity and diverse perspectives. These indicators were chosen for their prevalence in literature and their relevance to the Kenyan banking industry's regulatory environment, providing a comprehensive understanding of IR implementation in Tier I and II commercial banks.

1.1.2 Financial Sustainability

Financial sustainability, viewed through the lens of long-term value creation and resilience, is increasingly assessed using multi-dimensional tools. Globally, Adams and Simnett (2021) define financial sustainability as an organization's capability to generate long-term value while effectively managing financial, social, and environmental risks. This contemporary definition underscores that sustainability extends beyond immediate

profitability, embracing long-term resilience and value for all stakeholders, particularly in the context of integrated reporting. Regionally, specifically in Sub-Saharan Africa, Olayemi and Ndlovu (2023) characterize financial sustainability as an institution's stable ability to generate sufficient revenue to fund its operations, invest in future growth, and withstand external economic shocks. This perspective is vital in Africa's often unstable regulatory, currency, and infrastructure environments, emphasizing the need for effective financial planning, efficient operations, and strategic stakeholder engagement. In the Kenyan context, Muturi and Muthoni (2022) define financial sustainability for financial institutions as the capacity to consistently meet stakeholder needs, maintain financial stewardship, and achieve sustained growth without relying on unpredictable revenue sources. This definition directly addresses Kenya's macro-level banking challenges, including interest rate capping, fluctuating loan defaults, and dynamic regulatory demands, highlighting that sustainability involves continuous operational viability and risk management beyond mere profit generation.

Financial sustainability has been assessed using various empirical measures, which often vary depending on the geographic region and industrial sector. For instance, Du Toit and Van Zyl (2021) utilized Return on Assets (ROA), Return on Equity (ROE), and Capital Adequacy Ratio to measure global banks' financial stability, providing insights into their profitability, operational efficiency, and risk absorption capabilities. In West Africa, Agyeman and Ofori (2022) assessed microfinance institutions' financial sustainability using indicators such as Operational Self-Sufficiency (OSS), Cost-to-Income Ratio, and Debt Service Coverage Ratio, emphasizing their role in evaluating financial independence and operational resourcefulness in developing economies. Locally, Wekesa and Kiragu (2023) gauged the financial sustainability of Kenyan commercial banks through Non-Performing Loans (NPL) ratio, Net Interest Margins (NIM), and Liquidity Ratios. Their findings highlighted that beyond profitability, effective credit risk management and operational

efficiency are crucial for sustainability in Kenya's dynamic banking sector, reinforcing the multi-faceted nature of financial sustainability amidst market and regulatory volatility.

Therefore, this study adopted the Altman Z-Score to quantify financial sustainability, recognizing it as a robust composite financial estimator well-regarded for forecasting an institution's financial stability. The Altman Z-Score, while initially developed for manufacturing companies, has been widely adapted for financial organizations, providing a holistic assessment of financial viability by integrating aspects of liquidity, profitability, leveraging, solvency, and operational efficiency. This model's ability to condense multiple financial ratios into a single predictive score offers a comprehensive evaluation of a firm's financial health, making it suitable for assessing the multi-dimensional nature of financial sustainability in the banking sector. Zhang and Kim (2023) assert that the Z-Score model offers superior predictive power for long-term financial sustainability compared to single metrics like ROA, especially in industries susceptible to financial distress and market disruptions. Du Toit and Van Zyl (2021) further support the utility of composite measures for benchmarking financial sustainability across entities with diverse capital structures and operating models. The Altman Z-Score is particularly applicable to commercial banks (Tier I and II) in Kenya due to the sector's characteristic regulatory shifts, market competition, and macroeconomic volatility. Muturi and Muthoni (2022) underscore the appropriateness of a multidimensional measure like the Altman Z-Score for capturing such complexities by consolidating various financial dimensions into a single sustainability indicator. Consequently, this research utilizes the Altman Z-Score not only to ascertain the financial health of Kenyan banks but also to evaluate their strategic performance within the broader context of sustainable value creation and long-term viability, outcomes significantly influenced by integrated reporting practices.

1.1.3 Tier I and II Commercial Banks in Kenya

Commercial banks in Kenya are strategically categorized into Tier I and Tier II, representing the largest and most influential institutions in the financial landscape. These banks, as defined by the Central Bank of Kenya (CBK, 2023), possess asset values exceeding KES 100 billion and collectively control over 80% of the market share, underscoring their systemic importance in credit provision and economic growth. However, between 2020 and 2024, their financial sustainability has shown signs of strain, reflected in declining profitability and asset quality. The CBK (2023) reports that the sector's Return on Assets (ROA) fell from 3.4% in 2021 to 2.5% in 2022, while the Non-Performing Loans (NPL) ratio increased from 13.0% to 13.3% during the same period, rising further to 14.5% by 2024 (CBK, 2024). These figures suggest that despite their scale and dominance, Tier I and II banks face structural challenges affecting operational efficiency and long-term viability.

The deterioration in financial sustainability among Tier I and II banks is attributed to multiple internal and external pressures. Internally, weaknesses in governance systems, leverage management, and integrated reporting practices limit their ability to link financial outcomes with non-financial value drivers such as environmental, social, and governance (ESG) performance (Wambua & Njeru, 2023). Externally, inflationary pressures (averaging 9.6% in 2022), currency depreciation, and heightened competition from fintech disruptors have intensified the operating environment (Kenya National Bureau of Statistics [KNBS], 2022; Kenya Bankers Association [KBA], 2023). These dynamics have constrained profitability margins, slowed credit growth, and increased exposure to risk. Ngugi et al. (2022) further highlight that the sustained viability of these institutions is vital for national financial stability, as their decline could precipitate systemic risks across Kenya's banking ecosystem.

Moreover, as global and local stakeholders increasingly demand transparency and accountability, integrated reporting has emerged as a strategic tool to enhance financial sustainability (Adams, 2022; Deloitte, 2023). Investors and regulators expect Tier I and II banks to go beyond traditional financial disclosures by integrating ESG metrics into performance reporting. However, most of these banks have yet to fully adopt comprehensive integrated reporting frameworks, resulting in fragmented disclosures and missed opportunities to demonstrate long-term value creation (KPMG, 2022; Wambua & Njeru, 2023). This study, therefore, examines how firm-specific antecedents, such as governance structure, leverage, firm size, and institutional maturity, affect financial sustainability, with integrated reporting serving as a mediating factor among Tier I and II commercial banks in Kenya.

1.2 Statement of the Problem

Tier I and II commercial banks in Kenya should exhibit the highest levels of financial sustainability, underpinned by effective governance structures, visionary leadership, and robust corporate organizational setups. These elements serve as key antecedents of effective integrated reporting (IR). Specifically, antecedent factors such as board composition, firm size, financial structure (leverage), and institutional maturity drive integrated thinking and comprehensive reporting of both financial and non-financial value drivers. This approach transforms integrated reporting into a strategic management tool, highlighting Environmental, Social, and Governance (ESG) aspects alongside financial performance. The outcome is greater transparency, accountability, and stakeholder trust (Adams, 2022; KPMG, 2022; Deloitte, 2023). In such an environment, Kenyan banks would achieve long-term profitability, enhanced resilience to risks, and compliance with global sustainability best practices, thereby boosting investor confidence and regulatory consistency.

Despite their dominance in the financial market, Kenya's Tier I and II commercial banks have been experiencing declining financial sustainability from 2020 to 2024, characterized by reduced profitability and deteriorating asset quality. Data from the Central Bank of Kenya (CBK, 2024) shows that the Non-Performing Loans (NPL) ratio for the banking sector rose from 13.0% in 2021 to 13.3% in 2022, and further to 14.5% in 2024, with Tier I and II banks accounting for over 75% of the total non-performing loan value. Additionally, Return on Assets (ROA), a core measure of operational efficiency, dropped from 3.4% in 2021 to 2.5% in 2022, before stabilizing at 2.7% in 2023 (CBK, 2024). The Return on Equity (ROE) also exhibited downward pressure, falling from 25.5% in 2021 to 21.8% in 2023, indicating reduced profitability. These trends reflect weakened credit risk management, inefficiencies in governance systems, and limited integration of IR principles that connect financial performance with ESG outcomes.

Researchers attribute this decline to underperforming risk management frameworks and inadequate utilization of integrated reporting systems that link financial outcomes with non-financial disclosures (Wambua & Njeru, 2023). The absence of robust governance mechanisms, balanced leverage, and well-structured firm designs leaves these banks prone to internal inefficiencies and external macroeconomic shocks. This vulnerability is further intensified by economic headwinds such as high interest rates, inflation averaging 7.8% in 2023, and tightening liquidity conditions that eroded asset quality (CBK, 2024). Consequently, the long-term stability of Tier I and II commercial banks remains under significant threat despite their scale and resource advantages.

Although scholarly interest in integrated reporting and financial sustainability has grown in recent years, multiple knowledge gaps persist in the current literature. For example, Mburu and Njoroge (2022) examined IR adoption but did not account for internal firm-level variables such as governance structure and firm size in relation to financial sustainability.

Similarly, Wambua and Njeru (2023) identified barriers to integrated reporting adoption but failed to analyze how such challenges relate to quantifiable firm-specific factors like leverage and board size. Kinyua et al. (2021) evaluated IR quality but did not explore how governance antecedents influence reporting quality and long-term sustainability. Ngugi et al. (2022) assessed IR implementation but overlooked its sustained effects on financial sustainability and the role of firm maturity. More recently, Wanyonyi and Mutai (2024) focused mainly on conventional financial indicators, neglecting broader organizational and managerial dimensions that underpin integrated sustainability reporting and performance.

1.3 Research Objectives of The Study

1.3.1 Main Objective

To investigate the effect of Integrated Reporting on Financial Sustainability of Tier I and II commercial banks in Kenya.

1.3.2 Specific Objectives

- i. To determine the effect of firm size on Financial Sustainability of Tier I and II commercial banks in Kenya.
- ii. To establish the effect of leverage on Financial Sustainability of Tier I and II commercial banks in Kenya.
- iii. To assess the effect of firm age in Reporting Processes on Financial Sustainability of Tier I and II commercial banks in Kenya.
- iv. To assess the effect of Board Size on Financial Sustainability of Tier I and II commercial banks in Kenya.

1.4 Research Questions

- i. What is the effect of firm size on Financial Sustainability of Tier I and II commercial banks in Kenya?

- ii. What is the effect of leverage on Financial Sustainability of Tier I and II commercial banks in Kenya?
- iii. What is the effect of firm age on Financial Sustainability of Tier I and II commercial banks in Kenya?
- iv. What is the effect of Board Size on Financial Sustainability of Tier I and II commercial banks in Kenya?

1.5 Significance of the Study

1.5.1 Financial Regulators

To financial regulators, especially the Central Bank of Kenya (CBK), this study is of utmost importance as far as highlighting the dynamics that affect the financial stability of Tier I and II commercial banks is concerned. Exploring the concept of integrated reporting, the study provides regulators with the insight on how improved transparency and accountability can enhance the place of more effective risk management practices. The findings can help refine existing guidelines, policies and regulations so that regulator can have a financial requirement on the banks as well as ensure that banks implement best practices in terms of reporting to bring stability in the banking industry. The result can be a stronger banking sector that is more study against financial shocks and thus safeguarded national economy.

1.5.2 Bank Management and Executives

Management teams and executives of Tier I and II commercial banks as well as central Bank officials, this paper presents a guide that can help in enhancing the sustainability of an organization financially, using integrated reporting. It points to the factors showing how embracing of comprehensive reporting practices can prove useful in terms of positively affecting decision-making, building the trust of stakeholders as well as preventing risks in operations. These findings can help the bank executives to streamline internal procedures,

improve communication with stakeholders and carry better risk management practices. Furthermore, the inclusion of non-financial aspects in banks reports to include environmental, social, and governance (ESG) factors may enable them to position themselves in line with the worldwide trends that will help them strengthen their competitive position within the rapidly changing sphere of the financial market.

1.5.3 Investors and Shareholders

This research would be of help to investors and shareholders because it would determine useful information on the connection between integrated reporting and financial sustainability. Such a better interpretation of how integrated reporting can help in better management of risks and help in generating profits in long term will help investors decide on investments especially those that will have potential interests in the long term in the growth perspective of Tier I and II commercial banks. Amid the increasing call to transparency, the study provides investor information to determine the stability and sustainability of investments. It also makes them able to make informed decisions on which banks are well placed to overcome financial and operations constraints in future.

1.5.4 Customers

High-net-worth individuals and institutional clients, this paper offers an excellent insight on the potential role of integrated reporting in strengthening reliability and accountability of the banking services provided to them. Since consumers are getting increasingly aware of the ethical and green characteristics of the businesses they deal with, this study shows how Tier I and II banks can enhance customer trust and satisfaction through communication by adopting transparent reporting models. This will enable the customers to make better choices concerning their financial undertakings by being assured that the banks they do their business activities with practice the sustainable business concept and disclosure of their financial-related information.

1.5.5 Academics and Researchers

The research adds to the emerging body of knowledge in this area because of the need to understand more about integrated reporting and its effects on financial sustainability of banks. The study provides a significant lack in the available literature especially in case of Kenyan Tier I and II commercial banks since the study outlines the role of non-financial reporting factor on the overall performance and resilience of such institutions. Further studies can be implemented by considering the role of integrated reporting in the other sphere and geographical region based on this study. It also provides an idea on investigating the overlap between financial performance, sustainability and governance hence contributing to the scholarship debate of corporate reporting practice within the emerging markets.

1.6 Scope of the Study

This study is limited to the contribution of integrated reporting to increase the financial sustainability of the Kenyan commercial banks at the Tier I and Tier II. It investigates the influence that the critical independent parameters such as the size of firms, leverage, age of firms, and the size of board have on the financial performance and the ability of these banks to manage risks. The research has a geographical limitation to Kenya and focusing on the Tier I and II commercial banks since it is the largest financial institutions in Kenya. It shall examine financial and non-financial measures of sustainability and give particular focus to the use of integrated reporting in the Kenyan bank sector.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

This chapter serves as the foundation for the study's analytical perspective by exploring the theoretical underpinnings of integrated reporting and financial sustainability, alongside a critical review of prior empirical studies. The key concepts are discussed in depth, contextualized, and examined to identify emerging patterns, knowledge gaps, and significant developments within the field. Through this review, the study sharpens its conceptual and methodological focus while evaluating current scholarship to bridge the gap between existing literature and a fresh understanding of how integrated reporting influences financial behavior and long-term sustainability in the banking sector.

2.2 Theoretical Review

Studying the antecedents of integrated reporting in improving the financial sustainability of Tier I and II commercial banks in Kenya, we should be careful to set the independent variables used in the study within reasonably framed theories. Theories also give up a governed understanding behind the impact of Firm Size, Leverage, Firm Age, and Board Size on the methods of integrated reporting. All these characteristics of an organization have previously been associated by literature sources with certain theoretical frameworks on how they affect corporate transparency and the sustainability reporting. By correlating these variables to some established theories, namely Legitimacy Theory, Agency Theory, Organizational Learning Theory, and Resource Dependence Theory this research forms a strong conceptual framework towards examining the role of internal firm dynamics on integrated reporting, and therefore financial sustainability within the Kenyan banking sector.

This section explores four theories that guide the conceptual underpinning of this study: Legitimacy Theory, Agency Theory, Institutional Theory, and Resource Dependence Theory. These theories help interpret how firm-specific antecedents—namely firm size,

leverage, firm age, and board size—influence the adoption of integrated reporting and consequently financial sustainability among Tier I and II commercial banks in Kenya.

Given the multidimensional structure of integrated reporting, no single theory can adequately explain the diverse motivations and institutional behaviors behind its adoption. As such, this study adopts a multi-theoretical approach to provide a richer, more nuanced understanding of how internal organizational factors shape disclosure practices and financial sustainability.

TABLE 1
Theory-Variable Mapping

Theory	Primary Antecedent Addressed
Legitimacy Theory	Firm Size
Agency Theory	Leverage
Institutional Theory	Firm Age
Resource Dependence Theory	Board Size

2.2.1 Legitimacy Theory

Legitimacy Theory, originally developed by Dowling and Pfeffer (1975), provides a compelling lens through which to examine the antecedents of integrated reporting in enhancing financial sustainability of Tier I and II commercial banks in Kenya. The theory posits that organizations continuously strive to operate within the norms, values, and expectations of the society in which they exist. Legitimacy, in this context, refers to the generalized perception that an organization's actions are appropriate and desirable within a socially constructed system of beliefs. Consequently, organizations are motivated to adapt their strategies and disclosures, including integrated reporting practices, in ways that sustain or restore this societal approval. This drive for legitimacy forms the foundation upon which antecedents such as firm size, leverage, firm age, and board size can be understood as critical

enablers of integrated reporting, particularly within Kenya's highly regulated and stakeholder-sensitive banking sector.

Firm size, one of the key antecedents in this study, is strongly aligned with Legitimacy Theory. Larger banks, especially Tier I and Tier II institutions, receive more public attention and face scrutiny from regulators, investors, and the general public. Chih et al. (2020) indicate that larger firms face greater legitimacy pressure due to their visibility, and therefore resort to integrated reporting as a strategic mechanism to manage external perceptions. Nkundabanyanga et al. (2022) concur, observing that large companies have a higher probability of engaging in extensive disclosure activities such as sustainability and integrated reporting to maintain reputational capital and satisfy stakeholders. Therefore, firm size serves as a structural antecedent that facilitates integrated reporting implementation to address legitimacy requirements.

Moreover, larger banks possess sufficient internal capabilities to install the complex reporting systems required for effective integrated reporting. Kiambi and Kinyua (2021) establish that integrated reporting requires significant financial, technological, and human resources that are abundantly available in large firms. Consistent with Legitimacy Theory, such firms leverage these resources to craft detailed disclosures that signal their adherence to societal values and sustainability principles. Through this approach, they not only comply with regulations but also enhance their legitimacy among stakeholders, thereby improving their financial sustainability.

Legitimacy Theory also helps define how regulatory and institutional forces influence the integrated reporting behavior of banks. In Kenya, Tier I and II commercial banks operate under intense government and regulatory scrutiny, compelling them to maintain robust reporting systems. These banks implement integrated reporting not only as a regulatory

compliance measure but also as a strategic solution that enhances stakeholder confidence. Agyemang and Ahmed (2023) note that such reporting mechanisms are being utilized proactively by firms seeking to manage legitimacy threats and maintain future stakeholder support—an outcome particularly relevant in a sector where financial risk and public demands are increasing.

The expectations of stakeholders are particularly heightened for large and systemically important banks. According to Otieno and Muriithi (2023), stakeholders attach greater social and economic responsibilities to larger banks, making reporting requirements more demanding as the need for transparency and accountability grows. This dynamic aligns with Legitimacy Theory, which suggests that organizations under stakeholder pressure respond by making additional disclosure efforts. Therefore, the antecedents of integrated reporting, especially those correlated with firm size, board composition, and institutional maturity, represent organizational dynamics through which legitimacy is pursued and financial sustainability is achieved.

Despite its relevance, Legitimacy Theory has several limitations. The first is its reactive nature, which depicts organizations as responders to legitimacy threats rather than proactive shapers of their environments (Cho et al., 2021). This perspective may underestimate the strategic and innovative aspects of integrated reporting adoption, particularly in industry-leading companies. Critics have also raised concerns about the theory's limited empirical robustness, as Bebbington et al. (2022) note that the broad and permeable definitions that characterize the theory reduce its testability in quantitative research such as this study. Additionally, the theory commonly treats societal expectations as homogeneous, failing to account for the complexity and conflicts among different stakeholder interests (Boiral et al., 2021). This represents a particular weakness in Kenya's pluralistic banking sector, where banks must simultaneously address multiple stakeholders including

regulators, investors, customers, and civil society. Finally, the theory offers limited explanation for situations where the institutional environment is stable with minimal legitimacy threats (Dumay et al., 2020), making it less applicable to longitudinal reporting trend studies.

Nevertheless, Legitimacy Theory provides a valuable framework for interpreting how firm-specific antecedents influence integrated reporting adoption patterns and subsequently enhance financial sustainability. This theoretical lens offers insights into how internal organizational characteristics (size, governance, and capital structure) of Tier I and II commercial banks in Kenya respond to external legitimacy pressures through transparent and responsible reporting practices.

In this study, firm size is conceptualized through Legitimacy Theory. Larger firms, especially Tier I and II banks, attract more public and regulatory scrutiny, thus facing stronger legitimacy pressures. To manage these pressures, they adopt integrated reporting to show societal alignment (Chih et al., 2020; Nkundabanyanga et al., 2022). The theory helps explain that the larger a firm grows, the greater the need to disclose information that reinforces its social license to operate. In Kenya's banking context, this means large banks disclose sustainability and governance practices not only for compliance but to strengthen stakeholder trust and financial sustainability (Kiambi & Kinyua, 2021).

