

**INTERNAL AUDIT AND BUSINESS RESILIENCE IN POWER SECTOR: A CASE OF
GEOHERMAL DEVELOPMENT COMPANY, KENYA**

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**A RESEARCH PROJECT SUBMITTED TO THE DEPARTMENT OF
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MANAGEMENT OPTION) OF KENYATTA UNIVERSITY.**

NOVEMBER 2023

DECLARATION

I declare that this is my own work and has never been presented in any university or institution for any award.

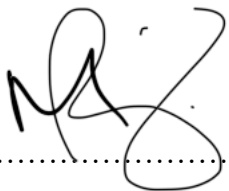
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DEDICATION

The project is dedicated to my parents and friends who have been tirelessly supportive in enabling me to pursue my academic goals.

ACKNOWLEDGEMENT

All praise to God, who made everything possible. Enormous thanks to my supervisor, Dr. Mary Ragui. Her time, gentleness and positive reproach is beyond measure. I am solely indebted to my parents for their constant encouragement to see me through the academic endeavors. I recognize my employer, Geothermal Development Company, for giving me an environment, which has made me go back to school despite the long break.

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ABBREVIATIONS AND ACRONYMS

BSC	Balanced Scorecard Model
COSO	Committee of Sponsoring Organizations of the Headway Commission
CSR	Corporate Social Responsibility
GDC	Geothermal Development Company Limited
ICF	Integrated Capital Frameworks
KETRACO	Kenya Electricity Transmission Company
KMC	Kenya Meat Commission
KPLC	Kenya Power and Lighting Company
MW	Mega Watt
PWC	Price Waterhouse Coopers
UOGD	Unconventional Oil and Gas Development

OPERATIONAL DEFINITION OF TERMS

Risk Management: Risk Management refers to the systematic process of identifying, assessing, and mitigating risks to an organization. In the study, it was contextualized to include an integrated risk approach (ERM), emphasizing the need for a comprehensive risk management strategy, a risk culture that fosters awareness and proactive risk management, and risk treatment strategies to address identified risks effectively.

Business Advisory: Business Advisory involves providing expert guidance and recommendations to an organization on various aspects of its operations. In the study, it was contextualized to encompass elements like independence to ensure impartial advice, skills composition indicating the expertise within the advisory team, and management support to highlight the importance of leadership backing.

Internal Business Controls: Internal Business Controls pertain to the mechanisms and processes within an organization designed to ensure efficient and effective operations and compliance with regulations. In the study, it was contextualized to include the control environment, which sets the tone for internal controls, standardization of processes for consistency, and alignment with the organization strategy to support the achievement of objectives.

Governance: Governance refers to the framework and practices that guide an organization's decision-making and oversight processes. In the study, it was contextualized to involve structures and policies in place to govern operations, consideration of management and board philosophy in shaping governance, and recognition of culture as a significant factor influencing governance practices.

Business Resilience: Business Resilience pertains to an organization's ability to adapt and recover from disruptions and challenges. In the study, it was contextualized to include factors like business downtime, which signifies interruptions in operations, cost of recovery to address the expenses related to restoring normalcy, management of litigation to deal with legal challenges, and data loss as a critical aspect of resilience related to safeguarding information.

Internal Audit: Internal Audit is an independent and systematic examination of an organization's activities and controls to provide assurance and improvement. In the study, it was contextualized within governance, internal controls, risk management, and business advisory to assess various aspects of organizational performance and resilience.

Downtime: This is the time when business processes are not running. In the context of geothermal drilling, it is the lost time when the drilling rig is not making a hole. It is non-productive time in drilling.

Geothermal exploitation: This is the process of extracting steam from underneath the earth, which is then converted to energy with the help of a powerhouse.

ABSTRACT

Over the years, internal auditors' roles have evolved from mere compliance checking to offering a strategic perspective on organizational processes. They play a significant role in evaluating project success potential due to the substantial cost and downtime associated with disasters. Consequently, the concept of business resilience is gaining prominence in boardrooms. The general objective of this study was to establish the role of internal audit in enhancing business resilience in the power sector, specifically focusing on the Geothermal Development Company Limited in Kenya. The specific objectives were to examine how risk management, business controls, governance, and business advisory contribute to business resilience in this organization. The study was grounded in various theories, including the balanced scorecard, strategic choice theory, transient advantage theory, strategic management theory, complexity theory, and the normal accident theory. It employed a descriptive research design and focused on three operational regions of the Geothermal Development Company, with a target population of 200 staff members. A census approach was used as the sampling technique due to the relatively small population size. Primary data was collected using semi-structured questionnaires, and a pilot study was conducted to assess instrument validity and reliability. Data analysis was carried out using SPSS, employing descriptive and inferential statistics, including correlation and regression analysis. The results were presented using tables and figures. The study found that risk management, business advisory, internal controls, and governance all had positive and significant effects on the business resilience of the Geothermal Development Company. It concluded that internal audits had a positive and significant influence on the company's business resilience. Internal audit was identified as playing a critical role in enhancing business resilience through effective risk management, robust governance, and reliable internal business controls. These factors collectively contributed to the organization's ability to withstand disruptions and ensure sustained growth in the power sector. The study recommended that organizations elevate the strategic position of internal audit functions and implement their recommendations. To enhance business resilience at the Geothermal Development Company, it suggested strengthening risk management practices, improving governance structures, and enhancing internal business controls. Capacity building in internal audit and expanding business advisory services were also recommended to optimize the internal audit function. Additionally, the company should consider benchmarking and collaborating with peer organizations to identify areas for improvement and share best practices within the power sector.