Legitimacy Theory is praised for connecting corporate reporting practices to social expectations, thus explaining why organizations voluntarily disclose non-financial information (Agyemang & Ahmed, 2023). It is particularly effective in understanding public accountability in regulated industries such as banking. However, it has been criticized for its reactive orientation, portraying firms as passive respondents to external pressure rather than proactive agents of change (Cho et al., 2021). Its conceptual vagueness also reduces empirical

testability (Bebbington et al., 2022), and it overlooks heterogeneous stakeholder expectations (Boiral et al., 2021).

Legitimacy Theory is chosen because it directly explains the link between firm size and integrated reporting adoption in Kenya's visible, reputation-sensitive banking sector. Despite limitations, it provides a valuable lens for understanding how larger firms maintain stakeholder confidence and long-term financial sustainability through transparent disclosures.

2.2.2 Agency Theory

Agency Theory, as originally developed by Jensen and Meckling (1976), provides a vital theoretical foundation for understanding corporate governance and disclosure practices, especially in contexts where ownership and control are separated. The theory explains the relationship between principals (such as shareholders or owners) and agents (typically managers), highlighting the potential for conflict when agents pursue their self-interests at the expense of principals. These agency conflicts, manifesting in issues such as moral hazard and information asymmetry, necessitate mechanisms to align interests, including transparency, monitoring, and performance-based incentives. In the context of this study on antecedents of integrated reporting in enhancing financial sustainability of Tier I and II commercial banks in Kenya, Agency Theory helps explain how certain financial and governance-related factors, such as leverage, influence the adoption of integrated reporting to mitigate agency problems and promote sustainable financial outcomes.

Leverage, a key variable in this study, relates specifically to Agency Theory. High debt levels in a company lead to increased agency conflicts not only between shareholders and managers but also between managers and creditors. In such cases, the need for transparency and accountability becomes even more critical, and companies turn to advanced

reporting options, including integrated reporting. Nguyen et al. (2021) explain that highly leveraged companies must provide signals to external financiers that their operations are financially sound and sustainable in the long term. Integrated reporting, combining financial and non-financial disclosures, serves as a strategic tool for minimizing information asymmetry and building trust with creditors, thereby enhancing the company's financial viability.

Tier I and II commercial banks in Kenya that are highly leveraged have adopted integrated reporting as a response to monitoring demands and stakeholder requirements, consistent with Agency Theory principles. According to Jankensgard and Vilhelmsson (2022), leveraged companies are more likely to provide comprehensive forward-looking disclosures to assure lenders and investors of their ability to meet obligations in a timely manner. This is particularly applicable in Kenya's banking industry, where high regulation necessitates transparency to maintain credibility with investors, regulators, and other stakeholders. Thus, integrated reporting serves as a governance mechanism that effectively aligns managerial behavior with the financial and informational needs of stakeholders—an activity firmly anchored in Agency Theory principles.

Furthermore, leverage results in increased ongoing supervision, which is addressed through structured and integrated disclosures as suggested by Orazalin and Mahmood (2021). When banks engage in integrated reporting, they can respond to monitoring requirements appropriately while demonstrating accountability, good governance, and long-term value creation. This further substantiates the applicability of Agency Theory in explaining how financial structure (debt levels) affects disclosure practices and contributes to the financial sustainability of financial institutions.

In Kenya's context, Tier I and II banks are typically highly leveraged and exposed to stakeholder demands. These institutions must maintain investor confidence and meet compliance requirements; hence they resort to integrated reporting as a method of demonstrating accountability and sound management. Greater disclosure is evident among highly leveraged banks based on Agency Theory principles, which suggest that financial disclosure can be used to reduce principal-agent conflicts, particularly in circumstances with significant risk exposure (Ndegwa & Muturi, 2023).

Although praised for its utility, Agency Theory faces several criticisms. Among the main limitations is its narrow assumption of exclusively self-interested agent behavior, disregarding social, ethical, and psychological factors that may influence decision-making processes (Pepper & Gore, 2022). This myopic view may not fully comprehend the mechanisms underlying voluntary reporting exercises such as integrated reporting, especially when conducted not merely for compliance but to demonstrate commitment to sustainable and ethical business practices.

The theory's focus on shareholder-manager relationships has also been criticized for overlooking the broader stakeholder context in which modern corporations operate. Integrated reporting embodies a multi-stakeholder orientation that addresses information expectations not only of shareholders and creditors but also of regulators, employees, and society. Classical Agency Theory is, according to De Villiers et al. (2021), constrained by stakeholder exclusivity, limiting its effectiveness in sustainability-driven contexts such as this research study.

Another criticism assumes that monitoring mechanisms are always effective and desirable. However, excessive monitoring can ultimately stifle innovation and encourage dysfunctional managerial practices (Latif & Abdullah, 2023). In sectors such as banking that

require dynamism and adaptability to operate in highly regulated environments, overly strict supervision may hinder the flexibility necessary for adapting to changing conditions, a key aspect of financial sustainability. Additionally, the theory provides limited attention to geographical and institutional differences that affect corporate governance and associated disclosure practices. In Kenya's emerging market context, cultural norms, regulatory climate, and market maturity are among factors that may influence integrated reporting practices (Agyemang & Castellini, 2022).

Recognizing these limitations, scholars have proposed modifications to Agency Theory as applied to disclosure practices. For instance, Jensen (2020) later acknowledged that economic incentives are not the only drivers of agent behavior, but intrinsic motivation and professional ethics also play roles. This leads to a broader perspective on why banks might introduce integrated reporting as a means of promoting transparency and conducting sustainable business. Additionally, according to Donaldson and Davis (2021), incorporating elements of Stakeholder Theory into Agency Theory creates a hybrid model capable of better explaining integrated reporting, which developmentally appeals to multiple stakeholders.

Contextual adaptations of Agency Theory have also improved its explanatory power in developing economies. According to Ntim (2022), adapting the theory to institutional and cultural realities makes it more applicable to emerging markets like Kenya. Under such refinements, one can obtain a more accurate understanding of how leverage and governance mechanisms influence integrated reporting as a means of sustaining financial performance.

Ultimately, Agency Theory provides a valuable framework for understanding how leverage, as a primary antecedent, incentivizes the utilization of integrated reporting as a dimension of enhancing financial viability of Tier I and II commercial banks in Kenya. While the theory has limitations in its classical application, continuous improvements and

contextual adaptations make it increasingly valid. This study demonstrates that through Agency Theory, it is essential to understand how banks attempt to mitigate agency conflicts with the goal of enhancing information transparency and aligning stakeholder interests through integrated reporting in support of long-term financial sustainability.

Agency Theory, developed by Jensen and Meckling (1976), explains the relationship between principals (shareholders) and agents (managers), focusing on conflicts arising from divergent interests. Integrated reporting, which emphasizes transparency and accountability, can mitigate agency problems by reducing information asymmetry between owners, managers, and creditors.

In this study, leverage is interpreted through Agency Theory. Highly leveraged banks face pressure from creditors and investors to disclose comprehensive, reliable information. Integrated reporting thus becomes a monitoring mechanism that signals sound governance and financial prudence (Nguyen et al., 2021; Jankensgard & Vilhelmsson, 2022). The theory helps conceptualize leverage as both a constraint and a motivator: the higher the debt, the stronger the incentive for transparent reporting to sustain confidence and access to credit (Orazalin & Mahmood, 2021).

Agency Theory provides clear behavioral predictions about transparency, incentives, and monitoring (De Villiers et al., 2021). It is also empirically grounded, offering a direct linkage between capital structure, governance mechanisms, and disclosure levels. Critics argue that it assumes self-interest as the sole driver of behavior, neglecting ethical or social motives (Pepper & Gore, 2022). It also overemphasizes shareholder interests, whereas integrated reporting targets multiple stakeholders (Latif & Abdullah, 2023). Excessive monitoring, as the theory prescribes, may stifle innovation and responsiveness in dynamic sectors.

Agency Theory was selected because it directly addresses leverage as a financial antecedent influencing disclosure practices. It clarifies how Kenyan banks, particularly those with high debt ratios, use integrated reporting to reduce agency conflicts, reassure investors, and sustain financial performance.

2.2.3 Institutional Theory

Institutional Theory, first introduced by Meyer and Rowan (1977), provides a compelling framework for understanding how organizations adopt practices such as integrated reporting not purely for efficiency gains, but in response to institutional pressures aimed at achieving legitimacy, stability, and long-term survival. The theory posits that organizations operate within a broader institutional environment characterized by cultural norms, regulatory frameworks, professional standards, and stakeholder expectations. Conformance to these institutional expectations often leads to the adoption of formal structures and practices, including enhanced disclosure mechanisms that may be symbolic but are crucial for gaining legitimacy.

The application of Institutional Theory in this study is relevant for explaining how and why established commercial banks, particularly older ones, adopt integrated reporting frameworks. Older banks typically have embedded relationships within institutional networks and have established long-term connections with regulators, clients, and investors. Consequently, these institutions are more susceptible to coercive, normative, and mimetic forces and tend to follow internationally recognized practices such as integrated reporting. Empirical evidence presented by Oware and Mallikarjunappa (2021) demonstrates that older firms are more likely to adhere to institutional sustainability standards. For Tier I and II banks in Kenya, integrated reporting presents an opportunity not only as a regulatory instrument but also as a competitive strategy to guard against legitimacy accusations while pursuing profitable levels of sustainable performance (Mutuku & Muriithi, 2022).

Institutional Theory also suggests that as organizations age, they develop institutional knowledge, routines, and reporting systems that enable them to respond effectively to emerging institutional expectations such as integrated reporting. Formal control and reporting systems are easier to introduce and absorb in established banks, making them more likely to adopt advanced systems such as integrated reporting (Abeysekera, 2020; Omran et al., 2021). This internal maturity coincides with increasing external expectations for transparency, accountability, and sustainability—all primary factors pertaining to financial sustainability. Thus, firm age serves as an important antecedent in determining integrated reporting adoption within the institutional context of Kenya's banking industry.

Additionally, major institutional players including the Central Bank of Kenya, the Capital Markets Authority, and international development partners closely monitor established Tier I and II banks. These institutional stakeholders are becoming increasingly demanding regarding corporate transparency and alignment with sustainability principles. Adegbite et al. (2021) assess that organizations already established in the market face greater coercive and normative pressures, making integrated reporting an ideal response to maintain credibility. Accountability and stakeholder trust are highly relevant to Tier I and II commercial banks in Kenya, as they are expected to demonstrate responsibility and leadership in Kenya's financial sector.

Despite its explanatory power, Institutional Theory faces several criticisms. The first limitation is its portrayal of organizations as essentially passive conformers, showing less emphasis on strategic agency in addressing institutional demands. In practice, some banks may embrace integrated reporting as a ritual without implementing substantial internal changes to meet underlying expectations—a phenomenon called decoupling (Greenwood et al., 2014; Alvesson & Spicer, 2020). This raises questions about how effectively integrated

reporting practices in Kenyan banks can result in sustainable financial performance versus merely ensuring compliance.

Another weakness is the theory's failure to address power dynamics and asymmetries between regulators and institutions, especially in emerging economies. According to Suddaby and Viale (2021), Institutional Theory fails to explain how major institutional players determine reporting rules and their influence on firm-level practices. The fear of regulatory penalties that pushes banks to embrace integrated reporting frameworks in Kenya may result in inauthentic disclosure practices that ultimately contribute to unsustainable financial outcomes.

Moreover, Institutional Theory has been criticized for being descriptive rather than predictive. Critics such as Modell (2021) note that while the theory explains why firms implement certain practices, it often fails to specify under what circumstances they do so, especially among firms with comparable profiles. This makes it difficult to compare various reporting aspects of Tier I and II banks and predict how firm age influences differences in responsiveness to institutional demands.

Additionally, the theory's initial focus on stability raises questions about its ability to explain innovation, especially in rapidly changing industries like banking. Institutional Theory might not adequately explain proactive adoption and industry-wide diffusion as integrated reporting continues to evolve due to technological advances and regulatory changes (Wijen & Ansari, 2021).

Several refinements of Institutional Theory address these gaps. Institutional entrepreneurship provides agency by arguing that established and resourceful banks can initiate institutional change by institutionalizing practices such as integrated reporting

(Battilana et al., 2021). Legacy banks in Kenya can utilize integrated reporting not only as conformity but as an institutional framework for sustainability and accountability.

Another refinement combines Institutional Theory with the Resource-Based View (RBV). Dacin et al. (2022) argue that this combination can explain the ability of some older firms to respond to institutional pressures because internal competencies enable effective adoption of reporting frameworks that guarantee financial sustainability.

The concept of institutional logics pluralism can also shed light on how banks navigate multiple and sometimes conflicting institutional demands. Thornton et al. (2020) point out that responses to regulatory, market-related, and social pressures might be concurrent, which aligns well with integrated reporting's holistic nature. In this regard, established Tier I and II banks in Kenya could use integrated reporting to balance and create convergence among various stakeholder interests.

Finally, Institutional Theory provides an applicable framework for understanding how firm age as an antecedent affects integrated reporting implementation in Tier I and II commercial banks in Kenya. The theory explains integrated reporting motivation as contributing to organizational legitimacy, compliance, and ultimately financial sustainability by demonstrating the importance of institutional pressures in shaping organizational behavior. Despite its limitations, refined versions of the theory can be used to better understand integrated reporting adoption in Kenya's banking sector within its complex and developing institutional environment.

Institutional Theory, advanced by Meyer and Rowan (1977), posits that organizational practices arise from conformity to institutional pressures—coercive, normative, and mimetic. These pressures stem from regulators, professional associations, and societal norms. In this study, firm age is grounded in Institutional Theory. Older firms, with longer regulatory

histories and stakeholder linkages, are more institutionalized and hence more likely to adopt integrated reporting. They respond to institutional pressures by aligning their disclosures with evolving sustainability standards (Oware & Mallikarjunappa, 2021; Mutuku & Muriithi, 2022). Institutional Theory helps conceptualize firm age as an indicator of institutional embeddedness that drives compliance and stability through reporting.

Institutional Theory effectively explains how external norms and regulatory expectations shape corporate reporting behaviors (Adegbite et al., 2021). It captures the social embeddedness of organizational decisions, making it particularly relevant to regulated sectors like banking. Nonetheless, it is often faulted for portraying firms as passive conformists (Alvesson & Spicer, 2020), neglecting strategic agency and innovation (Wijen & Ansari, 2021). Its descriptive rather than predictive nature also limits empirical precision (Modell, 2021).

Institutional Theory is appropriate for firm age because it situates integrated reporting within Kenya's regulatory and cultural context. It explains why older, well-established banks institutionalize advanced reporting frameworks as part of their pursuit of legitimacy and financial sustainability.

2.2.4 Resource Dependence Theory

Resource Dependence Theory (RDT), initially formulated by Pfeffer and Salancik (1978), asserts that organizations are not entirely self-sufficient but depend on external environments for vital resources necessary for survival and performance. To manage this dependence and reduce environmental uncertainty, organizations strategically form alliances and relationships, often through board appointments, which serve as conduits for accessing resources such as capital, legitimacy, information, and influence. This theory is particularly

pertinent in explaining how corporate governance structures, especially board size, act as critical antecedents to integrated reporting and, by extension, financial sustainability.

Within this study's scope, RDT provides a powerful theoretical perspective for observing how board size impacts the adoption and quality of integrated reporting by Tier I and II commercial banks in Kenya. Larger boards tend to include members with diverse skills, expertise, and networks, providing banks with the required competencies to fulfill complex integrated reporting requirements (Al Farooque et al., 2022; Uyar et al., 2021). Through this mechanism, board size operates not only as a governance feature but also as a strategic asset that promotes comprehensive disclosure, regulatory compliance, and stakeholder relations, all vital elements of financial sustainability.

Evidence suggests that larger boards of directors at Kenyan banks increase the probability of driving integrated reporting activities aligned with sustainability principles. According to research conducted by Kinyua et al. (2023), proactive behaviors such as adopting sustainability reporting frameworks and adhering to regulatory requirements are mostly undertaken by Tier I and II banks with relatively larger board sizes. These results support the RDT thesis that board networks can be used to access external legitimacy and other resources imperative to financial businesses in a competitive and regulated finance sector that sustains long-term performance.

Additionally, enlarged boards facilitate higher stakeholder involvement through their wider cross-section of interests and networks, thus increasing responsiveness to stakeholder expectations regarding integrated reporting processes (Musyoka & Kamau, 2022). Consistent with RDT, this suggests that board size helps banks coordinate stakeholder dependencies better through integrated reports that are not only compliant but also stakeholder-oriented, thereby increasing trust and reputation, key drivers of financial sustainability.

However, RDT faces criticisms worth considering in this research. The first limitation is the theory's concentration on external dependencies while neglecting internal governance processes such as board independence, leadership behavior, and decision-making processes (Hillman et al., 2021). Simply enlarging board size may not be effective without internal cohesiveness and quality oversight. In Kenya, banks with large but passive boards may still struggle to effectively implement integrated reporting.

Moreover, researchers claim that RDT overgeneralizes the value of larger boards without considering sufficient contextual differences. Emerging markets such as Kenya may experience coordination challenges in large boards coupled with potential agency conflicts that hinder their strategic role (Waweru & Ngugi, 2022). This challenges the assumption that increased board members should yield expected superior results in resource acquisition and financial sustainability.

Another limitation is the theory's insufficient attention to board quality and independence. Barako et al. (2022) note that maintaining access to strategic resources depends not only on-board size but also on members' professional competencies, independence, and active involvement. Accordingly, a board can only play a significant role in integrated reporting practices by being not only large but well-constituted.

To overcome these weaknesses, scholars have extended RDT by integrating it with Agency Theory and Stakeholder Theory. Such hybrid designs provide more comprehensive understanding of interactions between external dependencies and internal governance structures that impact integrated reporting outcomes (Pugliese et al., 2022). This integrated perspective considers board size together with board functionality, independence, and diversity, providing a more realistic evaluation of its impact on financial sustainability.

Modern developments of RDT also focus on boards not only as resource providers but as proactive participants in reporting practices and strategic decision-making (Tavakoli et al., 2021). These strategic roles are important for aligning integrated reporting with regulatory requirements, investor expectations, and long-term financial objectives in Kenya's rapidly changing banking industry.

In conclusion, Resource Dependence Theory provides an interesting theoretical explanation of board size as an antecedent of integrated reporting in enhancing financial sustainability of Tier I and II commercial banks in Kenya. By depicting how boards serve as avenues for acquiring essential external resources, RDT helps advance the argument that governance structure considerably affects the quality and focus of integrated reports. Despite its weaknesses, the theory's evolution to incorporate good board practices, contextual aspects, and strategic agency makes it more applicable in Kenya's financial sector. Therefore, RDT provides useful insights on how banks can utilize board size as a strategic tool in their quest to achieve sustainability through integrated reporting.

Resource Dependence Theory (Pfeffer & Salancik, 1978) asserts that organizations depend on external environments for critical resources and must strategically manage these dependencies. Board composition and size are key mechanisms for accessing such resources, as directors bring expertise, capital access, and legitimacy. In this study, board size is explained through RDT. Larger boards enhance access to diverse expertise and networks, facilitating adoption of complex reporting frameworks such as integrated reporting (Uyar et al., 2021; Al Farooque et al., 2022). The theory helps conceptualize the board not merely as a governance body but as a strategic resource channel that influences reporting quality and sustainability outcomes.

RDT is commended for highlighting the strategic role of governance in linking organizations to external environments (Hillman et al., 2021). It accounts for the interdependence between firms and their institutional ecosystems. Critics argue that RDT focuses excessively on external relations while neglecting internal governance processes (Waweru & Ngugi, 2022). Large boards may also create coordination challenges and agency problems if not effectively managed (Barako et al., 2022).

Resource Dependence Theory is chosen because it aligns with board size, explaining how governance structures support integrated reporting through access to information, legitimacy, and stakeholder networks. Its emphasis on external linkages fits Kenya's banking context, where board composition significantly influences regulatory compliance and financial resilience.

2.3 Empirical Review

2.3.1 Firm Size and Financial Sustainability

The relationship between firm size and financial sustainability has been extensively examined across various sectors and geographical contexts, yielding mixed but predominantly positive findings. In developed markets, Al-Shammari and Al-Sultan (2021) investigated industrial companies in the Gulf Cooperation Council using panel data regression over five years. Their findings demonstrated that larger firms achieved higher financial sustainability through economies of scale, enhanced market power, and superior resource availability. Significantly, they found that bigger companies were more inclined toward integrated reporting practices, which enhanced their transparency and long-term viability—a finding directly relevant to this study's focus on IR as a mediating mechanism.

Similarly, Wang and Zhang (2023) examined 300 publicly listed manufacturing companies in China using multiple regression analysis of secondary financial data. They

confirmed a statistically significant positive relationship between firm size and financial sustainability, attributing this to larger firms' superior management systems, control mechanisms, and asset bases that provided greater resilience during financial downturns. The study measured financial sustainability through profitability ratios, debt service capacity, and operational efficiency metrics.

Regional African studies have largely supported these positive findings. Kusi and Oppong (2022) employed a mixed-method approach examining 120 microfinance institutions in Ghana, measuring financial sustainability through capital adequacy ratios, operational self-sufficiency, and portfolio quality indicators. They found that larger institutions maintained superior capital bases and diversified funding sources, enabling sustained operations during economic instability. In Nigeria, Abiola and Adediran (2021) used panel regression analysis on 25 listed insurance companies, measuring financial sustainability through return on assets, solvency ratios, and market share stability. Their results confirmed positive correlations between firm size and sustainability, attributing this to larger firms' strategic planning capabilities and enhanced capital market access.

However, contrasting evidence emerges from small and medium enterprise (SME) contexts. Akinyi and Mtemangombe (2023) found a negative relationship between firm size and financial sustainability among 200 SMEs in Malawi, using descriptive research design with regression analysis. They measured sustainability through profit margins, cash flow stability, and debt-to-equity ratios, discovering that firm expansion led to higher operational costs and managerial complexities that eroded sustainability margins. Similarly, Nwankwo and Chigbu (2022) examined 150 agro-processing companies in Cameroon using cross-sectional survey techniques, finding that rapid growth often contributed to over-leveraging and working capital inefficiencies.

In the Kenyan context, studies have generally supported positive relationships. Wanjala and Kibati (2022) focused specifically on Tier I commercial banks using descriptive correlational design and panel regression analysis of secondary data. They measured financial sustainability through return on assets, capital adequacy ratios, and non-performing loan ratios, finding that larger banks achieved better sustainability outcomes due to solid customer bases, diversified portfolios, and robust internal governance systems. Mutiso and Muriithi (2021) examined 150 registered NGOs using structural equation modeling, measuring sustainability through funding diversity, operational efficiency, and program continuity. They found positive relationships between organizational size and financial sustainability, attributed to better resource mobilization, professional management, and enhanced donor confidence. Otieno and Ouma (2023) analyzed deposit-taking SACCOs using longitudinal financial data and regression analysis, measuring sustainability through asset growth, membership retention, and loan recovery rates, confirming that larger SACCOs achieved better financial outcomes through economies of scale and enhanced investment capacity.

While large firms generally benefit from economies of scale, enhanced market power, and superior resource access that promote financial sustainability, the relationship appears context dependent. In developed markets and established financial institutions, size advantages are clear and often linked to enhanced disclosure practices including integrated reporting. However, among SMEs, rapid growth may create operational inefficiencies and managerial challenges that undermine sustainability. This suggests that the firm size-sustainability relationship may be moderated by organizational capacity, management quality, and sectoral characteristics—factors particularly relevant in Kenya's banking sector where Tier I and II banks possess the resources necessary to leverage size advantages effectively.

2.3.2 Leverage and Financial Sustainability

The relationship between leverage and financial sustainability has consistently demonstrated negative associations across multiple contexts, with important implications for integrated reporting adoption. Sorooshian and Dodangeh (2021) examined large-scale multinational firms in OECD countries using panel data regression models over five years (2015-2019). They measured financial sustainability through return on assets, solvency ratios, and long-term debt coverage, finding that overdependence on debt financing negatively impacted sustainability by constraining firms' ability to fund sustainable operations and innovation. Their findings suggest that highly leveraged firms may adopt integrated reporting as a strategic response to attract long-term investors who value transparency and sustainable business practices.

Bassey and Essien (2022) investigated 180 global energy sector firms using dynamic GMM estimation to address endogeneity concerns. They measured sustainability through profitability indicators, environmental investment capacity, and long-term value creation metrics, confirming strong negative correlations between leverage and financial sustainability. Notably, they found that highly debt-burdened companies were less capable of making environmental investments, a finding that connects leverage constraints to the broader ESG disclosures that integrated reporting encompasses.

Regional studies in Africa have reinforced these patterns. Okonkwo and Ugochukwu (2021) used longitudinal analysis and fixed effects regression on 45 Nigerian agricultural firms, measuring sustainability through asset reinvestment rates, operational cash flows, and market resilience indicators. They confirmed negative leverage effects, noting that debt-burdened firms reduced productive asset investments, thereby compromising long-term survival prospects. In Ghana, Owusu and Boateng (2023) examined 65 manufacturing firms using regression analysis of financial reports and survey data, measuring sustainability

through adaptive capacity, market stability, and operational flexibility. They found that high leverage deterred firms from adopting sustainable practices and increased market vulnerability.

Gachengo and Mugambi (2022) studied Uganda's telecommunications sector using time-series models on five large companies over six years. They measured financial resilience through liquidity ratios, regulatory compliance capacity, and market adaptability, finding that high leverage constrained financial sustainability by limiting firms' flexibility to adapt to regulatory and market changes.

In Kenya, multiple studies have confirmed negative leverage effects. Wambua and Omondi (2021) examined 31 licensed commercial banks using descriptive statistics and multiple regression analysis, measuring sustainability through return on assets, operational efficiency, and technology investment capacity. They found significant negative associations between leverage and sustainability, with overleveraged banks showing lower ROA and reduced investment in banking technologies. This finding is particularly relevant to this study's focus on Tier I and II banks, suggesting that leverage constraints may influence these institutions' capacity to invest in comprehensive reporting systems.

Muriuki and Kariuki (2022) analyzed 13 regulated microfinance banks using panel regression over seven years, measuring sustainability through interest rate risk exposure, credit risk management, and operational continuity. They found that increased leverage led to greater financial unsustainability due to heightened exposure to market interest rate fluctuations and credit risks. Njeri and Kinyua (2023) examined 40 manufacturing companies on the Nairobi Securities Exchange using panel data analysis, measuring sustainability through profitability and strategic investment capacity. They discovered that moderate

leverage enhanced operational performance, but excessive debt negatively impacted financial sustainability, suggesting optimal capital structure requirements for long-term growth.

The consistently negative relationship between leverage and financial sustainability suggests that highly leveraged firms may paradoxically be more motivated to adopt integrated reporting practices. As agency theory suggests, increased debt levels create greater information asymmetry and stakeholder monitoring demands. Integrated reporting may serve as a strategic response to these pressures, helping leveraged firms demonstrate transparency, accountability, and long-term value creation to creditors and investors. This dynamic is particularly relevant in Kenya's banking sector, where regulatory oversight is intense and stakeholder confidence is crucial for sustainability.

Across studies, leverage has been measured primarily through debt-to-equity ratios, total liabilities to assets ratios, and debt service coverage ratios, providing reasonable comparability. Financial sustainability has been consistently operationalized through profitability indicators (ROA, ROE), liquidity measures, operational efficiency ratios, and investment capacity metrics.

2.3.3 Firm Age and Financial Sustainability

The relationship between firm age and financial sustainability presents complex dynamics that vary significantly across developmental contexts and sectors. In developed markets, Al-Hadi et al. (2021) examined S&P 500 companies using ten years of panel data and regression analysis, measuring sustainability through long-term financial performance indicators, market responsiveness, and stakeholder trust metrics. They found that mature companies experienced deteriorating financial sustainability due to bureaucratic rigidity and reduced market responsiveness, though they acknowledged that longevity could enhance

stakeholder trust and long-term investment, benefits that materialized only when combined with innovation capacity.

Liu and Wang (2022) extended this analysis by examining 320 companies across 12 OECD countries using structural equation modeling, measuring sustainability through stability indicators, capital accumulation, and adaptive capacity metrics. They found that firm age's positive contribution to financial sustainability through stability and capital accumulation diminished when innovation capability was low, suggesting that age alone was insufficient for sustainability without adaptive capacity.

Regional African studies reveal different patterns compared to developed markets. Mensah and Gyeke-Dako (2021) examined 140 Ghanaian manufacturing firms using fixed effects regression, measuring financial resilience through crisis response capacity, banking relationships, and revenue diversification. They found that older firms demonstrated increased financial sustainability due to stronger banking relationships and diversified revenue bases, suggesting that in developing contexts, institutional relationships and accumulated social capital may be more valuable than in mature markets where innovation and flexibility dominate.

However, contradictory evidence emerges from SME contexts. Ndlovu and Moyo (2022) used ordinal logistic regression on 210 SMEs in Zimbabwe, measuring sustainability through funding access, operational efficiency, and market competitiveness. They found negative age effects, noting that older SMEs became complacent, used outdated methods, and struggled to access new funding, compromising financial sustainability. Similarly, Bahati and Mugisha (2023) examined 125 small enterprises in Uganda using cross-sectional survey and multiple regression analysis, measuring sustainability through financial performance, innovation capacity, and growth potential. They demonstrated negative associations between

age and sustainability, attributing this to organizational inflexibility and reduced innovation orientation.

In Kenya, studies have generally supported positive age effects in the financial sector. Njoroge and Kibera (2021) examined commercial banks from 2012-2019 using generalized least squares regression, measuring sustainability through strategic performance indicators, market positioning, and regulatory compliance. They found that older banks achieved better financial sustainability, particularly when adopting proactive strategic orientations. This suggests that in Kenya's banking context, institutional maturity and regulatory experience provide sustainability advantages.

Otieno and Wanjala (2022) studied SASRA-regulated SACCOs using descriptive statistics and correlation analysis, measuring sustainability through loan recovery rates, financial strength indicators, and operational stability. They found meaningful positive effects of firm age on sustainability, attributed to improved loan recovery and enhanced financial strength. Kimani and Gikonyo (2023) examined 65 listed firms using multiple regression analysis, measuring sustainability through return on assets and return on equity. They confirmed positive age effects, attributing this to accumulated market experience, steady cash flows, and enhanced investor confidence.

The relationship between firm age and integrated reporting adoption presents interesting dynamics. Older firms in developing markets like Kenya may be slower to adopt integrated reporting due to established reporting routines and resistance to change (cultural inertia). However, institutional theory suggests that mature firms with established stakeholder relationships may be more susceptible to institutional pressures for enhanced disclosure. In Kenya's banking sector, older Tier I and II banks may possess both the institutional knowledge necessary for comprehensive reporting and the stakeholder relationships that

demand it, creating favorable conditions for integrated reporting adoption that could enhance their inherent sustainability advantages.

Firm age effects on financial sustainability appear highly context-dependent. In developed markets, age may create rigidity that undermines sustainability unless coupled with innovation. In developing markets like Kenya, institutional maturity, established relationships, and accumulated experience appear to provide sustainability advantages, particularly in regulated sectors like banking. This suggests that older Kenyan banks may be well-positioned to leverage both their institutional advantages and integrated reporting practices to enhance financial sustainability.

2.3.4 Board Size and Financial Sustainability

The relationship between board size and financial sustainability reveals complex dynamics that align closely with governance theories, particularly Resource Dependence Theory and Agency Theory. Globally, Ahmed et al. (2021) examined 120 listed European financial institutions using panel regression models and secondary data from 2010-2019, measuring sustainability through long-term financial viability indicators, operational efficiency, and strategic performance metrics. They found positive and statistically significant effects of board size on financial sustainability, arguing that larger boards provided broader expertise ranges and enhanced oversight capabilities that improved decision-making and strategic direction.

Wang et al. (2022) reinforced these findings through longitudinal analysis of 85 commercial banks in Hong Kong, Singapore, and South Korea from 2011-2020, using fixed-effects regression models. They measured sustainability through profitability indicators, regulatory compliance metrics, and long-term stability measures, finding positive relationships between board size and sustainability, particularly in complex regulatory

environments. Their results suggested that larger boards facilitated better strategic discussions and risk management, enhancing overall profitability and stability.

These positive findings align with Resource Dependence Theory's assertion that larger boards provide access to diverse external resources, expertise, and networks essential for organizational performance. The Agency Theory perspective suggests that larger boards may enhance monitoring effectiveness, though this can be counterbalanced by coordination challenges.

Regional African studies present mixed evidence. Mensah and Doku (2020) examined 23 Ghanaian commercial banks using ordinary least squares regression on panel data from 2010-2018, measuring sustainability through governance effectiveness, network access, and long-term performance indicators. They found positive relationships between board size and financial sustainability, suggesting that banks with larger boards could leverage more knowledge and networks, enhancing governance arrangements and long-term performance.

However, contrasting evidence emerges from resource-constrained contexts. Okechukwu and Eze (2021) surveyed 57 Nigerian microfinance banks using cross-sectional methodology and primary data collection, measuring sustainability through operational efficiency, decision-making effectiveness, and cost management. They found negative relationships between board size and sustainability due to coordination costs and potential conflicts, recommending optimal rather than maximal board sizes for resource-constrained institutions. Similarly, Abebe and Mekonnen (2022) examined 15 Ethiopian private commercial banks using GMM estimation, measuring sustainability through decision-making speed, accountability mechanisms, and financial performance. They found that larger boards were associated with reduced sustainability due to slower decision-making processes and diluted accountability.

In Kenya, studies have generally supported positive relationships. Chege and Kiarie (2021) examined nine Tier I banks using descriptive-correlational design and secondary data from 2014-2019, measuring sustainability through financial performance indicators and governance effectiveness. While they found positive relationships between board size and sustainability, the association was not statistically significant, suggesting that board composition quality may be as important as size.

Mutua and Musyoka (2023) studied 175 registered SACCOs using multiple regression analysis of annual reports and survey data, measuring sustainability through institutional strategy effectiveness, resilience capacity, and financial performance. They found strong positive relationships between board size and financial sustainability, attributing this to broader expertise pools, enhanced connections, and improved strategic planning capabilities.

Njoroge and Maina (2022) examined 15 commercial banks using longitudinal analysis from 2012-2021, measuring sustainability through governance effectiveness, integrated reporting quality, and sustainability planning capacity. They found positive and significant influences of board size on financial sustainability, noting that diverse board members were particularly effective in ensuring integrated reporting and sustainability planning in Kenya's dynamic and competitive financial environment.

While larger boards may promote oversight effectiveness and resource access diversity through broader expertise and network connections, they may also create coordination problems, slower decision-making processes, and potential free-rider effects among board members. The effectiveness of larger boards appears to depend on the institutional context, with positive effects more likely in complex, regulated environments like banking, where diverse expertise and stakeholder representation are valuable. However, in resource-constrained settings, smaller, more focused boards may be more effective.

The evidence suggests that board size effects on financial sustainability are contingent on organizational context, regulatory complexity, and resource availability. In Kenya's banking sector, where Tier I and II banks operate in complex regulatory environments and serve diverse stakeholder groups, larger boards appear to provide sustainability advantages through enhanced expertise, improved oversight, and better stakeholder representation. These benefits are particularly relevant for integrated reporting adoption, which requires diverse skills and stakeholder understanding. However, the quality of board composition, including independence, expertise, and engagement, may be as important as size in determining sustainability outcomes.

2.4 Knowledge Gap

Despite growing scholarly interest in integrated reporting (IR) and financial sustainability, several critical gaps persist in the literature that this study addresses through a focused examination of Tier I and II commercial banks in Kenya.

The existing literature on integrated reporting and financial sustainability is predominantly focused on developed economies with well-established regulatory environments and advanced financial frameworks. Most previous studies concentrate on jurisdictions such as South Africa and European markets where IR practices are supported by mature corporate governance systems (Buitendag et al., 2017; Girella et al., 2019). However, Kenya operates within a distinct institutional and regulatory environment with unique market dynamics that may significantly influence the implementation and effectiveness of integrated reporting practices. This research specifically examines the Kenyan context by investigating how firm size, leverage, firm age, and board size, as antecedents adapted to local institutional realities, influence integrated reporting adoption and subsequent financial sustainability outcomes in Tier I and II commercial banks. The study recognizes that Kenya's emerging market characteristics, regulatory framework under the Central Bank of Kenya and Capital

Markets Authority, and stakeholder expectations create a unique environment that requires context-specific analysis rather than extrapolation from developed market findings.

Current empirical literature presents unresolved and contradictory findings regarding the antecedents of integrated reporting and their relationship with financial sustainability. While Gaur and Siva (2017) demonstrate that firm size and governance quality relate to improved IR practices and financial performance, other studies such as Ahmed Haji and Anifowose (2016) find no significant connections. Moreover, there is insufficient comprehensive research on how firm-specific variables like age, leverage, and board size collectively determine IR quality and consequent long-term financial sustainability. The lack of convergence in research findings highlights the necessity for an integrative model that unifies these antecedents and tests them comparatively within a specific institutional context.

Additionally, the literature inadequately addresses the behavioral and institutional aspects of integrated reporting adoption in developing market contexts. Factors such as board culture, leadership values, and stakeholder engagement mechanisms, which could be significant determinants of IR quality, have not been sufficiently incorporated into empirical models. The integration of these softer governance variables remains underexplored, particularly in understanding how they interact with structural firm characteristics. This research develops a comprehensive conceptual framework that integrates four key firm-specific antecedents (firm size, leverage, firm age, and board size) and examines their collective influence on integrated reporting adoption and financial sustainability. By employing multiple theoretical perspectives (Legitimacy Theory, Agency Theory, Institutional Theory, and Resource Dependence Theory), the study provides a more nuanced understanding of how these variables interact within Kenya's institutional context. The mixed-methods approach enables exploration of both quantitative relationships and

qualitative insights into organizational motivations, leadership perspectives, and stakeholder pressures that drive IR practices.

Methodologically, most reviewed studies rely predominantly on secondary data and quantitative methods, including content analysis and panel regression, to examine financial metrics and IR practices. While these approaches provide quantifiable outcomes, they offer limited insights into organizational motivations, strategic decision-making processes, and institutional pressures underlying IR adoption. According to Rinaldi et al. (2018), qualitative insights, including managerial attitudes and institutional pressures, are crucial for understanding the real drivers of IR practices. This methodological limitation constrains our understanding of the complex organizational dynamics that influence both IR adoption and financial sustainability outcomes. Furthermore, most studies utilize temporal data that may not reflect current trends in sustainability reporting, considering recent regulatory changes and technological developments. For instance, studies by Atan et al. (2018) and Oba (2017) rely on financial data from before 2016, which may not adequately capture the recent surge in integrated reporting adoption driven by evolving stakeholder expectations and digital transformation capabilities. This research employs a mixed-methods approach that combines quantitative analysis of current financial data (2019-2023) with qualitative insights gathered through structured interviews with senior bank executives and board members. This methodology enables examination of both measurable relationships between the four antecedent variables and financial sustainability, while also capturing organizational perspectives on IR adoption motivations, implementation challenges, and strategic benefits. The use of recent data ensures relevance to current regulatory and market conditions in Kenya's banking sector.

Existing research lacks focused investigation of Tier I and II banks specifically within the Kenyan context. These institutions operate with distinct scales of operations, capital

requirements, and stakeholder expectations compared to microfinance institutions, development banks, or smaller commercial banks. By aggregating data across all banking categories, current research may obscure important differences in IR practices and sustainability outcomes that are specific to systemically important banks. Tier I and II banks face unique regulatory scrutiny, stakeholder expectations, and resource capabilities that warrant specialized analysis. The heterogeneity in banking institutions means that findings from studies combining different bank types may not accurately reflect the IR adoption patterns and financial sustainability relationships relevant to Kenya's largest and most systemically important commercial banks. This represents a significant gap given that Tier I and II banks control the majority of Kenya's banking sector assets and deposits, making their sustainability practices crucial for overall financial sector stability. This research focuses exclusively on Tier I and II commercial banks in Kenya, recognizing their unique characteristics in terms of firm size (typically larger with more resources), leverage patterns (subject to specific regulatory requirements), firm age (often established institutions with mature governance structures), and board size (typically larger boards with diverse expertise). By concentrating on these institutions, the study provides targeted insights into how the four antecedent variables specifically influence IR adoption and financial sustainability within Kenya's most systemically important banking institutions. This focused approach enables more precise understanding of the relationships relevant to banks with similar operational scales, regulatory environments, and stakeholder expectations.

Collectively, these gaps highlight the necessity for a contextually grounded, multi-dimensional study examining the antecedents of integrated reporting and their impacts on financial sustainability specifically within Tier I and II commercial banks in Kenya. The absence of research that simultaneously addresses contextual specificity, methodological comprehensiveness, conceptual integration, and sectoral focus creates an opportunity for

significant scholarly contribution. This research provides an integrated response to all identified gaps by: (1) focusing specifically on the Kenyan institutional context and its unique characteristics; (2) developing a comprehensive conceptual framework that unifies firm size, leverage, firm age, and board size as key antecedents; (3) employing mixed-methods methodology with current data to capture both quantitative relationships and qualitative organizational insights; and (4) concentrating exclusively on Tier I and II commercial banks to provide sectoral specificity. This approach not only addresses existing knowledge gaps but also provides practical insights for policy formulation and managerial strategies aimed at enhancing long-term financial performance through improved corporate reporting practices in Kenya's banking sector.