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Business resilience in the power sector is a topic of global significance, with implications for both developed and developing countries. Globally, Tiep, Wang, Mohsin, Kamran and Yazdi (2021) in Pakistan indicates that in recent years, the power sector has faced numerous challenges, including natural disasters, cyber threats, and the need to transition to cleaner energy sources. Furthermore, Irfan, Zhao, Ahmad and Mukeshimana (2019) in India reports that increasing interconnectivity of power grids and the globalization of energy markets have made business resilience a critical concern for international energy security. Business resilience in the power sector emphasize the need for cross-border collaboration and information sharing to mitigate transnational risks. As the power sector evolves to incorporate advanced technologies and digitalization, the threat landscape is evolving as well, with cyber-attacks posing a significant global challenge (Mohanty, Chatterjee, & Shaw, 2020). In Singapore, Gasser et al. (2020) indicates that business resilience strategies must encompass not only physical infrastructure but also cybersecurity measures to protect critical power assets. In summary, the global perspective on business resilience in the power sector recognizes the multifaceted nature of the challenges faced and calls for coordinated efforts to ensure the reliability and sustainability of power systems worldwide.

In Eastern African Sridharan et al. (2019) indicates that business resilience in the power sector is a critical aspect of ensuring the continuous and reliable supply of electricity, which is fundamental for modern society's functioning and economic development. The power sector encompasses a complex network of power generation, transmission, and distribution infrastructure, along with various stakeholders, including government entities, utilities, and private companies. In South Africa, Sagel, Rouwenhorst and Faria (2023) reports that ensuring resilience in this sector involves addressing a wide range of challenges and threats that can disrupt electricity supply and impact both individuals and businesses. In Nigeria, Ootobo (2022) indicates that power sector faces several challenges in achieving business resilience. Climate change poses an increasing threat, with more frequent and severe weather events impacting infrastructure. Aging power infrastructure in many regions requires significant investment to modernize and improve resilience. Additionally, the sector must continuously adapt to emerging cyber threats, which are becoming more sophisticated. In Ethiopia, Basheer et al.

(2021) argues that business resilience in the power sector is essential for maintaining uninterrupted electricity supply and supporting economic activities. Addressing the complex challenges, including infrastructure resilience, cybersecurity, regulatory frameworks, and disaster preparedness, while leveraging technological advancements and sustainable energy sources, is critical for ensuring a resilient and robust power sector capable of meeting the energy needs of today and tomorrow.

In Kenya, Hanbashi, Iqbal, Mignard, Pritchard and Djokic (2023) argue that government regulations and policies play a significant role in shaping the resilience of the power sector. Clear and adaptable regulations can incentivize utilities and private companies to invest in resilience measures. They can also promote the adoption of renewable energy sources, which can enhance resilience by diversifying the energy mix. In addition, Kehbila, Masumbuko, Ogeya and Osano (2021) argues that integration of advanced technologies, such as smart grids, real-time monitoring, and predictive analytics, can significantly improve the power sector's resilience. These technologies enable quicker fault detection, efficient grid management, and data-driven decision-making. Besides, Cohen, Muthama, Oludhe and Chitedze (2020) establishes that business resilience in the power sector is essential for maintaining uninterrupted electricity supply and supporting economic activities. Addressing the complex challenges, including infrastructure resilience, cybersecurity, regulatory frameworks, and disaster preparedness, while leveraging technological advancements and sustainable energy sources, is critical for ensuring a resilient and robust power sector capable of meeting the energy needs of today and tomorrow.

Internal audit can play a pivotal role in enhancing business resilience within an organization (Sulasi, 2021; Alao & Gbolagade, 2020; Beninger & Francis, 2022). By conducting comprehensive assessments and audits of various operational aspects, internal auditors can identify vulnerabilities and weaknesses in processes, risk management, and controls (Lamprinakis, 2018). This proactive approach allows organizations to proactively address potential threats and disruptions to their operations. Internal audit functions can also provide valuable insights into compliance with regulatory requirements, ensuring that the organization remains in good standing with legal and industry standards (Simone, 2016). Moreover, internal audit teams can contribute to building a culture of risk awareness and resilience by promoting best practices, recommending improvements, and facilitating communication between different departments (Soroka, Bristow, Naim & Purvis, 2020). The internal audit functions

serve as a vital component of an organization's broader efforts to strengthen its ability to withstand and recover from various challenges and maintain business continuity.