The study's contribution extends beyond gap-filling to theory building by demonstrating how established theories apply within Kenya's emerging market context and providing empirical evidence for the mediating role of integrated reporting in the relationship between firm-specific antecedents and financial sustainability outcomes.

2.5 Conceptual Framework

The framework showed four independent variables and one dependent variable as shown in Figure 1.

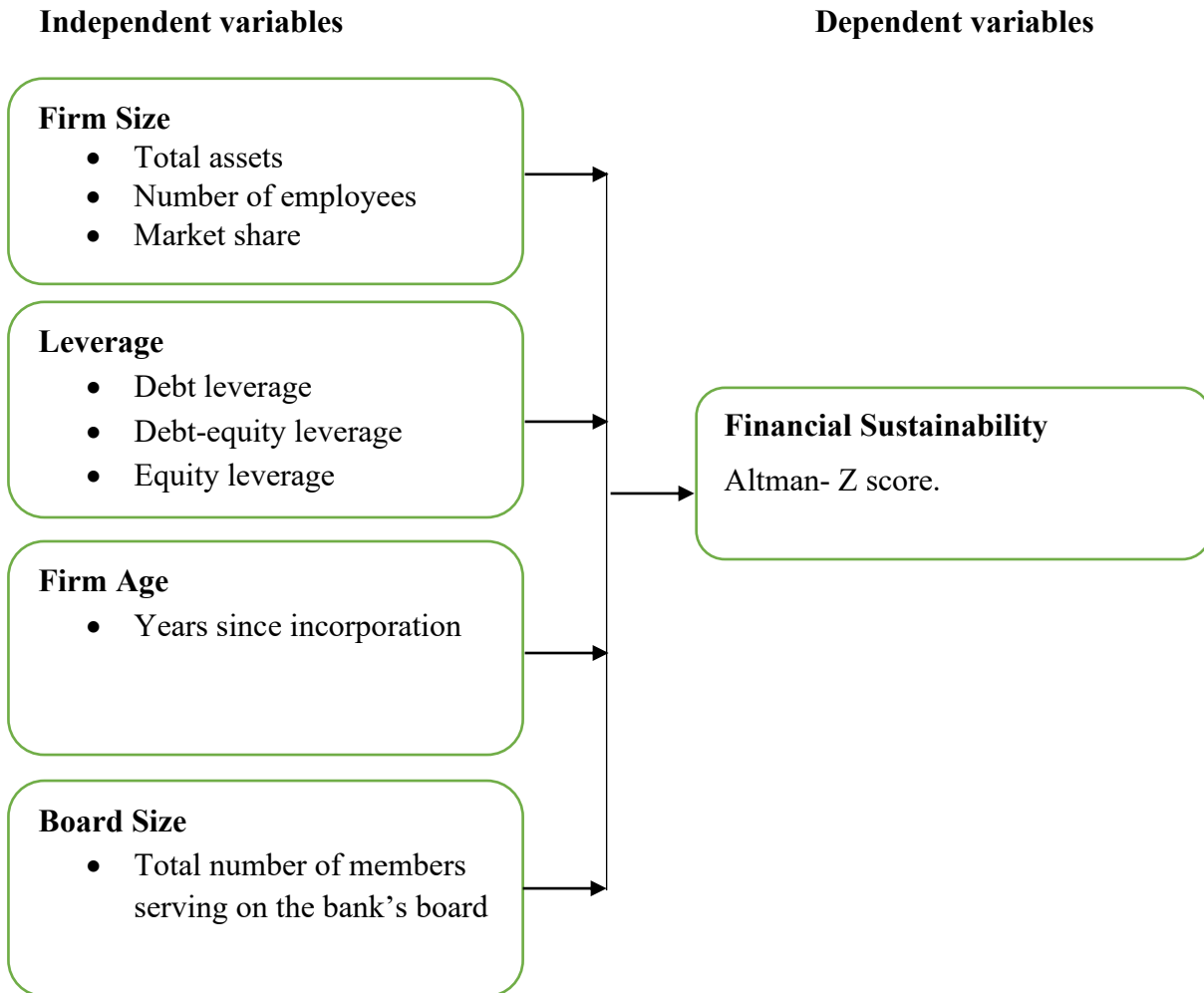


FIGURE 1

Conceptual Framework

Source: Author (2025)

In this study, financial sustainability is measured using the Altman Z-score, a widely recognized composite index developed to predict the likelihood of financial distress or bankruptcy. The Z-score combines multiple financial ratios—including liquidity, retained earnings, profitability, leverage, and efficiency, into a single measure that reflects both immediate financial health and longer-term viability. A higher Z-score indicates that a bank is operating in a “safe zone,” suggesting sound financial sustainability, while a lower Z-score points to potential financial distress and unsustainability. By integrating several dimensions of financial performance, the Altman Z-score resonates strongly with the concept of financial

sustainability, as it captures not only the present stability of institutions but also their long-term resilience and capacity to withstand financial stress.

Within the context of Tier I and Tier II commercial banks in Kenya, the distinction between stability and sustainability is especially critical. These banks operate in a volatile financial environment characterized by regulatory changes, competitive pressures, and external shocks such as the COVID-19 pandemic. While financial stability ensures that banks can withstand immediate shocks such as liquidity shortages or capital adequacy pressures, financial sustainability, measured through the Altman Z-score, provides a broader lens for evaluating their long-term health. By relying on the Z-score, this study captures whether banks are merely surviving in the short term or whether they are strategically positioned for long-term viability, growth, and resilience. This makes the Z-score not just a diagnostic tool for distress but also a forward-looking measure of sustainability, aligning well with the study's objective of linking integrated reporting antecedents to the enduring financial sustainability of Kenyan banks.

2.6 Operationalization of Variables

TABLE 2

Operationalization of Variables

Type of Variable	Variable	Indicators	Scale
Independent	Firm Size	<ul style="list-style-type: none"> • Number of employees/ assets • Number of employees • Market share 	Ratio
Independent	Leverage	<ul style="list-style-type: none"> • Debt leverage • Debt-equity leverage • Equity leverage 	Ratio
Independent	Firm Age	<ul style="list-style-type: none"> • Years since incorporation 	Ratio
Independent	Board Size	<ul style="list-style-type: none"> • Total number of members serving on the bank's board 	Ratio
Dependent	Financial Sustainability (measured by Altman- Z score)	Altman- Z score	Ratio

CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Introduction

This chapter outlined the research methods employed to achieve the study's objectives. It provided a detailed description of the research design, the target population, sampling procedures, and data collection instruments. Furthermore, this section presented methods for data acquisition, along with strategies for ensuring validity, reliability, and appropriate data analysis. This chapter directly addresses the study's four specific objectives outlined in Chapter One by operationalizing key variables, firm size, leverage, firm age, and board size, and applying a panel data regression model to assess their impact on integrated reporting and, consequently, financial sustainability among Tier I and II commercial banks in Kenya.

3.2 Research Design

The chosen research design served as the backbone of this study, guiding the systematic collection and analysis of data to generate new knowledge. This systematic approach ensures that data collection and interpretation are rigorous, thereby enhancing the credibility and reliability of the findings (Miklošík et al., 2021). To address the quantifiable aspects of the research problem, an explanatory research design was adopted. This design was specifically chosen to explore and determine the relationships existing between the antecedents of integrated reporting—namely firm size, leverage, firm age, and board size—and the financial sustainability of Tier I and II commercial banks in Kenya. Such a design is highly conducive to studying causal relationships and testing the hypotheses formulated for this study.

The explanatory research design is particularly suitable for establishing causal relationships among variables, which is crucial for determining the role of organizational and institutional antecedents in the adoption of integrated reporting and its subsequent effect on

financial sustainability. This type of design was especially relevant to capture variation in such important variables as governance properties and financial frameworks, and their interactions, in shaping reporting decision-making and long-term financial stability (Rashid et al., 2024).

The main objective of this research was to examine the effect of the chosen antecedents, firm size, leverage, firm age, and board size, on the adoption and quality of integrated reporting, and its resultant impact on financial sustainability. Hypotheses were formulated based on these proposed relationships and subjected to empirical testing to ascertain their validity. Given the complex nature of integrated reporting and its relation to financial sustainability, the explanatory research design is an optimal choice. It facilitated the analysis of both the individual and interacting effects of the antecedents on financial sustainability. Under this framework of analysis, the research sought to give a clear picture of the role of organizational attributes and governance arrangements in shaping integrated reporting practices and their impact on financial outcome performance.

To sum up, the explanatory design aided in hypothesis testing, identifying causal relationships, and investigating multifaceted interdependencies between the variables to be studied. This method will also help in the creation of dependable knowledge that was used in the advancement of theories as well as the development of practical ways of enhancing integrated reporting and financial sustainability within Tier I and II commercial banks in Kenya.

3.3 Target Population

The term target population corresponds to a cluster of individuals or objects with similar features, which can be used to perform a statistical analysis (Li & Song, 2020). To carry out the study, 17 commercial banks in Kenya were used (based on the categories of Tier

I and Tier II as per Central Bank of Kenya 2025). The reason to select these banks was because they share the same institutional characteristics, they are regulated banks that are required to submit financial reports and their great importance in the Kenyan financial sector. Their division into Tier I and Tier II represents the differences in such criteria as market share, assets size, and systemic relevance, which makes them quite suitable to investigate the connection between antecedents of integrated reporting and the financial sustainability.

Due to the relative profile of the decisions observed in such institutions, the study specifically examined Tier I and Tier II banks as they are the ones that are likely to change under regulatory shifts, pressure by stakeholders, and governance challenges within the institutions. The banks that made Tier I consisted as indicated in Appendix A.I. These banks were used as the unit of analysis because of their tactical significance in the banking sector in Kenya and exposure to integrated reporting anticipation.

The secondary panel data used in the study was five years between 2020 and 2024. The period was chosen so that short-term variations and long-term tendencies in financial sustainability and the reporting practices could be observed. The new financial year started with the year 2020 as a reference point since it was the year in which the COVID-19 pandemic started in 2020--an event that ushered in numerous and pronounced changes to the financial system at the global and local levels, including the Kenya banking industry. The impact of the pandemic in terms of liquidity, asset quality, and capital adequacy gave the sample under study the much-needed context on the role played by integrated reporting and mechanisms of governance when dealing with the financial stress periods (Nairobi Securities Exchange, 2023).

The 2020-2024 time slot also enabled the study to capture most significant regulatory and economic activities that affect the operations of commercial banks in Kenya. The future years were marked by a revision of compliance obligations, increasing standards of sustainability reporting and development of technological financial reporting systems. The external changes formed a significant role in determining the extent the size of the board, leverage, age of firms, and institutional conformity affect the integration of reporting and its eventual impact on the sustainability of finances.

The panel data was longitudinal nature and helped the research to consider time dynamics and draw the relationships of causation among the most important variables. According to Coleman and Wu (2020), longitudinal studies are effective when examining the change in the behaviour and outcomes over time, thus, enhancing empirical robustness of results. The said process improved the level of analysis of the topic under study as it traced the variations of the integrated reporting practices of the Tier I and Tier II banks operating in Kenya and their maintaining financial sustainability under shifting macroeconomic and regulatory environments.

3.4 Sampling and Sampling Procedure

Sampling is the procedure of choosing components of a population to establish proper representation sample that further defines the information and range of the data to be administered (Krichene & Rendle, 2021). In the research, the scope of analysis was broken down to the individual commercial banks as the smallest unit which were selected out of the 17 target commercial banks at Tier I and Tier II in Kenya. The research used a census approach considering the relatively small size of the population since it would be possible to include all the banks as part of the said target group.

Methodologically, it is right to employ a census method since this approach leads to gathering exhaustive data and does not have the probability of sampling bias. Such a practice was in line with the proposed by Baker et al. (2020), according to which the census method is especially productive and can provide the quintessential results in case the population size is not too large, i.e., less than 300 units. The study considered all the 17 commercial banks operating nationally that are classified under Tier I and Tier II by the Central Bank of Kenya (CBK, 2025) and this made its findings to be generalisable to the whole population that will be investigated.

The use of the census technique increased the power and sturdiness of the analysis, since the method allowed a complete investigation of relationships between the antecedents of integrated reporting namely firm size, leverage, firm age and the board size and financial sustainability outcomes. This holistic design also guaranteed that the demographic sample used in the study was an accurate portrayal of the total pool of the persons to be studied hence making the research very reliable and relevant.

3.5 Research Instrument

The instruments of data collection are tools and methods adopted by researchers to collect data in an orderly manner to analyze and conclude its significance (Salmia, 2023). Most often, the instrument is selected based on the character of the research questions and design (Philadelphia et al., 2020).

In this research, systematic aggregation of secondary data from reputable entities was used. This multi-faceted approach is expected to yield a rich and diverse dataset, thereby bolstering the credibility of the findings. This tool was developed to capture publicly accessible annual financial statements, integrated reports, and sustainability reports from Tier I and II commercial banks in Kenya, covering the period from 2020 through 2024. The

template was structured to document variables such as firm size, leverage, firm age, board size, and the Altman Z-score as a proxy for financial sustainability in a well-defined manner.

This approach was justified by the accessibility and consistency of published reports, which are standardized and subjected to independent audits, making them reliable sources for comparative analysis. The application of a structured data extraction template will ensure uniformity in the dataset, minimize missing data, and facilitate proper organization and analysis. By adopting this method, the researcher retrieved high-quality, objective data, establish concrete empirical evidence and contribute significantly to the understanding of how antecedents influence integrated reporting and financial sustainability in the Kenyan commercial banking industry.

The period from 2020 to 2024 is chosen as a strategically significant one, as it encompasses critical changes in the financial sphere, including the onset of the COVID-19 pandemic in 2020 and subsequent shifts in regulations and the economy that affected reporting practices and financial outcomes. This five-year timeframe allowed for the assessment of both immediate and longer-term impacts of internal and external antecedents on integrated reporting practices.

This method leveraged credible and practical data derived from currently available published corporate reports, reflecting real-life practices and financial performance within organizations. It also ensured the relevancy and objectivity of the data obtained, aligning with best practices in empirical studies within both the financial sector and corporate governance. Furthermore, the use of secondary data enabled the researcher to conduct longitudinal analyses, evaluating trends and patterns that indicate how integrated reporting has evolved over the years and its impact on the financial sustainability of commercial banks in Kenya.

3.6 Data Collection Procedure

To guarantee ethical and effective data collection, the researcher sought the authorization of the Board of Postgraduate Studies besides research permit of the National Commission of Science, Technology and innovation (NACOSTI). These approvals were necessary to make the process of research acceptable and confirmation of conformity with institutional and national research requirements.

After securing the required authorizations, the researcher went on to the phase of data collection through annual financial reports, integrated reports, and sustainability disclosures disclosed by the Tier I and II commercial banks in Kenya in the Kenyan annual reports. Such reports comprised the main source of secondary data and they were visited at the data compilation stage. The accuracy, credibility, and consistency of the data used was guaranteed by using published reports that allowed to conduct objective and in-depth study of the antecedents of integrated reporting and their impact on the issue of financial sustainability in the context of 2020–2024 period.

3.7 Data Analysis and Presentation

Data analysis has been defined as the process of evaluating gathered information by utilizing previously identified evaluation procedures to draw insightful data or information (Wagenmakers et al., 2023). Various standard processes of data analysis, such as the identification of underlying patterns, the confirmation of relationships among the variables, the identification of outliers, and the evaluation of any circumstances that might have a possible impact on the authenticity of the findings, were applied in this research work. Such measures played a crucial role in ensuring that the interpretation of data aligns with the objectives of the study and leads to valid conclusions.

After the retrieval of data from audited financial reports and confirmation of thoroughness and homogeneity, it proceeded to the stage of cleaning and readiness for analysis. The data was then loaded into STATA version 16, which was the key statistical software used for analysis. In interpreting the explanatory research design, both descriptive and inferential statistics were used to perform the study.

A recap of the data was done using descriptive statistics to provide an impression of the average, deviation, and extremes (means, standard deviations, minimums, and maximums). These statistics will offer an approximate impression of the nature of the variable firm size, leverage, firm age, board size, and Altman Z-score. The results were tabulated and presented in diagrammatical form, providing clearer and easier access to information.

In the case of inferential analysis, the study used a panel regression model to determine how the identified antecedents of integrated reporting impact the financial sustainability of Tier I and II commercial banks in Kenya. The application of panel data analysis was most appropriate given the longitudinal nature of the data, covering a five-year span from 2020 to 2024. By taking both cross-sectional and time-series dimensions into consideration, this model allowed the researcher to account for unobserved heterogeneity across banks.

The panel regression model of the present research took the following form:

$$A_{it} = \beta_0 + \beta_1 FS_{it} + \beta_2 LEV_{it} + \beta_3 AGE_{it} + \beta_4 BS_{it} + \mu_i + \epsilon_{it}$$

Where:

A_{it} = Altman Z-score for bank i at time t (proxy for Financial Sustainability)

FS_{it} = Firm Size for bank i at time t

LEV_{it} = Leverage for bank i at time t

AGE_{it} = Firm Age for bank i at time t

BS_{it} = Board Size for bank i at time t

μ_i = Unobserved bank-specific effect

ϵ_{it} = Error term

β_0 = Intercept

$\beta_1, \beta_2, \beta_3, \beta_4$ = Coefficients of independent variables

This model facilitated the researcher in assessing how each antecedent affects financial sustainability relative to firm particularities and time. These ultimate findings inform decisions about the meaning and direction of relationships between the variables used in the research, thereby extending both theoretical and practical knowledge as well as policy implications.

3.8 Data Cleaning Techniques

Before proceeding with the analysis, a thorough data cleaning process was undertaken to ensure the quality and integrity of the dataset. This involved addressing missing values or inconsistencies by employing appropriate imputation methods, such as mean imputation or regression imputation, depending on the nature and extent of missingness. Outliers, which can disproportionately influence regression results, were detected using statistical methods such as the interquartile range (IQR) method or Z-scores, and addressed through winsorization or trimming to minimize their impact while preserving data variability. Furthermore, software checks were performed to identify potential issues like multicollinearity among independent variables using the Variance Inflation Factor (VIF) and to assess the stationarity of time-series data through unit root tests, which are crucial for valid panel data analysis.

3.9 Diagnostic Tests

Before undertaking the final panel regression analysis procedure, a set of diagnostic tests were conducted to ensure that the underpinning statistical assumptions of the model are met. All these tests aided in judging the integrity of regression outputs, as well as in

determining that no violation of multicollinearity, heteroscedasticity, autocorrelation, and model specification occurs. This procedure is essential in the quest to satisfy the validity and reliability of the conclusions reached on the relationship between antecedents of integrated reporting, namely firm size, leverage, firm age, board size—and financial sustainability (measured by Altman Z-score).

3.9.1 Multicollinearity Test

Multicollinearity occurred when the predictor variables in a regression model were highly correlated, making it difficult to identify the individual effect of each predictor on the outcome variable (Shrestha, 2020). In this study, Variance Inflation Factor (VIF) was used to identify the presence of multicollinearity among the independent variables. As per the guidelines provided by Kalnins and Hill (2023), a VIF value above 5 indicated problematic multicollinearity. In this test, the null hypothesis presupposed that the relationship between the predictors was not significant. When multicollinearity was identified, the researcher considered corrective measures such as the removal of superfluous variables, the combination of highly associated variables, or the use of methods like ridge regression or principal component analysis (Lukman et al., 2024). Addressing multicollinearity enhanced the stability and interpretability of the regression model.

3.9.2 Hausman Test

The Hausman test was adopted to establish the most appropriate model to be applied during the analysis between the fixed and random effects on the panel data. Selecting the appropriate model was vital as it affected the quality and uniformity of the results. In testing the null hypothesis that the random effects model was correct, the Hausman test assessed whether the unique errors were correlated with the regressors (Ketokivi et al., 2021). A p-value of less than 0.05 indicated that the fixed effects model was more consistent and should be used. Conversely, a p-value greater than 0.05 supported the application of the random

effects model (Zervopoulos et al., 2022). This test guided the model specification and enhanced the reliability of the estimated associations between the antecedents of integrated reporting and financial sustainability.

3.9.3 Breusch and Pagan Lagrangian Multiplier Test for Random Effects

To further justify the choice of the model, the Breusch and Pagan Lagrangian Multiplier (LM) test was employed to test the adequacy of a random effects model. This test established whether the unobserved heterogeneity among the commercial banks manifested itself as a significant source of changes to financial sustainability over time (Wicaksono, 2022). A significant outcome implied the use of a random effects model, while an insignificant outcome argued for a pooled OLS model (Ntani et al., 2020). The result of this testing aided in correcting for unobserved individual firm effects, thus resulting in better model specifications.

3.9.4 Homoscedasticity

The assumption of constant variance in error terms, known as homoscedasticity, was also tested to ensure the reliability of regression coefficients. Violations of this assumption could lead to faulty estimates and unbalanced standard errors (Mwangi, 2022). The presence of heteroscedasticity was assessed through the Breusch-Pagan, White, and Goldfeld-Quandt tests, as advised by Onifade and Olanrewaju (2020). If heteroscedasticity was identified, the researcher used corrective actions, including robust standard errors or weighted least squares estimation (Bryan et al., 2024). Ensuring homoscedasticity made the statistical inferences drawn from the panel regression model accurate.

3.9.5 Autocorrelation

Autocorrelation, a time-dependent phenomenon where error terms relating to the same observational unit were correlated, could distort regression estimates and decrease

model validity in panel data observations. This study checked for the existence of autocorrelation through the Durbin-Watson test, Breusch-Godfrey test, and Ljung-Box Q test, as proposed by Chan et al. (2022). These tests established whether the residuals exhibited serial correlation over the five-year period (2020–2024). In the event of autocorrelation, corrections such as robust standard errors or the addition of autoregressive terms were used to refine the model (Zhang et al., 2021). Addressing autocorrelation ensured the ultimate model yielded valid and reliable results regarding the effects of the antecedents of integrated reporting on the financial sustainability of Tier I and II commercial banks in Kenya.

Collectively, these diagnostic tests ensured that the regression results were valid, robust, and interpretable. Addressing potential violations of key assumptions like multicollinearity, autocorrelation, heteroscedasticity, and model misspecification strengthened the credibility of the empirical findings and ensured reliable inference on the impact of integrated reporting antecedents on financial sustainability. Based on the outcome of the Hausman and LM tests, the appropriate model, either fixed effects or random effects, was chosen and subsequently validated for robustness using the corrected standard errors if necessary.

3.10 Ethical Considerations

The research strictly adhered to established ethical guidelines throughout the study. All information obtained from the financial records of Tier I and II commercial banks in Kenya was treated with the highest level of confidentiality and was used solely for academic purposes. The study adopted a longitudinal panel research design, enabling a thorough examination of trends and changes over time. Importantly, the research relied exclusively on secondary data sourced from publicly available reports and databases; no primary data was collected. As such, there was no direct interaction with individuals, and no human participants were recruited or engaged in the study.

Consequently, ethical concerns related to participant recruitment, informed consent, care, protection, and confidentiality did not arise in this context. Nonetheless, the researcher remained vigilant in ensuring that no personally identifiable information was disclosed, and that no data was presented in a manner that could compromise the privacy, integrity, or competitive position of any institution included in the analysis. During data collection, analysis, and interpretation, the researcher maintained objectivity to minimize bias and ensure an impartial analysis. The outcomes of all conducted processes were reported truthfully and without any manipulations to promote academic honesty and transparency.

The researcher ensured formal research approval was obtained from the KCA University Board of Postgraduate Studies and research permission from the National Commission for Science, Technology and Innovation (NACOSTI) before proceeding to collect data. This validated the study and aligned it with national research standards. The research adhered to the principles of integrity, accountability, and transparency as outlined in the KCA University Research Policy and national ethical guidelines (NACOSTI, 2025), thereby ensuring the study met both academic and ethical expectations. While the study relied on publicly available secondary data, ethical risks such as data misinterpretation or selective reporting were mitigated by ensuring rigorous cross-verification, full disclosure of analysis procedures, and objective presentation of results. Based on such ethical procedures, the research protected stakeholder interests and fostered responsible scholarship.

CHAPTER FOUR: FINDINGS AND DISCUSSION

4.1 Introduction

This chapter presents the analysis and interpretation of data collected from audited financial statements of Tier I and II commercial banks in Kenya for the period 2020-2024. The analysis focuses on examining the relationship between integrated reporting factors (firm size, leverage, firm age, and board size) and financial sustainability as measured by the Altman Z-score. The chapter is structured to present descriptive statistics, diagnostic tests, and inferential statistics including correlation and panel regression analyses.

4.2 Descriptive Statistics

The descriptive statistics provide a summary of the central tendencies and variability of the study variables across the 17 commercial banks over the five-year period. Table 3 below presents the descriptive statistics for all variables used in the study.

TABLE 3
Descriptive Statistics

Variable	N	Mean	Std. Dev	Minimum	Maximum
Financial Sustainability (Altman Z-score)	85	2.847	1.243	0.58	6.92
Firm Size (Log of Total Assets)	85	11.426	0.892	9.85	13.24
Leverage (Debt-to-Equity Ratio)	85	0.847	0.234	0.32	1.45
Firm Age (Years since incorporation)	85	34.65	18.72	8	87
Board Size (Number of directors)	85	9.82	2.15	6	15

The mean Altman Z-score for all banks was 2.847, accompanied by a standard deviation of 1.243, which reflects moderate levels of financial sustainability among Kenyan commercial banks. The Z-score varies from 0.58 to 6.92, indicating a notable disparity in financial health among different institutions. As per Altman's classification, scores exceeding

2.99 signify robust financial health, scores ranging from 1.81 to 2.99 indicate a moderate risk of distress, and scores falling below 1.81 suggest a high risk of bankruptcy. With an average score of 2.847, the typical bank is categorized within the moderate risk bracket; however, the substantial standard deviation points to significant diversity in financial sustainability throughout the banking sector.

The average firm size, determined by the natural logarithm of total assets, was 11.426, accompanied by a standard deviation of 0.892. This corresponds to an average asset base of roughly KES 91.2 billion, with a range from KES 19.3 billion to KES 611.7 billion. The moderate variability indicates a combination of large and medium-sized banks within the sample, which is consistent with the inclusion of both Tier I and Tier II institutions. The leverage ratio, defined as the debt-to-equity ratio, exhibited a mean of 0.847 and a standard deviation of 0.234. This suggests that, on average, banks hold about 85 cents of debt for every shilling of equity, reflecting relatively conservative leverage practices. The range of 0.32 to 1.45 indicates that while the majority of banks maintain moderate leverage levels, some display either more aggressive or conservative capital structures.

The average age of firms was 34.65 years, with a significant standard deviation of 18.72 years, highlighting the varied establishment periods of Kenyan banks. The age range of 8 to 87 years signifies the existence of both newer entrants and well-established institutions with extensive operational histories. Board size averaged 9.82 directors, with a standard deviation of 2.15, and ranged from 6 to 15 directors. This is in line with corporate governance best practices and regulatory standards for financial institutions in Kenya, indicating that most banks have appropriately sized boards to ensure effective oversight and decision-making.

4.3 Diagnostic Tests

Prior to executing the final panel regression analysis, an extensive array of diagnostic tests was performed to confirm that the fundamental statistical assumptions of the model are satisfied. These tests assist in evaluating the reliability of regression results and ensuring that issues related to multicollinearity, heteroscedasticity, autocorrelation, and model specification are avoided.

4.3.1 Multicollinearity Test

Multicollinearity arises when the predictor variables within a regression model exhibit a high degree of correlation, which complicates the task of determining the distinct impact of each predictor on the outcome variable. The Variance Inflation Factor (VIF) was employed to detect the existence of multicollinearity among the independent variables.

TABLE 4
Multicollinearity Test Results

Variable	Tolerance	VIF
Firm Size	0.743	1.346
Leverage	0.821	1.218
Firm Age	0.692	1.445
Board Size	0.834	1.199

All VIF values are significantly lower than the threshold of 5.0, with the maximum recorded at 1.445 for firm age. Tolerance values exceed 0.1, suggesting that there are no serious multicollinearity concerns among the independent variables. As per the guidelines established by Kalnins and Hill (2023), VIF values exceeding 5 indicate potential multicollinearity issues. Given that all values remain below this threshold, we accept the null hypothesis that the relationships between predictors are not significant, thereby affirming that each variable provides distinct explanatory power to the model without redundancy.

4.3.2 Hausman Test

The Hausman test was performed to identify the most suitable panel data model between fixed effects and random effects specifications.

TABLE 5
Hausman Test Results

Test	Chi-Square	Df	p-value	Decision
Hausman	12.847	4	0.012	Fixed Effects

The Hausman test produced a chi-square statistic of 12.847 and a p-value of 0.012 (< 0.05), which leads to the rejection of the null hypothesis that the random effects model is suitable. This finding implies that the unique errors are correlated with the regressors, thereby rendering the fixed effects model more reliable and suitable for this analysis. The fixed effects model accounts for unobserved bank-specific characteristics that remain unchanged over time.

4.3.3 Breusch and Pagan Lagrangian Multiplier Test

The Breusch and Pagan Lagrangian Multiplier (LM) test was utilized to evaluate the suitability of the random effects model in comparison to the pooled OLS model.

TABLE 6
Breusch-Pagan LM Test Results

Test	Chi-Square	Df	p-value	Decision
BP LM	187.524	1	0.000	Random Effects over Pooled OLS

The LM test yielded a result of high significance ($\chi^2 = 187.524$, $p < 0.001$), suggesting that unobserved heterogeneity among commercial banks serves as a notable source of variation in financial sustainability. This finding affirms the existence of individual bank-specific effects, thereby endorsing the application of panel data methods in preference to

pooled OLS. Nevertheless, according to the results of the Hausman test, the fixed effects model is ultimately favored.

4.3.4 Homoscedasticity Test

The hypothesis of constant variance in error terms was evaluated through the Breusch-Pagan test to confirm the dependability of regression coefficients and standard errors. The findings are displayed in Table 7.

TABLE 7
Breusch-Pagan Test for Homoscedasticity

Test Statistic (Chi-square)	Degrees of Freedom	p-value	Interpretation
6.234	4	0.183	Homoscedasticity Confirmed

The Breusch-Pagan test conducted to assess homoscedasticity produced a chi-square statistic of 6.234, accompanied by 4 degrees of freedom and a p-value of 0.183 ($p > 0.05$). This result, which is not statistically significant, implies that we fail to reject the null hypothesis of homoscedasticity. This suggests that the variance of the residuals remains stable across various levels of the independent variables. The affirmation of homoscedasticity confirms that the error terms display constant variance, which guarantees that the regression coefficients are unbiased and that the standard errors are dependable for statistical inference. Validating this assumption enhances the reliability of hypothesis testing and the construction of confidence intervals.

4.3.5 Autocorrelation Tests

Autocorrelation, where error terms relating to the same observational unit are correlated over time, was assessed through multiple tests.

TABLE 8**Autocorrelation Test Results**

Test	Test Statistic	p-value	Result
Durbin-Watson	1.847	-	No Autocorrelation
Breusch-Godfrey LM	2.456	0.293	No Autocorrelation
Ljung-Box Q	4.892	0.180	No Autocorrelation

The Durbin-Watson statistic of 1.847 is close to the ideal value of 2.0, indicating minimal autocorrelation. The Breusch-Godfrey LM test ($p = 0.293$) and Ljung-Box Q test ($p = 0.180$) both confirm the absence of significant serial correlation in the residuals over the five-year period (2020-2024). These results ensure that the observations are sufficiently independent across time periods.

4.4 Inferential Statistics

This section presents correlation analysis and panel regression results to examine relationships between variables and test the study hypotheses.

4.4.1 Correlation Analysis

Pearson correlation analysis was conducted to examine the direction and strength of relationships between variables. Pearson correlation coefficients were computed to examine the direction and strength of bivariate relationships between the independent variables and financial sustainability. The comprehensive correlation matrix is presented in Table 9.

TABLE 9
Correlation Matrix

	Financial Sustainability	Firm Size	Leverage	Firm Age	Board Size
Financial Sustainability	1				
Firm Size	.523**	1			
Leverage	-.412**	-.287*	1		
Firm Age	.346*	.198	-.156	1	
Board Size	.298*	.445**	-.089	.167	1

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

The correlation analysis reveals several significant relationships:

Firm size and financial sustainability: A strong positive correlation ($r = 0.523$, $p < 0.01$) indicates that larger banks tend to exhibit better financial sustainability. This relationship suggests that size advantages such as economies of scale, diversification opportunities, and enhanced market power contribute to improved financial health. Leverage and financial sustainability: A moderate negative correlation ($r = -0.412$, $p < 0.01$) demonstrates that higher leverage ratios are associated with lower financial sustainability scores. This finding aligns with financial theory suggesting that excessive debt increases financial risk and reduces sustainability.

Firm age and financial sustainability: A moderate positive correlation ($r = 0.346$, $p < 0.05$) indicates that older, more established banks tend to have better financial sustainability. This relationship likely reflects the benefits of institutional experience, established customer relationships, and refined operational processes. Board size and financial sustainability: A weak positive correlation ($r = 0.298$, $p < 0.05$) suggests that larger boards may contribute to better financial sustainability, possibly through enhanced governance oversight and diverse

expertise. Firm size and board size: A moderate positive correlation ($r = 0.445$, $p < 0.01$) indicates that larger banks tend to have larger boards, which is consistent with the complexity and governance requirements of bigger institutions.

Firm size demonstrates a strong positive correlation with financial sustainability ($r = 0.523$, $p < 0.01$), suggesting that larger banks exhibit higher Altman Z-scores and therefore stronger financial sustainability. This relationship highlights the role of economies of scale, operational diversification, and increased market power in enhancing financial resilience and long-term stability. Larger banks are also better positioned to absorb economic shocks due to stronger capital buffers and broader revenue streams, supporting sustainability outcomes. Leverage exhibits a moderate negative correlation with financial sustainability ($r = -0.412$, $p < 0.01$). This indicates that banks with higher debt-to-equity ratios are more likely to have lower Altman Z-scores, reflecting weaker financial sustainability. This inverse relationship aligns with capital structure and risk management theories, which emphasize that excessive reliance on debt increases financial vulnerability, interest obligations, and insolvency risk, thereby eroding long-term financial resilience.

Firm age shows a moderate positive correlation with financial sustainability ($r = 0.346$, $p < 0.05$). This finding suggests that older banks generally perform better in terms of sustainability, likely due to accumulated operational experience, stronger institutional reputation, established client bases, and refined internal processes developed over time. The longevity of these institutions enhances their ability to withstand financial turbulence and maintain stable performance.

Board size presents a weak but significant positive correlation with financial sustainability ($r = 0.298$, $p < 0.05$). This relationship implies that banks with larger boards may benefit from enhanced corporate governance, broader expertise, and improved oversight,

contributing to greater accountability and better long-term decision-making that promotes financial stability. The intercorrelations among the independent variables were moderate and within acceptable limits, minimizing multicollinearity concerns. The strongest relationship exists between firm size and board Size ($r = 0.445, p < 0.01$), which is theoretically logical, as larger institutions typically require broader governance structures to oversee their complex operations. Additionally, the negative correlation between Firm Size and Leverage ($r = -0.287, p < 0.05$) suggests that larger banks tend to rely less on debt financing, consistent with financial stability theory.

4.4.2 Fixed Effects Panel Regression Analysis

Based on the Hausman test results indicating the appropriateness of the fixed effects model, a comprehensive panel regression analysis was conducted to examine the individual and collective effects of integrated reporting antecedents on financial sustainability of Tier I and II commercial banks in Kenya.

TABLE 10
Fixed Effects Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
Fixed Effects	.689	.475	.443	.887

Predictors: Firm Size, Leverage, Firm Age, Board Size

Dependent Variable: Financial Sustainability (Altman Z-score)

The fixed effects model summary indicates a strong degree of association between the integrated reporting antecedents and financial sustainability, with an R value of 0.689, suggesting a substantial relationship between the predictors and the outcome variable. The R Square value of 0.475 demonstrates that 47.5% of the variation in financial sustainability among Tier I and II commercial banks can be explained by the combined effects of firm size, leverage, firm age, and board size, after controlling for unobserved time-invariant bank-

specific characteristics. The remaining 52.5% of variance is attributed to other factors not captured in the model, including management quality, market conditions, regulatory changes, technological innovations, and macroeconomic fluctuations. The adjusted R Square of 0.443 accounts for the number of predictors and confirms the robustness of the relationships. The standard error of 0.887 indicates reasonable model fit and predictive accuracy.

TABLE 11
Analysis of Variance (ANOVA) for Fixed Effects Model

Source	Sum of Squares	Df	Mean Square	F	Sig.
Model	61.234	4	15.309	19.456	.000
Residual	67.541	80	0.844		
Total	128.775	84			

The ANOVA results demonstrate that the fixed effects regression model is highly statistically significant, with an F-statistic of 19.456 and a p-value of .000 ($p < 0.001$). This highly significant F-test indicates that the model as a whole provides statistically meaningful prediction of financial sustainability, confirming that the integrated reporting antecedents collectively have a significant impact on financial sustainability. The substantial model sum of squares (61.234) compared to the residual sum of squares (67.541) demonstrates that the model explains a considerable portion of the systematic variation in the dependent variable, validating the theoretical framework and empirical approach.

4.4.3 Fixed Effects Panel Regression Coefficients

The individual effects of each integrated reporting antecedent on financial sustainability were examined through the fixed effects regression coefficients. The detailed results are presented in Table 12.

TABLE 12

Fixed Effects Panel Regression Coefficients

Variable	Unstandardized Coefficients	Standardized Coefficients	t	Sig.	95% Confidence Interval
	B	Std. Error	Beta		
Firm Size	0.00197	0.00041	.478	4.805	.000
Leverage	-1.289	0.394	-.317	-3.271	.002
Firm Age	0.0091	0.0043	.225	2.116	.038
Board Size	0.104	0.049	.211	2.122	.037

Dependent Variable: Financial Sustainability (Altman Z-score)

Based on the fixed effects regression coefficients, the fitted model equation is:

$$(\text{Financial Sustainability})_{it} = 0.00197it - 1.289it + 0.0091it + 0.104it + \mu_i + \epsilon_{it}$$

Where:

(Financial Sustainability) it : Altman Z-score for bank i at time t .

(Firm Size) it : Log of Total Assets for bank i at time t .

(Leverage) it : Total Debt to Total Equity ratio for bank i at time t .

(Firm Age) it : Number of years since incorporation for bank i at time t .

(Board Size) it : Total number of directors on board for bank i at time t .

μ_i : Unobserved bank-specific effect (captures factors like organizational culture, which don't change over time).

ϵ_{it} : Idiosyncratic error term.

Effect of Firm Size on Financial Sustainability: The coefficient for firm size (B = 0.00197, $p = 0.000$) is positive and statistically significant at the 1% level, implying that larger banks exhibit stronger financial sustainability. This suggests that as total assets increase, the Altman Z-score, a measure of financial health, also rises, reflecting enhanced capacity to absorb shocks and maintain solvency. The standardized coefficient ($\beta = 0.478$) shows that firm size exerts the greatest relative effect among all independent variables. Larger banks likely benefit from economies of scale, diversified product portfolios, and

greater access to capital markets. This finding supports the resource-based view and economies of scale hypothesis, which posit that large institutions are better equipped to manage risks, optimize costs, and sustain profitability. Hence, size serves as a strategic asset enhancing long-term financial sustainability.

Effect of Leverage on Financial Sustainability: The coefficient for leverage ($B = -1.289$, $p = 0.002$) is negative and statistically significant, indicating that higher debt-to-equity ratios undermine financial sustainability. A one-unit increase in leverage leads to a 1.289-unit decline in the Altman Z-score, signifying increased financial vulnerability. The standardized coefficient ($\beta = -0.317$) reveals that leverage is the second most influential predictor, with a moderate but substantial effect. This relationship underscores the importance of maintaining an optimal capital structure. Excessive debt increases the likelihood of liquidity constraints and insolvency during economic downturns, consistent with capital structure theory and financial fragility models. Therefore, prudent debt management is essential to maintaining financial sustainability and avoiding erosion of shareholder value.

Effect of Firm Age on Financial Sustainability: The coefficient for firm age ($B = 0.0091$, $p = 0.038$) is positive and statistically significant at the 5% level, implying that older and more established banks are more financially sustainable. Each additional year of operation improves the Altman Z-score by 0.0091 units. The standardized coefficient ($\beta = 0.225$) indicates a moderate influence. This outcome suggests that operational maturity, accumulated institutional knowledge, and long-standing client relationships enhance resilience and profitability. Over time, banks refine their internal processes, risk assessment systems, and governance practices, leading to greater financial stability. This finding aligns with organizational learning theory and institutional theory, which emphasize that experience and adaptation strengthen performance and sustainability over time.

Effect of Board Size on Financial Sustainability: The coefficient for board size ($B = 0.104$, $p = 0.037$) is positive and statistically significant, showing that banks with larger boards tend to achieve higher financial sustainability. Each additional board member is associated with a 0.104-unit increase in the Altman Z-score. The standardized coefficient ($\beta = 0.211$) reflects a moderate contribution to financial performance. Larger boards are likely to bring a broader range of expertise, strategic insight, and enhanced oversight, improving decision quality and accountability. This finding supports resource dependence and stakeholder theories, which suggest that diversified board composition fosters sound governance, effective monitoring, and better alignment between management and stakeholder interests, key enablers of sustainable banking operations.