1.1.1 Business Resilience

The costs of downtime of business processes is significant which in some instances has led to business closure. Interestingly, the potential costs of personal time can be pre-calculated. Due to this prior knowledge, internal auditors are called to align projects and business processes to be more vigilant in aspects of business continuity (Keith, 2015). In a world moving towards increased complexity not limited to lot of volatilities and reliance on technology, ability to withstand uncertainties and capacity to rapidly answer the business gambles is a need. Resilience defines firm's ability to prepare a comeback to operations after an adverse event that affected its operations. Resilience remains a key issue of concern among board management of firms (Hill, 2014).

Whenever crises occur, they create a disjoint in organization operations. This calls for need to equip the entity with a cohesive responsiveness with the following resilience competencies a) business continuity b) Disaster recovery c) Incident management d) threat intelligence e) emergency response. When an organization is prepared to handle disruptions, the impact of crisis likely to be less destructive and equally short lived. (PwC's Global Crisis Survey, 2021). Business resilience also refers to positive reemergence of business operations, more solid and astute after an unfavorable occasion that generally upset the ordinary tasks of a firm. The unfriendly impacts include human errors, market shocks, scandals, system collapse, socio-political environment among others. Exogenous shocks and strain are other impacts of business interruption (Rudolph & Repenning, 2002).

Firm's ability to adapt to business shocks while guaranteeing that business activities proceed and that individuals, firm resources and firm brand picture are safeguarded are a portion of the measurements used to check flexibility. Since businesses operate in a dynamic and volatile business environment, resilience aims to preserve sustainability of the business after the adverse events that stalled or interrupted the normal operations (Discenza, 2009). The concept of business continuity is an everyday question that should be actively pursued. Changing business environment have required internal audit to be strategic in their processes. According to a discussion paper by IIA, titled '*Strategy-related auditing, 2015*, it defines strategic project as that which is an enabler of organizational strategy rather than a driver. It is the resilience of strategic projects that defines business going concern and industry competitiveness.

Mohammed (2018) used acceptable downtime and acceptable data loss as measures of business resilience.

In the study, business resilience was assessed using several key indicators, including business downtime, cost of recovery, management of litigation, and data loss. These metrics provided a comprehensive measure of the organization's ability to withstand and recover from various disruptions and challenges. Business downtime indicated the extent to which the company could maintain its operations during adverse events, reflecting its overall resilience in the face of disruptions. The cost of recovery measured the financial resources required to restore normal business operations after a disruption, shedding light on the organization's preparedness and recovery capabilities. Management of litigation assessed the company's ability to navigate legal challenges that might arise during or after a disruption, reflecting its legal resilience. Lastly, data loss measured the organization's capacity to protect and recover critical data, which is essential for business continuity in today's data-driven environment. Together, these metrics provided a comprehensive picture of the organization's business resilience, encompassing operational, financial, legal, and data-related aspects.

1.1.2 Internal Audit

Internal audit is an assessment to evaluate an organization financial and operations ability with goal of adding value to the organization (IPPF). As a principle, internal audit is tasked to add value to institution's processes through a coherent, systematic procedure guided by code of ethics to mitigate risks, foster governance and review internal controls. The process is conducted with objectivity and independence as stipulated by the standards. Experts with immense knowledge and skills to understand business process, culture and systems conduct internal auditing. The internal audit practice gives assurance that the inbuilt internal controls are sufficient in order to alleviate the risks, it also ensures that governance guidelines and procedures are helpful and competent, and organizational objectives and goals are being met (Nagy & Cenker, 2002). The Internal Audit included evaluations of internal controls, advisory functions, risk management practices, and governance structures to enhance overall organizational resilience.

The advisory role of internal audit was examined, with a focus on independence, skills composition, and management support (Beninger & Francis, 2022). Independence was assessed to ensure that the internal audit function operates with autonomy and objectivity, free from undue influence. The composition of skills within the internal audit team was analyzed to

verify that it possessed the necessary expertise to address the organization's specific risks and challenges. Lastly, management support for the internal audit function was assessed to determine the extent to which the organization valued and acted upon the insights and recommendations provided by the internal audit team.

Risk management was another critical area of focus, involving an evaluation of the organization's integrated risk approach (ERM), risk culture, and risk treatment strategies (Alao & Gbolagade, 2020). The internal audit team examined whether the organization had a comprehensive enterprise risk management (ERM) framework in place to identify, assess, and mitigate risks across the organization. The assessment of risk culture aimed to understand how well risk awareness and accountability were embedded within the organization's culture. Additionally, the evaluation of risk treatment strategies sought to determine the effectiveness of the organization's actions in addressing identified risks.