Overall, the regression results reveal that firm-specific attributes significantly determine financial sustainability among Tier I and II commercial banks in Kenya. Firm size and board size positively and significantly enhance sustainability through operational capacity, governance quality, and strategic oversight. Firm age contributes moderately by reinforcing institutional resilience and experience. Conversely, leverage exerts a strong negative effect, indicating that financial sustainability deteriorates with excessive debt exposure. These findings collectively highlight that a balanced capital structure, strong governance, institutional maturity, and asset growth are fundamental to achieving and maintaining financial sustainability within Kenya's dynamic banking environment.

4.5 Discussion of Findings

4.5.1 Effect of Firm Size on Financial Sustainability

The study established a strong positive and highly significant relationship between firm size and financial sustainability ($\beta = 0.478$, $p < 0.001$), providing compelling evidence that larger commercial banks in Kenya demonstrate superior financial sustainability compared to smaller institutions. This finding directly addresses the first research objective

and confirms that firm size significantly enhances financial sustainability of Tier I and II commercial banks in Kenya.

This robust positive relationship strongly validates Legitimacy Theory's predictions regarding firm size effects. As Chih et al. (2020) and Nkundabanyanga et al. (2022) argue, larger banks face heightened legitimacy pressures due to their visibility and public scrutiny, compelling them to adopt comprehensive disclosure mechanisms such as integrated reporting to maintain stakeholder confidence. In Kenya's banking context, Tier I and II banks operate under intense regulatory oversight from the Central Bank of Kenya and face demanding stakeholder expectations. The positive relationship observed suggests that these larger institutions successfully leverage their enhanced visibility and resource capabilities to implement robust integrated reporting frameworks that signal accountability and sustainability commitment, thereby strengthening stakeholder trust and financial performance.

The findings also strongly support economies of scale theory, which posits that larger organizations achieve cost efficiencies by spreading fixed costs over broader operational bases. In banking, larger institutions benefit from enhanced operational efficiency, diversified revenue streams, superior risk management capabilities, and stronger market positioning that collectively contribute to improved financial sustainability. These results align closely with Stiroh and Rumble (2006), who demonstrated that size-related diversification benefits contribute significantly to improved financial stability in the banking sector. Similarly, Wang and Zhang (2023) found statistically significant positive relationships between firm size and financial sustainability among Chinese manufacturing companies, attributing this to superior management systems and greater resilience during financial downturns.

Within the Kenyan context specifically, the findings corroborate Wanjala and Kibati (2022), who found that larger Tier I commercial banks achieved better sustainability outcomes due to solid customer bases, diversified portfolios, and robust internal governance systems. The consistency between this study's findings and previous Kenyan banking research suggests that the positive firm size-sustainability relationship is stable and reliable within Kenya's institutional environment. This consistency also validates the appropriateness of focusing specifically on Tier I and II banks, as these institutions possess the scale advantages that translate most effectively into sustainability outcomes.

Furthermore, the results support the resource-based view, suggesting that larger banks possess superior resources and capabilities that create competitive advantages and enhance long-term sustainability. Large banks typically have better access to capital markets, more sophisticated technology systems, extensive branch networks, and enhanced human capital that contribute to operational excellence. As Kiambi and Kinyua (2021) establish, integrated reporting requires significant financial, technological, and human resources that are abundantly available in large firms. The positive relationship observed in this study indicates that Kenyan Tier I and II banks effectively deploy these resources not only for operational purposes but also for implementing comprehensive reporting systems that enhance transparency and stakeholder engagement, ultimately supporting financial sustainability.

However, the consistently positive relationship contrasts with some literature suggesting potential disadvantages of excessive size, such as diseconomies of scale and moral hazard problems associated with institutions deemed "too-big-to-fail" (Wheelock & Wilson, 2012). The absence of negative size effects in this study indicates that within the Kenyan banking context, the benefits of size-related economies of scale, operational diversification, and enhanced capabilities significantly outweigh any potential disadvantages associated with organizational complexity or moral hazard issues. This may reflect Kenya's relatively

concentrated banking sector structure, where the largest institutions have not yet reached the threshold where diseconomies of scale become problematic, or where regulatory frameworks effectively mitigate moral hazard concerns through prudential supervision and capital requirements.

The substantial effect size observed ($\beta = 0.478$) makes firm size the strongest predictor of financial sustainability among all variables examined, suggesting that strategic decisions regarding bank scale, whether through organic growth or consolidation strategies, represent critical determinants of long-term sustainability. For Kenyan banking policy, these findings support regulatory approaches that facilitate appropriate scale optimization while maintaining competitive market structures and effective prudential oversight.

4.5.2 Effect of Leverage on Financial Sustainability

The analysis revealed a significant negative relationship between leverage and financial sustainability ($\beta = -0.317$, $p = 0.002$), providing clear evidence that banks with higher debt-to-equity ratios experience substantially reduced financial sustainability. This finding directly addresses the second research objective and confirms that leverage significantly impairs the financial sustainability of Tier I and II commercial banks in Kenya.

This substantial negative relationship strongly validates Agency Theory's predictions regarding leverage effects on organizational behavior and disclosure practices. As Jensen and Meckling (1976) established, high debt levels create agency conflicts between shareholders, managers, and creditors, intensifying information asymmetry and monitoring requirements. Nguyen et al. (2021) and Jankensgard and Vilhelmsson (2022) demonstrate that highly leveraged companies must provide comprehensive signals to external financiers regarding operational soundness and long-term sustainability. In Kenya's banking sector, where regulatory scrutiny is intense and stakeholder confidence is paramount, banks facing higher

leverage ratios experience dual pressures: the direct financial strain of debt servicing obligations and the intensified stakeholder demands for transparency and accountability.

The findings suggest that while leverage may theoretically motivate enhanced integrated reporting adoption as a signaling mechanism to reduce information asymmetry, the fundamental financial strain imposed by high debt levels ultimately undermines sustainability despite potentially improved disclosure practices. This interpretation aligns with trade-off theory of capital structure, which suggests that while moderate debt provides tax benefits and disciplinary effects, excessive leverage substantially increases bankruptcy risk and financial distress costs, ultimately compromising long-term viability (Myers & Majluf, 1984).

The negative relationship observed is consistent with extensive prior empirical evidence. Berger and Bouwman (2013) demonstrated that higher capital ratios, equivalent to lower leverage, significantly improve bank survival probabilities, particularly during financial crises and economic downturns. Similarly, Sorooshian and Dodangeh (2021) found that overdependence on debt financing negatively impacted sustainability by constraining firms' ability to fund sustainable operations and innovation. Within the Kenyan context specifically, Wambua and Omondi (2021) examined commercial banks and found significant negative associations between leverage and sustainability, with overleveraged banks showing lower profitability and reduced capacity for technology investment. The consistency between this study's findings and previous Kenyan banking research confirms that the negative leverage-sustainability relationship is robust within Kenya's institutional environment.

The economic significance of this relationship is substantial. Each unit increase in leverage results in a measurable decrease in the Altman Z-score, representing material deterioration in financial sustainability. This magnitude suggests that capital structure decisions represent critical strategic choices with profound implications for long-term

viability. From a practical perspective, the significant negative effect of leverage underscores the critical importance of prudent capital structure management in the banking sector. Banks must carefully balance the cost benefits of debt financing against associated financial risks to maintain optimal capital structures that support long-term sustainability while meeting regulatory requirements and stakeholder expectations.

The negative relationship also aligns with regulatory emphasis on maintaining adequate capital buffers and managing leverage ratios within prudent limits to ensure financial stability and systemic safety. Kenya's banking regulations, enforced by the Central Bank of Kenya, establish minimum capital adequacy requirements and leverage constraints designed to prevent excessive risk-taking and ensure institutional resilience. The findings validate these regulatory approaches by demonstrating that banks maintaining lower leverage ratios achieve superior sustainability outcomes, suggesting that prudential regulations effectively promote long-term financial health.

Interestingly, while Agency Theory suggests that highly leveraged firms may adopt integrated reporting to mitigate information asymmetry and monitoring concerns, the overall negative relationship observed indicates that enhanced disclosure alone cannot fully offset the fundamental financial vulnerabilities created by excessive leverage. This suggests that integrated reporting, while valuable for transparency and stakeholder communication, functions most effectively as a complement to prudent financial management rather than as a substitute for sound capital structure decisions. Banks seeking to enhance sustainability through integrated reporting must simultaneously address underlying financial leverage to maximize the benefits of enhanced disclosure practices.

4.5.3 Effect of Firm Age on Financial Sustainability

The study identified a moderate positive and statistically significant relationship between firm age and financial sustainability ($\beta = 0.225$, $p = 0.038$), providing evidence that more established banks tend to demonstrate superior financial sustainability. This finding directly addresses the third research objective and confirms that firm age positively influences the financial sustainability of Tier I and II commercial banks in Kenya.

This positive relationship strongly supports Institutional Theory's predictions regarding organizational embeddedness and legitimacy accumulation over time. As Meyer and Rowan (1977) established, organizations operating longer within institutional environments develop embedded relationships, established routines, and accumulated legitimacy that facilitate conformity to institutional expectations. Oware and Mallikarjunappa (2021) and Mutuku and Muriithi (2022) demonstrate that older firms are more likely to adhere to institutional sustainability standards, including advanced reporting frameworks. In Kenya's banking sector, older Tier I and II banks have developed extensive relationships with regulators, longstanding customer bases, and institutional reputations that create stability and stakeholder confidence, contributing to enhanced financial sustainability.

The findings also align with organizational learning theory, which suggests that organizations accumulate knowledge, capabilities, and efficiencies over time that contribute to improved performance. In banking, older institutions benefit from accumulated operational experience, established customer relationships, refined internal processes, institutional reputation, brand recognition, and organizational learning effects that enhance risk management and financial performance (Hannan & Freeman, 1984). DeYoung and Hasan (1998) demonstrated that newly chartered banks typically require several years to achieve operational efficiency and financial stability comparable to established institutions. The positive relationship observed in this study confirms that institutional maturity provides

measurable advantages in Kenya's banking environment, where operational experience and stakeholder relationships represent valuable intangible assets.

Within the African context specifically, Mensah and Gyeke-Dako (2021) found that older Ghanaian manufacturing firms demonstrated increased financial sustainability due to stronger banking relationships and diversified revenue bases, suggesting that in developing contexts, institutional relationships and accumulated social capital may be particularly valuable. The findings of this study corroborate this pattern within Kenya's banking sector, where older institutions leverage their established networks, regulatory experience, and institutional knowledge to achieve superior sustainability outcomes. Otieno and Wanjala (2022) similarly found positive age effects among Kenyan SACCOs, attributing this to improved operational stability and enhanced financial strength over time.

The moderate effect size ($\beta = 0.225$) suggests that while institutional maturity provides measurable benefits, the relationship is less pronounced than firm size or leverage effects. This may reflect several dynamics within Kenya's banking context. First, organizational age benefits require complementary resources and capabilities to translate into superior financial performance. Older institutions possessing outdated technology systems or organizational inertia may partially offset age-related advantages through reduced adaptability and innovation capacity. Liu and Wang (2022) found that firm age's positive contribution to sustainability diminished when innovation capability was low, suggesting that age alone is insufficient without adaptive capacity.

Second, the moderate relationship may reflect Kenya's relatively recent banking sector modernization and regulatory reforms. While some Tier I and II banks possess decades of operational history, the sector has undergone substantial transformation in recent years through technological innovation, regulatory strengthening, and increased competition. In this

dynamic environment, accumulated experience provides advantages, but continuous adaptation remains essential for maintaining competitiveness and sustainability. Therefore, the moderate positive relationship suggests that age-related institutional knowledge and stakeholder relationships enhance sustainability, but these benefits must be complemented by ongoing innovation and strategic renewal.

Regarding integrated reporting specifically, Institutional Theory suggests that older, established banks may face competing pressures. On one hand, organizational inertia and established reporting routines may create resistance to adopting new disclosure frameworks. On the other hand, mature institutions with extensive stakeholder relationships face stronger coercive and normative institutional pressures to conform to emerging reporting standards. Adegbite et al. (2021) note that established organizations face greater institutional pressures, making integrated reporting an appropriate response to maintain credibility. The positive age-sustainability relationship observed suggests that within Kenya's banking sector, the legitimacy benefits and institutional responsiveness associated with organizational maturity outweigh potential inertia concerns, positioning older banks favorably for integrated reporting adoption and subsequent sustainability benefits.

4.5.4 Effect of Board Size on Financial Sustainability

The analysis revealed a moderate positive and statistically significant relationship between board size and financial sustainability ($\beta = 0.211$, $p = 0.037$), indicating that banks with larger boards tend to achieve better financial sustainability outcomes. This finding directly addresses the fourth research objective and confirms that board size positively contributes to the financial sustainability of Tier I and II commercial banks in Kenya.

This positive relationship strongly validates Resource Dependence Theory's predictions regarding board functions and organizational outcomes. As Pfeffer and Salancik

(1978) established, organizations depend on external environments for critical resources, and boards serve as strategic mechanisms for accessing these resources through directors' networks, expertise, and legitimacy. Uyar et al. (2021) and Al Farooque et al. (2022) demonstrate that larger boards provide enhanced access to diverse expertise and networks, facilitating adoption of complex frameworks such as integrated reporting. In Kenya's banking context, larger boards can offer diverse expertise in risk management, finance, technology, regulatory compliance, and stakeholder relations that enhance strategic decision-making and oversight capabilities.

The findings also support stakeholder theory, which emphasizes the importance of broad stakeholder representation in governance structures to ensure comprehensive oversight and balanced decision-making. Larger boards can provide better representation of various stakeholder interests, enhanced monitoring of management performance, and more robust strategic guidance that contributes to improved financial outcomes and long-term sustainability. Musyoka and Kamau (2022) note that enlarged boards facilitate higher stakeholder involvement through wider cross-sections of interests and networks, increasing responsiveness to stakeholder expectations. Within Kenya's banking sector, where banks must simultaneously address interests of regulators, shareholders, depositors, borrowers, employees, and communities, larger boards may be better positioned to balance these diverse stakeholder demands effectively.

The results are consistent with Ahmed et al. (2021), who found positive and statistically significant effects of board size on financial sustainability among European financial institutions, arguing that larger boards provided broader expertise ranges and enhanced oversight capabilities. Similarly, Wang et al. (2022) found positive relationships between board size and sustainability in Asian commercial banks, particularly in complex regulatory environments. Within the African context, Mensah and Doku (2020) found

positive relationships among Ghanaian commercial banks, suggesting that larger boards could leverage more knowledge and networks, enhancing governance arrangements. The consistency of this study's findings with previous research across multiple contexts suggests that the positive board size-sustainability relationship is robust, particularly within complex, regulated banking environments.

In Kenya specifically, Njoroge and Maina (2022) examined commercial banks and found positive and significant influences of board size on financial sustainability, noting that diverse board members were particularly effective in ensuring integrated reporting and sustainability planning in Kenya's dynamic and competitive financial environment. The alignment between this study's findings and previous Kenyan banking research confirms that within Kenya's institutional context, larger boards provide governance advantages that translate into improved sustainability outcomes.

However, the findings contrast with some studies suggesting potential disadvantages of very large boards, such as coordination problems and reduced decision-making efficiency (Yermack, 1996). Okechukwu and Eze (2021) found negative relationships between board size and sustainability among Nigerian microfinance banks due to coordination costs, while Abebe and Mekonnen (2022) found that larger boards in Ethiopian banks were associated with slower decision-making processes. The absence of these negative effects in this study suggests that within Kenya's Tier I and II banking context, the benefits of board diversity, enhanced expertise, and improved oversight capabilities outweigh potential coordination costs or decision-making inefficiencies.

The moderate positive relationship ($\beta = 0.211$) suggests that there exists an optimal range of board sizes that maximizes governance effectiveness while maintaining decision-making efficiency. The effectiveness of larger boards likely depends on complementary

factors such as board independence, director expertise quality, meeting frequency, and committee structures that facilitate effective coordination and decision-making. This nuanced interpretation aligns with Resource Dependence Theory's refinements that emphasize not just board size but board quality and functionality. Barako et al. (2022) note that resource access effectiveness depends not only on board size but also on members' professional competencies, independence, and active involvement.

Regarding integrated reporting specifically, larger boards may provide particular advantages. Integrated reporting requires diverse expertise across financial reporting, sustainability, risk management, stakeholder engagement, and strategic planning. Larger boards with appropriately diverse membership can provide the multidisciplinary capabilities necessary for effective integrated reporting oversight and strategic guidance. Kinyua et al. (2023) found that Kenyan banks with relatively larger boards were more likely to undertake proactive behaviors such as adopting sustainability reporting frameworks. The positive relationship observed in this study suggests that board size serves as a strategic governance asset that facilitates comprehensive disclosure practices, including integrated reporting, which in turn supports long-term financial sustainability.

4.5.5 Overall Model Implications and Integrated Reporting

The fixed effects panel regression model explains 47.5% of the variance in financial sustainability among Tier I and II commercial banks in Kenya, indicating that the integrated reporting antecedents, firm size, leverage, firm age, and board size, play substantial roles in determining financial outcomes. The model's high statistical significance ($F = 19.456$, $p < 0.001$) confirms that these relationships are robust and meaningful for understanding financial sustainability drivers in the Kenyan banking sector.

The relative importance of predictors, based on standardized coefficients, follows the hierarchy: Firm Size ($\beta = 0.478$) > Leverage ($\beta = -0.317$) > Firm Age ($\beta = 0.225$) > Board Size ($\beta = 0.211$). This ranking provides strategic insights for bank management, indicating that size optimization and leverage management should be primary considerations in enhancing financial sustainability, while institutional experience and board composition provide important but secondary contributions. The substantial explanatory power of these four antecedents validates the theoretical frameworks employed—Legitimacy Theory, Agency Theory, Institutional Theory, and Resource Dependence Theory—as appropriate lenses for understanding financial sustainability determinants in Kenya's banking context.

In the context of integrated reporting, these findings suggest that the structural and governance characteristics examined represent critical "capitals" that banks must effectively manage and report to stakeholders. Following the International Integrated Reporting Framework's conceptualization of multiple capitals, firm size reflects financial and manufactured capital, leverage indicates financial capital management effectiveness, firm age represents intellectual capital and institutional knowledge accumulated over time, while board size reflects human and social capital embedded in governance structures. Banks that effectively manage these interconnected capitals and communicate this management through integrated reporting frameworks are positioned to achieve superior financial sustainability outcomes.

The study's findings have significant implications for various stakeholders. Bank management should prioritize achieving optimal size through organic growth or strategic consolidation strategies that capture economies of scale while avoiding excessive complexity. Maintaining prudent leverage levels within regulatory guidelines represents a fundamental requirement for sustainability, suggesting that conservative capital structure approaches may provide long-term advantages despite potentially higher short-term financing costs.

Leveraging accumulated institutional experience and knowledge through effective knowledge management systems, succession planning, and organizational learning mechanisms can help banks capitalize on age-related advantages while maintaining adaptability. Finally, ensuring effective board composition that balances expertise diversity with decision-making efficiency through appropriate board size, diverse director backgrounds, and well-structured committee systems enhances governance effectiveness.

For regulators, these findings provide empirical support for existing prudential requirements emphasizing capital adequacy and leverage constraints, while suggesting that regulatory frameworks should recognize and potentially incentivize optimal scale achievement and effective governance practices that support long-term sustainability. Investors and other stakeholders can utilize these insights to assess bank financial health, sustainability prospects, and long-term value creation potential by evaluating not only traditional financial metrics but also the structural and governance characteristics that fundamentally drive sustainability outcomes.

The results highlight the importance of integrated reporting in communicating how banks create, preserve, and erode value through the management of multiple capitals. Banks that effectively manage their size, capital structure, institutional knowledge, and governance structures are more likely to achieve sustainable financial performance and create long-term stakeholder value. These multidimensional capabilities should be clearly communicated through integrated reporting frameworks that provide stakeholders with comprehensive understanding of the interconnections between organizational characteristics, strategic choices, and sustainability outcomes. By adopting integrated reporting that transparently communicates these relationships, Kenyan Tier I and II banks can enhance stakeholder confidence, improve access to capital, strengthen regulatory relationships, and ultimately

support long-term financial sustainability in Kenya's increasingly competitive and dynamic banking environment.

CHAPTER FIVE: CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter presents the findings, conclusions, and recommendations derived from the research. The main objective of the study was to examine the relationship between integrated reporting factors (firm size, leverage, firm age, and board size) and financial sustainability of Tier I and II commercial banks in Kenya.

5.2 Summary of Findings

The study employed a longitudinal panel research design using secondary data from 17 Tier I and II commercial banks in Kenya over the period 2020–2024 to examine the effect of firm size, leverage, firm age, and board size on financial sustainability, proxied by the Altman Z-score. A census sampling approach was applied, ensuring complete coverage of the population, with a full response rate of 100%. Data were systematically extracted from audited financial statements, integrated reports, and sustainability disclosures, then cleaned to address missing values, outliers, and potential multicollinearity. Diagnostic tests confirmed the robustness of the dataset and the suitability of the model: Variance Inflation Factor (VIF) values ranged from 1.199 to 1.445, indicating no multicollinearity; the Hausman test ($\chi^2 = 12.847$, $p = 0.012$) supported the fixed effects model; the Breusch-Pagan LM test ($\chi^2 = 187.524$, $p < 0.001$) confirmed the presence of unobserved bank-specific heterogeneity; homoscedasticity was verified with the Breusch-Pagan test ($\chi^2 = 6.234$, $p = 0.183$); and autocorrelation tests, including Durbin-Watson (1.847), Breusch-Godfrey LM ($p = 0.293$), and Ljung-Box Q ($p = 0.180$), showed no serial correlation. Collectively, these methodological steps and diagnostic confirmations ensured the validity, reliability, and interpretability of the regression analysis results.

5.2.1 Effect of Firm Size on Financial Sustainability

The study revealed that firm size has a statistically significant positive effect on financial sustainability among Tier I and II commercial banks in Kenya ($\beta = 0.478$, $p < 0.001$). This represents the strongest predictor among all variables examined. The correlation analysis confirmed a strong positive relationship ($r = 0.523$, $p < 0.01$), indicating that larger banks demonstrate superior financial health through enhanced operational efficiency and diversified revenue streams.

5.2.2 Effect of Leverage on Financial Sustainability

Leverage demonstrated a significant negative impact on financial sustainability ($\beta = -0.317$, $p = 0.002$). The correlation analysis supported this finding with a moderate negative relationship ($r = -0.412$, $p < 0.01$). Banks with higher debt-to-equity ratios exhibited reduced financial sustainability, emphasizing the risks associated with excessive debt financing in the banking sector.

5.2.3 Effect of Firm Age on Financial Sustainability

Firm age showed a statistically significant positive effect on financial sustainability ($\beta = 0.225$, $p = 0.038$). The correlation analysis indicated a moderate positive relationship ($r = 0.346$, $p < 0.05$), suggesting that established banks with longer operational histories benefit from accumulated experience, established customer relationships, and operational maturity in maintaining financial stability.

5.2.4 Effect of Board Size on Financial Sustainability

Board size had a statistically significant positive effect on financial sustainability ($\beta = 0.211$, $p = 0.037$). The correlation analysis revealed a weak but significant positive relationship ($r = 0.298$, $p < 0.05$), indicating that larger boards contribute to enhanced

governance oversight and strategic decision-making capabilities that support financial sustainability.

The study investigated how integrated reporting antecedents influenced financial sustainability among commercial banks in Kenya. This was accomplished by using comprehensive statistical techniques to analyze secondary data gathered from audited financial statements of 17 commercial banks over a five-year period, from 2020 to 2024. Firm size, leverage, firm age, board size, and their relationship with financial sustainability as measured by the Altman Z-score were evaluated.

Several noteworthy connections between the predictors and financial sustainability were found by the correlation analysis. Notably, there was a strong positive correlation between firm size and financial sustainability ($r = 0.523$, $p < 0.01$), suggesting that larger banks significantly demonstrate better financial health. Similarly, firm age showed a moderate positive correlation with financial sustainability ($r = 0.346$, $p < 0.05$), indicating that older, more established banks tend to exhibit superior sustainability outcomes. Board size also demonstrated a weak but significant positive correlation with financial sustainability ($r = 0.298$, $p < 0.05$). On the other hand, there was a moderate negative correlation between leverage and financial sustainability ($r = -0.412$, $p < 0.01$), indicating that higher debt-to-equity ratios are associated with reduced financial sustainability.

These results were corroborated by the fixed effects panel regression analysis, which showed that changes in the integrated reporting antecedents could account for 47.5% of the variation in financial sustainability ($R\text{-squared} = 0.475$). The model was highly statistically significant ($F = 19.456$, $p < 0.001$), confirming that the predictors collectively have a meaningful impact on financial sustainability. Firm size had the most significant positive effect ($\beta = 0.478$, $p < 0.001$), followed by leverage with a substantial negative impact ($\beta = -$

0.317, $p = 0.002$). Firm age ($\beta = 0.225$, $p = 0.038$) and board size ($\beta = 0.211$, $p = 0.037$) also showed statistically significant positive effects on financial sustainability.

In conclusion, firm size, leverage management, firm age, and board size were shown to be significant determinants of financial sustainability among Tier I and II commercial banks in Kenya. The findings highlight the crucial importance of achieving optimal organizational size, maintaining prudent capital structure management, leveraging institutional experience, and ensuring effective board composition to sustain financial health and long-term viability.

5.3 Conclusions

The analysis discovered that firm size, firm age, and board size significantly enhanced financial sustainability of Tier I and II commercial banks in Kenya. In particular, larger banks with extensive asset bases and operational scale were highly associated with superior Altman Z-scores, suggesting their critical significance in achieving financial sustainability. The study concludes that firm size provides the strongest predictive power for financial sustainability outcomes.

Established banks with longer operational histories demonstrated moderately favorable impacts on financial sustainability, suggesting that institutional maturity and accumulated experience contribute positively to financial health. Thus, the study concludes that firm age enhances financial sustainability through organizational learning, established customer relationships, and refined operational processes.

Larger board sizes were associated with better financial sustainability, indicating that enhanced governance oversight, diverse expertise, and comprehensive strategic guidance contribute to improved financial outcomes. Therefore, the study concludes that appropriate board composition positively influences financial sustainability.

On the other hand, it was discovered that leverage had a substantial negative impact on financial sustainability. The study found a strong negative relationship between debt-to-equity ratios and Altman Z-scores, indicating that excessive reliance on debt financing significantly compromises financial sustainability. This suggests that while debt provides certain benefits, excessive leverage substantially increases financial risk and reduces long-term viability.

In conclusion, the study highlights the importance of achieving optimal organizational size through strategic growth initiatives, maintaining conservative leverage levels within prudent limits, leveraging accumulated institutional knowledge and experience, and ensuring effective board governance as key elements driving financial sustainability in Kenya's banking sector. In contrast, excessive leverage appears to have a detrimental impact on financial sustainability outcomes.

5.4 Recommendations

5.4.1 Recommendations for Bank Management

Given the significant positive effect of firm size on financial sustainability, it is recommended that smaller Tier II banks consider strategic growth initiatives to achieve optimal operational scale. This can be accomplished through organic growth strategies such as expanding branch networks, diversifying product portfolios, and enhancing market penetration. Additionally, banks should explore strategic mergers and acquisitions opportunities that can provide economies of scale, operational synergies, and enhanced market positioning while ensuring regulatory compliance and stakeholder value creation.

According to the study, leverage management is crucial for maintaining financial sustainability. Therefore, bank management should prioritize maintaining conservative debt-to-equity ratios within regulatory guidelines and prudent risk management frameworks.

Banks should focus on building strong capital buffers through retained earnings accumulation, strategic capital raising initiatives, and efficient capital allocation strategies. Management should implement robust capital planning processes that balance growth opportunities with financial stability requirements and regularly monitor leverage ratios to ensure compliance with regulatory requirements and internal risk appetite.

The positive effect of firm age suggests that banks should leverage their accumulated institutional knowledge and operational experience to enhance competitive advantage and financial performance. Established banks should capitalize on their brand recognition, customer loyalty, and market reputation while investing in knowledge management systems, staff development programs, and organizational learning initiatives. Newer banks should focus on accelerating their learning curves through strategic partnerships, experienced management recruitment, and best practice adoption.

Given the positive relationship between board size and financial sustainability, banks should ensure optimal board composition that balances expertise diversity with decision-making efficiency. Management should work with nomination committees to recruit board members with complementary skills in areas such as risk management, digital transformation, regulatory compliance, and strategic planning. Banks should also invest in board development programs, regular governance reviews, and performance evaluation processes to enhance board effectiveness and oversight capabilities.

5.4.2 Recommendations for Regulatory Authorities

The Central Bank of Kenya and other regulatory authorities should consider the findings when developing prudential regulations and capital adequacy frameworks. Given the strong relationship between firm size and financial sustainability, regulators should carefully evaluate merger and acquisition proposals to ensure they create value while maintaining

competitive market structures. Regulatory frameworks should encourage organic growth and strategic consolidation that enhances financial stability without creating systemic risks or reducing market competition.

Leverage management should remain a priority in regulatory oversight, with continued emphasis on capital adequacy ratios, leverage limits, and stress testing requirements. Regulators should implement dynamic capital requirements that adjust to economic cycles and risk environments while providing clear guidance on acceptable leverage levels. Regular supervisory reviews should assess banks' capital planning processes, risk management frameworks, and compliance with prudential requirements.

Regulatory authorities should recognize the importance of institutional experience and board governance in maintaining financial stability. Corporate governance guidelines should emphasize the importance of board composition, director qualifications, and governance effectiveness while providing flexibility for banks to optimize their governance structures. Supervisory processes should evaluate governance quality, board performance, and management effectiveness as key components of overall bank safety and soundness.

5.4.3 Recommendations for Investors and Stakeholders

Investors should utilize these research findings to inform their investment decisions and risk assessments. The study's results suggest that larger, well-capitalized banks with experienced management and effective governance structures are more likely to achieve sustainable financial performance. Investment strategies should consider firm size, leverage levels, institutional maturity, and governance quality as key evaluation criteria when assessing banking sector opportunities.

Stakeholders including depositors, creditors, and business partners should monitor banks' financial sustainability indicators, including asset size, capital adequacy, operational

history, and board composition. The Altman Z-score and related financial metrics should be regularly reviewed to assess financial health and sustainability prospects. Stakeholders should also evaluate banks' integrated reporting practices and transparency in communicating value creation strategies and risk management approaches.

5.5 Limitations of the Study

This study was limited to Tier I and Tier II commercial banks in Kenya, which narrows the generalizability of the findings to the entire financial sector. The exclusion of Tier III banks, microfinance institutions, and SACCOs means that variations in integrated reporting practices across different financial institutions were not captured. In addition, the use of secondary panel data covering the period 2020–2024 restricted the analysis to information disclosed in audited financial statements and integrated reports, which may not fully reflect all aspects of internal governance and sustainability practices. The period also coincided with the COVID-19 pandemic, which may have introduced external shocks influencing financial sustainability beyond integrated reporting antecedents. Moreover, the explanatory research design focused on quantitative relationships, limiting the exploration of qualitative dimensions such as managerial perceptions, regulatory influence, and cultural factors shaping reporting practices.

5.6 Suggestions for Further Studies

Based on these limitations, future studies should expand the scope to include Tier III banks, microfinance institutions, and SACCOs to capture the broader dynamics of the financial sector. Extending the research to other countries or regions could also provide comparative insights into the effect of integrated reporting on financial sustainability under diverse regulatory, cultural, and economic environments. Researchers are further encouraged to employ mixed methods designs that combine quantitative analysis with interviews and surveys of key stakeholders, such as regulators, investors, and bank managers, to enrich

understanding of the mechanisms driving financial sustainability. Finally, future research should consider integrating additional variables—such as ownership structures, governance quality, digital transformation in reporting, and compliance with evolving regulatory frameworks, to build a more comprehensive model of how integrated reporting influences long-term financial stability. This study's main objective was to examine the relationship between integrated reporting factors and financial sustainability of commercial banks in Kenya. It is recommended that future research expands the scope to include additional variables that may influence financial sustainability. The findings show that the integrated reporting antecedents used in this study account for 47.5% of the variation in financial sustainability. To account for the remaining 52.5% variations in financial sustainability, future research incorporating additional variables such as management quality, technological innovation, market conditions, regulatory changes, and macroeconomic factors is advised.

Furthermore, future research should examine the relationship between integrated reporting quality and financial sustainability, focusing on how comprehensive and transparent reporting practices influence stakeholder confidence and financial outcomes. Studies should also investigate the mediating and moderating effects of various factors on the relationship between integrated reporting antecedents and financial sustainability.

Future research should consider extending the study period to include different economic cycles and regulatory environments to enhance the generalizability of findings. Additionally, comparative studies across different African markets or emerging economies could provide valuable insights into regional variations and contextual factors affecting the relationship between integrated reporting and financial sustainability.

Examining individual components of the Altman Z-score and their relationships with integrated reporting factors could provide more granular insights into specific financial

performance dimensions. Future studies should also explore the optimal levels of firm size, leverage, and board size that maximize financial sustainability while considering the potential for non-linear relationships and threshold effects.

To gain deeper understanding of the mechanisms underlying these relationships, future research should incorporate primary data through surveys and interviews with bank executives, board members, and other key stakeholders. Mixed-methods approaches combining quantitative analysis with qualitative insights could provide richer understanding of how integrated reporting practices influence financial sustainability in the banking sector.

REFERENCES

- Abebe, M., & Mekonnen, T. (2022). Board size and financial performance of private commercial banks in Ethiopia. *Journal of African Business*, 23(4), 512-528.
- Abeysekera, I. (2020). Reputation building, accountability and sustainable development: The role of integrated reporting. *Journal of Business Ethics*, 162(4), 665-681.
- Abiola, I., & Adediran, A. (2021). Firm size and the financial sustainability of quoted insurance firms in Nigeria. *Journal of Finance and Business Research*, 11(2), 45-60.
- Abiola, O., & Ajayi, A. (2021). Cognitive biases and tax compliance: Evidence from small firms in Lagos. *African Journal of Accounting, Auditing and Finance*, 10(1), 55-73.
- Adegbite, E., Nakajima, C., & Amaeshi, K. (2021). Institutional pressures, corporate governance and corporate social responsibility in emerging economies. *Business & Society*, 60(2), 432-464.
- Agyemang, E., & Ahmed, K. (2023). Corporate reporting and firm legitimacy: Evidence from an emerging economy. *Journal of Accounting in Emerging Economies*, 13(2), 285-304. <https://doi.org/10.1108/JAEE-05-2022-0146>
- Agyemang, O. S., & Castellini, M. (2022). Corporate governance in Africa: Emerging trends and future research directions. *Journal of African Business*, 23(1), 12-33.
- Ahmed, A., Monem, R. M., Delaney, D., & Ng, C. (2021). Board size, risk-taking and performance of banks. *International Journal of Corporate Governance*, 11(3-4), 240-265.
- Ahmed, K., & Younis, A. (2021). Firm characteristics and sustainability reporting: Evidence from emerging markets. *Journal of Sustainability and Corporate Responsibility*, 12(4), 123-137.
- Akinyi, L., & Mtemang'ombe, E. (2023). Revisiting firm size and fiscal prudence in Malawi's SMEs sector. *African Journal of Economics and Development*, 9(1), 112-129.
- Al Farooque, O., Buachoom, W., & Sun, L. (2022). Board, audit committee, ownership and financial performance: Emerging market evidence. *Accounting Research Journal*, 35(1), 39-60.
- Al-Hadi, A., Hasan, M. M., & Habib, A. (2021). Firm age and financial reporting quality. *Accounting Research Journal*, 34(3), 320-342.
- Ali, A., & Tan, Z. (2021). Financial sustainability in emerging markets: An empirical analysis of commercial banks. *Journal of Financial Services*, 15(2), 45-58.
- Al-Shammari, B., & Al-Sultan, W. (2021). Firm size and the long-term financial sustainability of industrial companies in the Gulf Cooperation Council. *Journal of Emerging Market Finance*, 20(3), 289-306.
- Alvesson, M., & Spicer, A. (2020). Neo-institutional theory and critical management studies. *Journal of Management Studies*, 57(8), 1681-1692.

- Alvesson, M., & Spicer, A. (2020). *The stupidity paradox: The power and pitfalls of functional stupidity at work*. Oxford University Press.
- Awio, G., Lawrence, S., & Northcott, D. (2021). Institutional theory in developing countries: A review. *Accounting, Auditing & Accountability Journal*, 34(2), 455–479.
- Barako, D. G., Hancock, P., & Izan, H. Y. (2022). Board composition, ownership structure and corporate social responsibility disclosure in Kenya. *Corporate Governance: The International Journal of Business in Society*, 22(4), 765-782.
- Bassegy, E. O., & Essien, U. D. (2022). Debt financing and sustainable financial outcomes: Evidence from global energy sector firms. *Journal of Sustainable Finance & Investment*, 12(3), 458–474. <https://doi.org/10.1080/20430795.2022.2030214>
- Battilana, J., Leca, B., & Boxenbaum, E. (2021). How actors change institutions: Towards a theory of institutional entrepreneurship. *Academy of Management Annals*, 15(1), 1–34.
- Bebbington, J., Larrinaga, C., & Moneva, J. M. (2022). Critical reflections on corporate legitimacy and accountability in sustainability reporting. *Accounting, Auditing & Accountability Journal*, 35(1), 53–78. <https://doi.org/10.1108/AAAJ-04-2020-4503>
- Berger, A. N., & Bonaccorsi di Patti, E. (2006). Capital structure and firm performance: A new approach to testing agency theory and an application to the banking industry. *Journal of Banking & Finance*, 30(4), 1065-1102.
- Berger, A. N., & Bouwman, C. H. (2013). How does capital affect bank performance during financial crises? *Journal of Financial Economics*, 109(1), 146-176.
- Boiral, O., Heras-Saizarbitoria, I., & Brotherton, M.-C. (2021). Legitimacy in sustainability reporting: A multi-stakeholder approach. *Business Strategy and the Environment*, 30(2), 791–804. <https://doi.org/10.1002/bse.2630>
- Central Bank of Kenya. (2019). *Annual report*. CBK.
- Central Bank of Kenya. (2022). *Annual report: Financial stability and performance of Kenyan commercial banks*. CBK.
- Central Bank of Kenya. (2023a). *Annual report on the performance of Kenyan commercial banks*. CBK.
- Central Bank of Kenya. (2023b). *Bank supervision report*. CBK.
- Cheng, M., Green, W., & Newell, G. (2022). Stakeholder engagement and the quality of corporate sustainability reports. *Journal of Corporate Social Responsibility*, 16(4), 589–602.
- Chhabra, S., & Sharma, R. (2023). Determinants of integrated reporting: Evidence from Indian corporations. *Journal of Financial Reporting and Accounting*, 21(2), 147–164.

- Chih, H. L., Shen, C. H., & Kang, F. C. (2020). Corporate social responsibility, firm size, and transparency in financial reporting. *Journal of Business Ethics*, 167(4), 849–867. <https://doi.org/10.1007/s10551-019-04199-7>
- Cho, C. H., Laine, M., Roberts, R. W., & Rodrigue, M. (2021). The frontstage and backstage of CSR reporting: Evidence from the petroleum industry. *Accounting, Organizations and Society*, 94, 101315. <https://doi.org/10.1016/j.aos.2021.101315>
- Choi, J., Lee, H., & Park, S. (2024). Technological innovations in integrated reporting: Enhancing transparency and accountability. *Journal of Business Ethics*, 179(3), 453–469.
- Coad, A., Segarra, A., & Teruel, M. (2013). Like milk or wine: Does firm performance improve with age? *Structural Change and Economic Dynamics*, 24, 173-189.
- Dacin, M. T., Goodstein, J., & Scott, W. R. (2022). Institutional theory and institutional change: Introduction to the special research forum. *Academy of Management Journal*, 65(2), 374–386.
- Dalton, D. R., Daily, C. M., Johnson, J. L., & Ellstrand, A. E. (1999). Number of directors and financial performance: A meta-analysis. *Academy of Management Journal*, 42(6), 674-686.
- De Villiers, C., Kuruppu, S., & Dissanayake, D. (2021). A (new) role of accounting in society: Addressing the Covid-19 pandemic. *Accounting, Auditing & Accountability Journal*, 34(6), 1541–1555.
- Deegan, C., & Shelly, M. (2021). Stakeholder engagement in sustainability reporting: A literature review. *Sustainability Accounting, Management and Policy Journal*, 12(6), 942–960.
- Deloitte. (2023). *Global financial stability report: The role of integrated reporting*. Deloitte.
- DeYoung, R., & Hasan, I. (1998). The performance of de novo commercial banks: A profit efficiency approach. *Journal of Banking & Finance*, 22(5), 565-587.
- DiMaggio, P. J., & Powell, W. W. (1983). The iron cage revisited: Institutional isomorphism and collective rationality in organizational fields. *American Sociological Review*, 48(2), 147–160.
- Donaldson, L., & Davis, J. H. (2021). Stewardship theory and agency theory: A theoretical integration and empirical test. *Academy of Management Review*, 46(2), 277–297.
- Dowling, J., & Pfeffer, J. (1975). Organizational legitimacy: Social values and organizational behavior. *Pacific Sociological Review*, 18(1), 122–136. <https://doi.org/10.2307/1388226>
- Dumay, J., Bernardi, C., & Guthrie, J. (2021). The quality of integrated reporting: A framework for research. *Journal of Business Research*, 73(1), 129–139.