The governance-related aspects were considered, including structures and policies in place, management and board philosophy, and organizational culture (Simone, 2016). The internal audit team assessed whether the organization had appropriate governance structures and policies to guide decision-making and ensure compliance with regulations and standards. The alignment of management and board philosophy with the organization's values and objectives was also examined to gauge the overall governance effectiveness. Additionally, the assessment of organizational culture aimed to understand the prevailing attitudes, behaviors, and values within the organization, as they can significantly impact governance and risk management practices (Aldianto, Anggadwita, Permatasari, Mirzanti & Williamson, 2021).

Internal controls encompass various elements that are crucial for ensuring the effectiveness, efficiency, and reliability of an organization's operations (Sulasi, 2021). The control environment sets the tone for internal controls, reflecting the organization's commitment to ethical values and integrity. It includes factors such as leadership, culture, and the structure of the organization. Standardization of processes involves creating consistent and well-defined procedures across the organization, ensuring that tasks are carried out uniformly and reducing the risk of errors or fraud (Soroka, Bristow, Naim & Purvis, 2020). Organization strategy aligns internal controls with the broader goals and objectives of the organization, ensuring that control measures support strategic initiatives and minimize risks that could hinder the achievement of those goals. In summary, a robust system of internal controls, underpinned by a strong control environment, standardized processes, and alignment with organizational

strategy, is essential for safeguarding assets, preventing fraud, and achieving operational excellence.

1.1.3 Power Sector in Kenya

The government of Kenya has earmarked energy as a key enabler to enhance Vision 2030. It is meant to support the socio-economic and political pillars of the vision. Energy is a necessity in driving industrialization, agricultural activities, and commercial activities among many other facets of economic growth. The demand for energy among households and firms increases as income and level of urbanization increases. Third Medium plan 2017-2022 points out that energy is essential in industrialization, promotion of quality of life, provision of clean and safe environment. Thus, to advance the socio-economic growth, Kenya views that provision of safe, clean and adequate energy is essentially important.

In 1996, The Government of Kenya undertook major changes in the energy sector as per the 1990 structural adjustments reform programs. The disengagement of the state utility in 1997 was one of the key reforms. The Kenya Electricity Generating Company Limited (KenGen) was made responsible in generating energy with KPLC assuming the responsibility of distributing and transmitting the energy. In 1997, the 1997 electric power Act, resulted to formation of the Electricity Regulatory Board which was to regulate the production and consumption of energy (Omuoso, 2010).

In 2008, the Kenya Electricity Transmission Company Limited (KETRACO) was initiated to support the high voltage need of energy to support Vision 2030. KETRACO is a fully state owned corporation, under the regulation by the State Corporations Act, Cap 446. The 2004 sessional paper No 4 on energy provided for establishment of Geothermal Development Company (GDC).

GDC is tasked with exploring, drilling and tapping geothermal energy in Kenya. Funding and ownership of GDC is by the government of Kenya. In exploring geothermal energy, GDC has the mandate of exploring and remediating possible risks that may emanate from geothermal exploration and development activities.

1.1.4 Geothermal Development Company Limited (GDC)

The Geothermal Development Company Limited (GDC) plays a pivotal role in Kenya's energy sector, primarily focused on harnessing geothermal energy as a renewable and sustainable source of power (GDC website, 2022). The resilience of GDC is paramount in ensuring the

continuous and reliable supply of geothermal energy, which is essential for meeting Kenya's growing energy demands and reducing reliance on fossil fuels. Geothermal energy development is not without its challenges, including geological complexities, environmental considerations, and financial constraints, as highlighted by Ngugi (2016). To address these challenges and maintain resilience, GDC has implemented several strategies. One key aspect is its commitment to environmentally sustainable practices, as indicated by its active engagement in environmental impact assessments and mitigation measures (Okwiri & Cherutich, 2013). These measures are crucial for ensuring the long-term sustainability of geothermal projects and aligning with Kenya's broader environmental objectives.

Moreover, GDC's approach to risk management reflects its commitment to resilience. The company adopts an integrated risk management approach, considering various factors such as geological risks, market fluctuations, and regulatory changes (GDC website, 2022). This comprehensive risk management strategy helps GDC proactively identify potential threats and develop mitigation strategies to ensure the uninterrupted supply of geothermal energy. Additionally, GDC's emphasis on collaboration and partnerships within the energy sector, both domestically and internationally, enhances its resilience. Collaborative efforts with government entities, utilities, and international organizations strengthen the company's ability to navigate challenges and leverage expertise (Okwiri & Cherutich, 2013). In summary, GDC's resilience in the geothermal sector stems from its commitment to sustainable practices, comprehensive risk management, and strategic collaborations. As Kenya continues to rely on geothermal energy to meet its energy needs and combat climate change, GDC's resilience remains pivotal in ensuring the nation's energy security and sustainability.

1.2 Statement of the Problem

Geothermal Development Company (GDC) in Kenya has confronted a multitude of challenges, as highlighted in the Auditor-General's report for the year ending June 30, 2021 (Auditor General, 2022). These challenges pose significant threats to the company's business resilience, particularly within the energy sector. One pressing issue pertains to financial mismanagement, as evidenced by the Auditor-General's findings of misrepresented balances in the company's financial statements. GDC's recognition of trading revenue as capital grants and the inclusion of pending grants as revenue raise concerns about transparency and financial accuracy (Auditor General, 2022). Furthermore, irregular procurement practices have been noted, with the company failing to implement e-procurement regulations as required by law. This not only

undermines competitiveness but also raises questions about the effectiveness of the procurement process (Auditor General, 2022). Weaknesses in internal controls have also been identified, with instances of commingling company funds and the failure to separate funds allocated to different geothermal projects, increasing the risk of inaccuracies and potential financial loss (Auditor General, 2022).

Additionally, the underutilization of crucial assets like geothermal drilling rigs raises concerns about the efficient use of resources. Four of these rigs, with a substantial net book value, have remained unused for several years, indicating inefficiencies in asset management and allocation (Auditor General, 2022). These issues collectively highlight the need for comprehensive reforms within GDC to enhance its business resilience and sustainability in the competitive energy sector. Addressing financial mismanagement, improving procurement practices, strengthening internal controls, and optimizing asset utilization are critical steps towards ensuring GDC's continued viability and success. Despite a lot of planning going into drilling activities, discrepancies occur which work against the set plans. According to Mungai and Ngosi (2014), non-productive time in Menengai accounts for 23.5% of the total drilling time. Companies can never be 100% resilient to effects of mishaps anticipated or not in the planning phase, however, the firms can enhance their level of preparedness to minimize equipment downtime and stop an incident from resulting to crisis. Hence, business resilience should be an active role in everyday operations as recovery from downtime is costly.

The study was motivated by a research gap in the existing literature, particularly in Kenya, where no previous studies had examined the impact of risk management, business advisory, internal business controls, and governance on business resilience at Geothermal Development Company Limited. For instance, Hanbashi, Iqbal, Mignard, Pritchard, and Djokic (2023) highlighted the significant role of government regulations and policies in shaping the resilience of the power sector. Clear and adaptable regulations can incentivize utilities and private companies to invest in resilience measures, including the adoption of renewable energy sources to diversify the energy mix. Furthermore, Kehbila, Masumbuko, Ogeya, and Osano (2021) argued that integrating advanced technologies like smart grids, real-time monitoring, and predictive analytics can significantly enhance the power sector's resilience by enabling quicker fault detection, efficient grid management, and data-driven decision-making. Additionally, Cohen, Muthama, Oludhe, and Chitedze (2020) emphasized the importance of business resilience in the power sector for maintaining uninterrupted electricity supply and supporting

economic activities. Addressing complex challenges such as infrastructure resilience, cybersecurity, regulatory frameworks, and disaster preparedness while leveraging technological advancements and sustainable energy sources is crucial for ensuring a resilient and robust power sector capable of meeting current and future energy needs. Therefore, conducting the current study was valuable for informing policy formulation.

1.3 Research Objectives

1.3.1 General Objective

To establish the role of internal audit on business resilience in power sector, case of Geothermal Development Company Limited in Kenya

1.3.2 Specific Objectives

- a) To determine how risk management affects business resilience at Geothermal Development Company Limited in Kenya
- b) To examine the effect of business advisory on business resilience at Geothermal Development Company Limited in Kenya
- c) To establish the effect of internal business controls builds on business resilience at Geothermal Development Company Limited in Kenya
- d) To assess the effect of governance on business resilience at Geothermal Development Company Limited in Kenya

1.4 Research Questions

- a) How does risk management affect business resilience at Geothermal Development Company Limited in Kenya?
- b) What is the effect of business advisory on business resilience at Geothermal Development Company Limited in Kenya?
- c) How does internal business controls build on business resilience at Geothermal Development Company Limited in Kenya?
- d) What is the effect of governance on business resilience at Geothermal Development Company Limited in Kenya?

1.5 Significance of the Study

From findings, management appreciates the benefits of pro-active business resilience practices.

In addition internal audit services were appraised in a more modern angle as business partner rather than a faultfinder and evaluate their value as drivers of resilience.

Several government institutions/ projects have failed to take off because of being hit by unforeseen misfortunes. The Kenya Meat Commission (KMC) is among State Corporations still struggling to implement the turnaround strategy. Since 2006, the corporation has relied on loans and grants from government and partners (Simba 2010). Government may need to develop policies to make it compulsory for every government-funded institution/project to identify critical processes and indicate anticipated vulnerabilities as well as business/process resilience methods in place. This can be made a conditional line for funding/support.

The study formed a basis of future research on business resilience among Kenya's state corporations. The study is of interest to scholars with keen interest on how business resilience creates competitive advantage in the public sector organizations that have received minimal academic literature. Internal auditors appreciate the role they play in enhancing corporate resilience and success and hence the need to be more proactive in their operations. Through this, they can have a strategic view of the business process and benchmark with other leading practices. The drive to be on the front line helps in eliminating/minimizing post-mortem activities on business projects.