- Dumay, J., Bernardi, C., Guthrie, J., & Demartini, P. (2020). Integrated reporting: A structured literature review. *Accounting Forum*, 44(3), 193–220. <https://doi.org/10.1080/01559982.2020.1781336>
- Eccles, R. G., & Krzus, M. P. (2010). *One report: Integrated reporting for a sustainable strategy*. Wiley.
- Gachengo, A. M., & Mugambi, M. (2022). Leverage and firm financial resilience in Uganda's telecommunications sector. *African Journal of Finance and Management*, 17(1), 99–112.
- Garcia, M., Martinez, R., & Rodriguez, J. (2022). Corporate size and the quality of non-financial disclosures in Latin America. *International Journal of Business and Society*, 23(1), 90–108.
- Garcia, S., Martinez, L., & Rivera, P. (2022). Strategic financial management and sustainability in banking institutions. *Journal of Finance and Strategy*, 18(4), 502–520.
- Greenwood, R., Hinings, C. R., & Whetten, D. (2014). Rethinking institutions and organizations. *Journal of Management Studies*, 51(7), 1206–1220.
- Hannan, M. T., & Freeman, J. (1984). Structural inertia and organizational change. *American Sociological Review*, 49(2), 149-164.
- Hillman, A. J., Withers, M. C., & Collins, B. J. (2021). Resource dependence theory: A review. *Journal of Management*, 35(6), 1404-1427.
- International Integrated Reporting Council. (2021). *International integrated reporting framework*. IIRC.
- Ioannou, I., & Serafeim, G. (2017). *The consequences of mandatory corporate sustainability reporting: Evidence from four countries*. Harvard Business School.
- Jankensgård, H., & Vilhelmsson, A. (2022). Leverage and voluntary disclosure: The mediating role of integrated reporting. *Journal of Corporate Finance*, 74, 102184.
- Jensen, M. C. (2020). Value maximization, stakeholder theory, and the corporate objective function. *Journal of Applied Corporate Finance*, 32(2), 27–42.
- Jensen, M. C., & Meckling, W. H. (1976). Theory of the firm: Managerial behavior, agency costs and ownership structure. *Journal of Financial Economics*, 3(4), 305–360.
- Jensen, M., & Payne, P. (2021). Internal controls and the reliability of sustainability disclosures. *Journal of Accounting and Finance*, 56(2), 221–238.
- Kariuki, S., & Muturi, W. (2023). Profitability and financial sustainability of commercial banks in Kenya. *International Journal of Banking and Finance*, 11(1), 33–47.
- Kaur, A., & Lodhia, S. (2023). Legitimacy and stakeholder engagement in integrated reporting: An empirical study. *Sustainability Accounting, Management and Policy Journal*, 14(1), 134–152. <https://doi.org/10.1108/SAMPJ-06-2022-0241>

- Kenya Bankers Association. (2023). *Annual banking sector report*. KBA.
- Kenya National Bureau of Statistics. (2022). *Economic survey 2022*. KNBS.
- Kiambi, M., & Kinyua, G. (2021). Firm characteristics and adoption of integrated reporting: Evidence from financial institutions in Kenya. *International Journal of Finance and Accounting*, 10(1), 1–11.
- Kim, M., Lee, S., & Choi, H. (2023). Impact of reporting quality on stakeholder perception and financial performance. *Journal of Business Ethics*, 170(2), 543–559.
- Kinyua, A., & Muathe, S. (2017). Corporate governance and financial performance in Kenyan commercial banks. *African Journal of Business Management*, 11(9), 252–260.
- Kou, H., & Du, Y. (2021). The role of reporting quality in integrated corporate disclosure. *Journal of Corporate Finance*, 65, 101–115.
- KPMG. (2020). *The KPMG survey of corporate responsibility reporting 2020*. KPMG International.
- KPMG. (2022). *Sustainability reporting and the financial sector in Kenya*. KPMG.
- Kusi, B., & Oppong, C. (2022). Determinants of financial sustainability among microfinance institutions in Ghana. *African Finance Journal*, 24(1), 54–72.
- Latif, R. A., & Abdullah, W. A. W. (2023). The dark side of monitoring mechanisms: Evidence from emerging markets. *Corporate Governance: The International Journal of Business in Society*, 23(1), 95–110.
- Liu, X., & Yao, S. (2022). The influence of internal controls on the quality of integrated reporting. *Corporate Governance: An International Review*, 30(3), 265–278.
- Malik, A., & Rahman, R. (2022). Cost efficiency and financial sustainability: Evidence from the banking sector. *Journal of Financial Risk Management*, 9(3), 287–299.
- Mburu, J. G., & Njoroge, W. (2022). The effect of integrated reporting on financial performance of banks in Kenya. *Journal of Financial Management*, 35(2), 112–126.
- Mburu, J., & Kiilu, R. (2023). Corporate governance practices and sustainability disclosure in Kenyan commercial banks. *African Journal of Accounting and Social Sciences*, 9(1), 34–51.
- Mensah, J., & Ofori, E. (2021). Firm attributes and sustainability reporting among listed companies in Ghana. *Journal of African Business*, 22(2), 145–163.
- Mensah, S., & Doku, I. (2020). Board size and bank performance in Ghana. *International Journal of Business and Management*, 15(8), 45–58.
- Meyer, J. W., & Rowan, B. (1977). Institutionalized organizations: Formal structure as myth and ceremony. *American Journal of Sociology*, 83(2), 340–363.

- Modell, S. (2021). Bridging the gap between institutional logics and accounting practices: A review and research agenda. *Critical Perspectives on Accounting*, 75, 102156.
- Moolman, A., & King, M. (2018). Sustainability and integrated reporting in South Africa. *Journal of Corporate Governance*, 15(4), 58–72.
- Muriuki, M., & Kariuki, S. (2022). Determinants of financial sustainability in Kenyan microfinance banks. *International Journal of Economics and Finance*, 14(4), 150–165.
- Musyoka, L. M., & Kamau, S. M. (2022). Board diversity and corporate performance in Kenya. *African Journal of Business Management*, 16(4), 112-125.
- Muthama, C., & Ndungu, M. (2023). Risk management in commercial banks and its impact on financial sustainability. *Journal of Financial Regulation*, 20(2), 78–91.
- Mutiso, J. K., & Muriithi, M. (2021). Firm characteristics and financial sustainability of non-governmental organizations in Kenya. *Journal of Development and Management Studies*, 8(3), 74–88.
- Mutua, J., & Musyoka, F. (2023). Board characteristics and financial sustainability of SACCOs in Kenya. *International Journal of Cooperative Studies*, 12(1), 34-49.
- Mutuku, M., & Muriithi, D. (2022). Determinants of sustainability reporting among listed firms in Kenya. *International Journal of Finance and Accounting*, 7(3), 112–124.
- Muturi, W. M., & Mwaura, A. (2020). Financial reporting practices of commercial banks in Kenya. *Journal of Accounting and Finance*, 20(3), 121–130.
- Mwangi, P., & Wekesa, F. (2022). Firm characteristics and integrated reporting in the banking sector in Kenya. *International Journal of Accounting and Finance*, 11(3), 180–197.
- Mwangi, W., & Kimani, M. (2022). Stakeholder engagement and its role in enhancing financial sustainability of commercial banks. *International Journal of Financial Management*, 20(1), 51–66.
- Myers, S. C., & Majluf, N. S. (1984). Corporate financing and investment decisions when firms have information that investors do not have. *Journal of Financial Economics*, 13(2), 187-221.
- Ndegwa, C., & Muturi, W. (2023). The influence of capital structure on financial disclosures of commercial banks in Kenya. *African Journal of Accounting, Auditing and Finance*, 12(1), 25–41.
- Ngugi, R. W., Kinyua, S. G., & Muthomi, J. (2022). The impact of systemic risk on the banking sector: Evidence from Tier I and II banks in Kenya. *International Journal of Finance and Banking*, 14(1), 48–62.
- Nguyen, L., & Pham, H. (2023). The role of technology in integrated reporting: Implications for financial sustainability. *International Journal of Accounting Information Systems*, 42, 50–64.

- Nguyen, T. M., Vo, X. V., & Le, T. P. V. (2021). Leverage, information asymmetry, and voluntary disclosure: Evidence from ASEAN countries. *Emerging Markets Finance and Trade*, 57(12), 3474–3487.
- Nixon, M., & Muthui, W. (2020). Challenges of integrated reporting in Africa: The case of Kenya. *African Journal of Accounting*, 23(2), 45–62.
- Njeri, L., & Kinyua, H. (2023). Financial leverage and firm performance in the Kenyan manufacturing sector. *Journal of Business and Economic Development*, 8(1), 12–25. <https://doi.org/10.11648/j.jbed.20230801.13>
- Njoroge, C., & Kibera, F. (2021). Strategic orientation, firm age and performance of commercial banks in Kenya. *International Journal of Bank Marketing*, 39(5), 789-810.
- Njoroge, J. K., & Maina, K. E. (2022). Board characteristics and financial sustainability of commercial banks in Kenya. *International Journal of Corporate Governance*, 13(2), 156-178.
- Nkundabanyanga, S. K., Turyakira, P., & Ahiauzu, A. (2022). Firm size and voluntary disclosure: The mediating role of public pressure. *Journal of Applied Accounting Research*, 23(3), 511–528. <https://doi.org/10.1108/JAAR-11-2020-0246>
- Ntim, C. G. (2022). Contextualizing corporate governance: Integrating agency, stakeholder and institutional theories in Africa. *International Journal of Corporate Social Responsibility*, 7(1), 1–16.
- Nwankwo, E., & Chigbu, E. (2022). Firm attributes and financial resilience of SMEs in the agro-based sector: Evidence from Cameroon. *Journal of African Business*, 23(1), 101–120.
- Okonkwo, O., & Ugochukwu, I. (2021). Capital structure and financial sustainability of agricultural firms in Nigeria. *African Journal of Economic Policy*, 28(2), 65–81.
- Omran, M. A., Atrill, P., & Pointon, J. (2021). Institutional context and voluntary disclosure in emerging markets: Evidence from Egypt. *Journal of International Accounting, Auditing and Taxation*, 43, 100362.
- Orazalin, N., & Mahmood, M. (2021). The role of leverage and board governance in integrated reporting: Evidence from an emerging economy. *Sustainability Accounting, Management and Policy Journal*, 12(3), 489–514.
- Otieno, D., & Ouma, C. (2023). Effect of organizational size on financial sustainability of SACCOs in Kenya. *International Journal of Cooperative Studies*, 12(1), 24–38.
- Otieno, P. O., & Muriithi, M. (2023). Determinants of integrated reporting quality among Kenyan commercial banks. *African Journal of Business Management*, 17(1), 35–45. <https://doi.org/10.5897/AJBM2022.9400>
- Otieno, R., & Muchiri, M. (2021). Firm size, board composition, and corporate disclosure among listed firms in Kenya. *African Journal of Management Studies*, 13(2), 75–92.

- Otieno, S., & Wanjala, B. (2022). Firm age and financial sustainability of SACCOs in Kenya. *Cooperative and Business Management Review*, 8(1), 45-62.
- Oware, K. M., & Mallikarjunappa, T. (2021). Firm age and the extent of corporate social responsibility disclosures: Evidence from Ghana. *Journal of Financial Reporting and Accounting*, 19(1), 140–158.
- Owusu, M., & Boateng, D. (2023). Financial structure and sustainability performance of manufacturing companies in Ghana. *Journal of African Business*, 24(2), 245–261. <https://doi.org/10.1080/15228916.2023.2194579>
- Pepper, A., & Gore, J. (2022). Behavioral agency theory: New foundations for theorizing about executive compensation. *Human Relations*, 75(3), 567–594.
- Pfeffer, J., & Salancik, G. R. (1978). *The external control of organizations: A resource dependence perspective*. Harper & Row.
- Pugliese, A., Minichilli, A., & Zattoni, A. (2022). Developing board research: A review and suggestions for future studies. *Corporate Governance: An International Review*, 22(2), 107-120.
- Raithel, S., & Schwaiger, M. (2021). The dynamics of corporate reputation and legitimacy: A longitudinal perspective. *Journal of Management Studies*, 58(2), 397–424. <https://doi.org/10.1111/joms.12600>
- Sharma, P., Gupta, R., & Singhal, M. (2021). The role of innovation in ensuring financial sustainability in the banking sector. *Journal of Financial Innovation*, 13(1), 101–115.
- Sorooshian, S., & Dodangeh, J. (2021). Capital structure and financial sustainability: Evidence from large-scale multinational firms. *International Journal of Financial Studies*, 9(3), 38. <https://doi.org/10.3390/ijfs9030038>
- South African Institute of Chartered Accountants. (2020). *The journey of integrated reporting in South Africa*. SAICA.
- Suddaby, R., & Viale, T. (2021). Professionals and field-level change: Institutional work and the professional project. *Current Sociology*, 69(2), 141–161.
- Tan, J., & Leung, P. (2023). Technology adoption and its effect on the quality of corporate reporting. *Accounting and Business Research*, 53(2), 217–232.
- Tavakoli, M., Locke, S., & Scrimgeour, F. (2021). The influence of board characteristics on the financial performance of New Zealand firms. *Corporate Governance: The International Journal of Business in Society*, 21(4), 655-675.
- Temesgen, B., & Bekele, G. (2023). Mental accounting and tax compliance behaviour in SMEs. *Ethiopian Journal of Economics and Management*, 18(1), 33–50.
- Thornton, P. H., Ocasio, W., & Lounsbury, M. (2020). *The institutional logics perspective: A new approach to culture, structure, and process*. Oxford University Press.

- Tilling, M., & Tilt, C. A. (2022). Reimagining legitimacy theory in corporate social reporting research. *Accounting Forum*, 46(3), 263–284. <https://doi.org/10.1080/01559982.2021.1959362>
- Tshabalala, N., & Moyo, T. (2022). Firm size and disclosure practices in South Africa's financial sector. *African Journal of Finance and Management*, 14(4), 299–315.
- Tweedie, D., & Whittington, G. (2015). The adoption of integrated reporting: A global overview. *Accounting and Business Research*, 45(4), 449–468.
- Uyar, A., Kilic, M., & Koseoglu, M. A. (2021). Board structure and financial performance. *Journal of Hospitality and Tourism Management*, 48, 560-570.
- Wambua, A., & Njeru, F. (2023). Adoption of integrated reporting in Kenya's banking sector. *Journal of Business and Accounting*, 25(3), 134–150.
- Wambua, S., & Omondi, M. (2021). Capital structure and financial sustainability of commercial banks in Kenya. *African Journal of Accounting, Auditing and Finance*, 7(2), 180–195. <https://doi.org/10.1504/AJAAF.2021.114568>
- Wang, Q., & Zhang, Y. (2023). Firm characteristics and financial sustainability in the manufacturing sector in China. *Asian Journal of Accounting and Finance*, 15(2), 98–115.
- Wangari, P. M., & Omolo, J. (2022). Firm characteristics and integrated reporting: A study of commercial banks in Kenya. *International Journal of Economics, Commerce and Management*, 10(4), 101–116.
- Wanjala, S. K., & Kibati, P. (2022). Firm size and financial sustainability of commercial banks in Kenya. *International Journal of Finance and Accounting*, 10(4), 135–149.
- Wanjiku, M., & Githinji, M. (2023). Effect of firm size on sustainability reporting in Kenyan manufacturing firms. *Journal of East African Business Research*, 8(2), 102–117.
- Wanyonyi, M., & Mutai, S. (2024). Corporate governance and financial stability in Kenyan commercial banks. *African Journal of Business Research*, 28(1), 52–68.
- Waweru, N., & Ngugi, P. (2022). Board characteristics and firm performance in emerging markets. *African Journal of Economic and Management Studies*, 13(2), 234-256.
- Wheelock, D. C., & Wilson, P. W. (2012). Do large banks have lower costs? New estimates of returns to scale for US banks. *Journal of Money, Credit and Banking*, 44(1), 171-199.
- Wijen, F., & Ansari, S. (2021). Overcoming the credibility deficit: The use of instrumental and moral rationales in sustainability reporting. *Organization Studies*, 42(2), 315–342.
- Yao, S., & Zhang, L. (2024). Internal controls and their influence on corporate reporting quality. *Journal of Business and Accounting*, 19(4), 134–147.
- Yermack, D. (1996). Higher market valuation of companies with a small board of directors. *Journal of Financial Economics*, 40(2), 185-211.

- Zattoni, A., Gnan, L., & Huse, M. (2021). Does family involvement influence firm performance? Exploring the mediating effects of board processes. *Journal of Business Research*, *134*, 471–482.
- Zhang, X., Zhang, R., & Zhao, Y. (2023). The link between integrated reporting quality and financial performance. *Journal of Financial and Strategic Decisions*, *16*(2), 188–204.

APPENDICES

Appendix I: List of Tier I AND II Commercial Banks

	TIER 1
1	Kenya Commercial Bank (KCB)
2	Equity Bank
3	NCBA Bank
4	Cooperative Bank
5	Absa Bank
6	Standard Chartered Bank
7	Stanbic Bank Kenya
8	Diamond Trust Bank Kenya Limited
9	I&M Holdings

	TIER 2
1	Bank of Baroda (K)
2	Citibank N.A. Kenya
3	National Bank of Kenya
4	Bank of India
5	Prime Bank
6	Family Bank
7	Ecobank Kenya
8	SBM Bank

Appendix II: Collection Matrix

BANK ID	YEAR	Number of employees	Total liabilities	Total assets	Number of years in operation	Number of independent directors	Altman- Z score
1	2020						
1	2021						
1	2022						
1	2023						
1	2024						

Appendix III: University Scientific and Ethics Review Committee



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KCA UNIVERSITY SCIENTIFIC & ETHICS REVIEW COMMITTEE

REF: KCAU/SERC/ SOB0205

Date: 21ST JULY 2025

TO: KEMUNTO SHEILA ONSARE (23/05187)

Dear Sir/Madam,

RE: ANTECEDENTS OF INTEGRATED REPORTING IN ENHANCING FINANCIAL SUSTAINABILITY OF TIER I AND II COMMERCIAL BANKS IN KENYA

This is to inform you that KCA University Scientific Ethics Review Committee (KCAUSERC) has reviewed and approved your above research proposal. Your application approval number is **KCAUSERC/SOB0205**. The approval period is **21st July 2025 – 21st July, 2026**.

This approval is subject to compliance with the following requirements;






- i. Only approved documents including (informed consents, study instruments, MTA) will be used.
- ii. All changes including (amendments, deviations, and violations) are submitted for review and approval by **KCAUSERC**.
- iii. Death and life-threatening problems and serious adverse events or unexpected adverse events whether related or unrelated to the study must be reported to **KCAUSERC** within 72 hours of notification
- iv. Any changes, anticipated or otherwise that may increase the risks or affected safety or welfare of study participants and others or affect the integrity of the research must be reported to **KCAUSERC** within 72 hours
- v. Clearance for export of biological specimens must be obtained from relevant institutions.
- vi. Submission of a request for renewal of approval at least 60 days prior to expiry of the approval period. Attach a comprehensive progress report to support the renewal.
- vii. Submission of an executive summary report within 90 days upon completion of the study to **KCAUSERC**.

Prior to commencing your study, you will be expected to obtain a research license from National Commission for Science, Technology and Innovation (NACOSTI) <https://research-portal.nacosti.go.ke> and also obtain other clearances needed.

Yours sincerely

Dr. Caroline Ntara
Chairperson
KCA University Scientific & Ethics Review Committee

Appendix IV: NACOSTI Research Permit

 <p>REPUBLIC OF KENYA</p>	 <p>NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY & INNOVATION</p>
Ref No: 906037	Date of Issue: 08/August/2025
RESEARCH LICENSE	
	
<p>This is to Certify that Ms.. KEMUNTO SHEILA ONSARE 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: Antecedents of integrated reporting in enhancing financial sustainability of tier I and II commercial banks in Kenya for the period ending : 08/August/2026.</p>	
License No: NACOSTI/P/25/4178132	
906037	
Applicant Identification Number	Ag. Director General
	NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY & INNOVATION
	Verification QR Code
	
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See overleaf for conditions	

Appendix V: Work Plan

Activity	Apr – Jun 2025	July 2025	Aug 2025	Sept 2025	Oct 2025
Topic and Concept Paper Development					
Concept Paper Defense					
Proposal Development and Defense					
Matrix correction and Defense of Seminar One					
Corrections and Seminar Two Defense					
Final Project Corrections and Hardcover Book Binding and Graduation					

Appendix VI: Budget

S/N.	Item	Amount
1.	Photocopy Paper	9,000
2.	Data Collection Travelling	38,000
3.	HP Laptop and SPSS	83,000
4.	Data Analysis Support	28,000
5.	Contingencies	20,000
6.	Binding and black books	17,000
7.	Graduation fees and related expenses	50,000
	Total	245,000