1.6 Scope of Study

Geothermal Development Company has a staff population of 1100. This study targeted 200 office and field-based staff. The staff were spread across all Geothermal Development Limited operation areas, which are; Nairobi, Nakuru and Baringo. Respondents were required to give their objective views on contribution of internal audit to business resilience in GDC. Specifically, the study sought to establish the effect of risk management, business advisory, business controls and governance on business resilience in GDC. Descriptive research design was adapted to obtain a complete and accurate investigation and understanding of the study population. The study was conducted between January and February 2023.

1.7 Limitations of the Study

The limitations of the study encompassed several factors. Firstly, the research relied on self-reported data, which could introduce response bias, as respondents might not always provide completely accurate or unbiased information. Secondly, there was a potential for non-response bias, as some participants might have chosen not to participate, leading to a lack of

representation from certain perspectives within the organization. Additionally, the study's scope was limited to a specific timeframe, and conditions may have changed since the data collection period. Furthermore, the research was conducted within the constraints of available resources and time, which might have impacted the depth and breadth of the analysis. Finally, the study's findings were context-specific to the Geothermal Development Company, Kenya, and may not be directly applicable to other organizations or industries.

1.8 Organization of the study

The structure of the study was divided into five distinct chapters to systematically address the research objectives. Chapter one served as the introduction, providing an overview of the research problem, its significance, and the research questions. Chapter two delved into the relevant literature, offering a comprehensive review of existing theories and empirical studies related to the research topic. Chapter three outlined the research methodology, detailing the methods and techniques employed for data collection and analysis. In chapter four, the research findings were presented and discussed, allowing for an in-depth exploration of the results. Finally, chapter five encapsulated the study with a summary of the key findings, conclusions drawn from the research, and practical recommendations for addressing the identified issues. This structured approach ensured a logical and coherent progression of the research, facilitating a thorough exploration of the topic from inception to conclusion.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

The chapter includes the theoretical review to justify why the study is to be conducted, an empirical literature review, research gaps and the conceptual framework.

2.2 Theoretical Review

A theory is set of arguments that guide a particular proposition in academic literature. Theoretical frameworks are explanations about the phenomena. Balanced score card, strategic choice theory, transient advantage theory, complexity theory, normal accident theory and strategic management theory were adopted to guide the study.

2.2.1 Balanced Scorecard Model

Kaplan and Norton developed the balanced score card (BSC) in 1992 as a performance measurement framework that combined strategic non-financial performance measures with traditional financial metrics to provide managers and executives with a more 'balanced' view of organizational performance (Kaplan and Norton, 1992). As a result, the balanced scorecard considers a broad and integrated collection of metrics that link existing customers, workers, internal processes, and system performance to long-term financial success. This is accomplished through its four perspectives: financial view, customer perspective, internal company process perspective, and learning and growth perspective (Kaplan and Norton, 1996). The balanced scorecard was designed to build a system that could monitor an organization's performance and improve any backlogs that occurred. Because of its logical procedure and methodologies, the balanced scorecard has grown in favor throughout time (Doz & Kosonen, 2017).). As a result, it evolved into a management technique that could be applied across multiple functions within an organization. The balanced scorecard assisted management in understanding its goals and roles in the larger picture. It also assists the management team in quantifying performance. When it comes to communicating strategic objectives, the balanced scorecard is equally critical.

The BSC model holds significant relevance to the objective of enhancing resilience. This model provides a comprehensive framework for assessing organizational performance by incorporating not only traditional financial metrics but also strategic non-financial performance measures. It encompasses four key perspectives: the financial viewpoint, which aligns with

shareholders' financial objectives; the customer viewpoint, focusing on customer satisfaction and service delivery; the internal process view, emphasizing critical processes for meeting customer and shareholder needs; and the learning and growth viewpoint, which underscores the importance of organizational development and innovation. The BSC serves as a strategy management framework capable of addressing both short-term and long-term business challenges while maintaining alignment with the organization's vision and goals. It acknowledges the rapid pace of change and competition in the business environment, emphasizing the need for continuous adaptation to ensure survival. In the context of this study, the BSC's relevance lies in its ability to leverage innovation as a means to attain competitive advantages and, consequently, bolster business resilience. By utilizing the BSC model, organizations can gain insights into their vulnerabilities, assess available resources, and enhance their capacity to navigate uncertainties and disruptions effectively.

2.2.2 Strategic Choice Theory

Strategic Choice Theory, proposed by Charles Lindblom in the 1959, emphasizes the incremental and bounded nature of decision-making in complex organizations and societies (Lindblom, 1959). The theory assumes that decision-makers have limited cognitive and informational resources, leading them to make choices that are based on satisfying immediate goals rather than comprehensive and rational analysis. The theory argues that in the face of uncertainty and bounded rationality, decision-makers tend to focus on a subset of alternatives, leading to a piecemeal and incremental approach to problem-solving (Schneider & Ingram, 1993). This theory challenges the traditional rational choice models and highlights the importance of understanding the decision-making processes in real-world settings where perfect information and comprehensive analysis are often unattainable (Lindblom, 1959). The assumption of the theory is that decision-makers have bounded rationality, limited information processing capacity, and must make incremental choices in the face of complex and uncertain environments (Ansell & Gash, 2007).

The theory is relevant to assess the role of governance on business resilience at Geothermal Development Company Limited in Kenya. Strategic choice theory is highly relevant to this objective as it focuses on the relationship between external factors and corporate strategies. Governance decisions often shape the strategic direction of an organization. By examining strategic choice theory, the study can analyze how governance decisions influence the company's resilience strategies. It provides a framework for understanding how the choices made by the governance structure impact the organization's ability to respond to disruptions

and enhance its business resilience.

2.2.3 Transient Advantage Theory

McGrath proposed the theory in 2013. It is based on premise of sustainable competitive advantage. The theory proposes that the pace of change is drastic in business world resulting to turbulence environment. According to HBR magazine titled '*competitive advantage*' (2013) the theory challenges traditional assumptions about creating long term strategy, which would be created over a period of time and would consequently be revised on an infrequent basis. This theory contends that prospects for exploiting competitive advantage are fleeting given how the current business environment has developed. As a result, the strategy lifespan is brief, which makes quick responses to changing market circumstances necessary. Strategies to manage disaster recovery need to be proactive this ensures the organization can withstand the effects and fasten on the recovery process (Samuel, 2017). Business resilience as a practice should be essential for the day-to-day administration and activity of the undertaking. The theory was relevant to the study with regards to the readiness of businesses to adapt to changes in the business environment.

The theory is relevant to find out the impact of business advisory on business resilience at Geothermal Development Company Limited in Kenya. This theory challenges the traditional notion of sustained competitive advantage and suggests that in today's fast-paced business world, competitive advantages are often short-lived or transient. In the context of business advisory, this theory becomes pertinent because business advisors play a crucial role in helping organizations adapt to changing market conditions and capitalize on transient advantages. They assist in identifying emerging opportunities and potential threats in the business landscape. Business advisory services can help organizations remain agile and responsive to the evolving environment. By embracing the principles of the Transient Advantage Theory, the study can assess how business advisory at Geothermal Development Company Limited helps the company detect and leverage short-lived opportunities while also addressing emerging challenges. This theory underscores the importance of continuously monitoring the business landscape and being ready to pivot strategies and operations swiftly. By examining how business advisory impacts the company's ability to navigate transient advantages and threats, the study can gain insights into the role of advisory services in enhancing business resilience. It provides a framework for understanding how businesses can thrive in an environment where competitive advantages are fleeting and where adaptability is a key determinant of resilience.

2.2.4 Complexity Theory

This theory posits that all processes reorganizes themselves into a system (Kelly,1999). The resulting system develop trends resulting from a number of simple rules being applied repetitively. The complex behaviour follows some order but has some complex interactions (Goldberg & Markoczy, 1998). More often, small change is ignored by entities though this can result to bigger issue. Nonetheless,the right kind of reaction at the beginning of the disastrous condition can spring an entity to positivefeedback (Nilson, 1995). Being agile in operations is essential as it will provide a critical benefit in the long term (Koch, 2000; Hamel, 2000). To be a fruitful first mover, an organization should perceive the trend and identify the natural signs that demonstrate which dynamics have significant impact to behavioral change (Ball & Asbury, 1989; Morrison & Quella, 1999).

Complexity theory acknowledges that business processes cannot operate in silos. The entity is a system by itself. The processes are integrated and they impact on each other. The theory puts it that the business environment is volatile and is subject to various external and internal impacts. In an inquiry structure, the hypothesis asks for replies to this: For what reason do a few affiliations crumble despite verifiable levels of constant strain while others thrive and foster more shrewd and prepared to deal with future troubles? The answer to the above question invites a discussion about business resilience (Weick & Sutcliffe, 2001).

A paper published by Mazars- a global consultancy firm titled '*internal audit during and beyond the covid-19 crisis*' (2020) indicates that internal audit team should contribute to organization's versatility including reviewing existing emergency and business continuity plans. Firms work in a persistently changing climate with the need to prepare and get ready for a wide extent of indispensable and practical risks, and respond quickly to crises. Building business adaptability is fundamental for all affiliations and requires a fruitful blend of systems. The complexity theory is relevant to the study since it highlights how businesses in the modern day are exposed to multiple risks at any time and that there are multiple aspects of business operation that need to come together for business performance and business resilience to be enhanced.

The complexity theory is particularly relevant to determine how risk management affects business resilience at Geothermal Development Company Limited in Kenya. This is because it emphasizes the dynamic and interconnected nature of business environments. Risk

management involves identifying and addressing complex and interconnected risks that can impact an organization's resilience. Complexity theory provides a framework for understanding how various factors and risks within the business ecosystem interact and influence each other. By applying complexity theory, the study can better analyze how risk management strategies at Geothermal Development Company Limited adapt to the evolving and interconnected landscape, ultimately affecting the company's business resilience.

2.2.5 Normal Accident Theory

Perrow coined the theory in 1984. It was as a result of attempting to comprehend the disaster at Three Mile Island. From this disaster, it was identified that the systems engaged may be so complex and tightly coupled that an accident is, perhaps, the inevitable result. Big and separated frameworks with subsystems that associate are bound to have impromptu and new phenomenon resulting to complicated transformation processes. Events in linearly interactive systems are simpler to foresee and comprehend. Less complex frameworks are effectively controlled in light of the fact that communications are basic, changes are less and clearer, moreover, the number and assortment of members included is less (Perrow, 1999). Normal accident theory argues that complex system catalyzes the occurrence of risky incidents (Roberts & Rousseau 1989; Weick and Roberts 1993; Sagan 1993; Perrow 1999).

According to Blankenship (2005), geothermal drilling is a complex activity, and variation of many variables involved result to project scope creep. Project Management Institute (PMI) defines scope creep as small, continuous process stretching beyond the expected scope. The project change requests eat into the project budget, ruins deadline estimations and result to one or more deliverables not being achieved. The normal accident theory is therefore relevant in the study as internal auditors need to assess the adequacy of planning process in corporate projects and evaluate if value for money is realized. A successful project is likely to be prepared for turbulence. Internal audit process needs to be more agile to help address business needs (George, 2020).

The theory is relevant to examine how internal business controls build on business resilience at Geothermal Development Company Limited in Kenya. The normal accident theory is pertinent to this objective as it highlights the potential consequences of inadequate internal controls. Internal business controls are critical for identifying and mitigating risks. Normal accident theory suggests that complex systems with weak controls are more prone to accidents or failures. By applying this theory, the study can assess how the strength and effectiveness of

internal controls contribute to the company's resilience. It offers insights into how failures in internal controls can have cascading effects on resilience.

2.2.6 Strategic Management Theory

The theory was first developed in the 1950s and 1960s. The theory hypothesizes that strategic management is the process and approach of specifying the objectives of a business or an organization, creating policies, programs and plans that will help to achieve the objectives. In addition, it also includes the allocation of resources for the implementation of policies, programs, paradigms and plans (Rashid, Ali & Hossain, 2020). In general, strategic management can be defined as the process is the defining, developing, implementing and monitoring competitive objectives by a business in order to achieve sustained performance (Hitt, Arregle & Holmes Jr, 2020). It is intended to integrate an organization's operations in order to increase its competitiveness.

Benefits of using the strategic management theory for firms include the fact that it provides an objective assessment and gives a model that can be used to make decisions. It provides an organizational framework and offers a method of measuring progress (Bogers, Chesbrough, Heaton & Teece, 2019). In contrast, some of the disadvantages of the strategic management theory includes the fact that the future rarely unfolds as planned. Moreover, it limits flexibility and can be very expensive to actualize (Kabeyi, 2019). The theory of strategic management is relevant to the study in that internal audits can be used to evaluate how inspiring corporate objectives are as well as preparedness to unforeseen events.

The theory is relevant to find out the impact of business advisory on business resilience at Geothermal Development Company Limited in Kenya. Strategic management theory aligns well with this objective because it addresses the process of defining and implementing strategies to achieve organizational objectives. Business advisory services are closely related to strategic decision-making. By examining strategic management theory, the study can assess how business advisory services influence the development and execution of resilience strategies. It provides a framework to evaluate how advisory services contribute to the company's ability to adapt to challenges, thereby impacting its business resilience.

2.3 Empirical Literature Review

2.3.1 Risk Management and Business Resilience

Aldianto, Anggadwita, Permatasari, Mirzanti, and Williamson (2021) embarked on a

comprehensive study with the aim of providing a business resilience framework by delving into the behaviors, capability, and knowledge of startups. Their research addressed the pressing need for startups to navigate the turbulent business landscape, especially in the face of disruptive events such as the Covid-19 pandemic. The study underscored the critical role of risk management in enabling startups to effectively deal with the multifaceted challenges that impact their business resilience. By identifying and managing risks, startups can better position themselves to withstand various disruptions. It's noteworthy that this study was conducted within the context of Indonesian startups, which adds a valuable dimension to our understanding of business resilience in a specific cultural and economic context. However, this contextual focus also highlights the need for further research to bridge contextual gaps and provide a more holistic view of business resilience on a global scale.

In their research, Soroka, Bristow, Naim, and Purvis (2020) delved into the intriguing concept of regional resilience, specifically focusing on the resilience of individual firms within the same geographic region. Their study revolved around investigating the capabilities, adaptation strategies, and reconfiguration processes employed by businesses operating within a shared economic environment. One notable aspect of their research was the exploration of the Quiscore credit indicator as a tool to measure firm resilience. This economic indicator was originally designed to assess credit risk but was repurposed to gauge the economic resilience of organizations. The study arrived at the noteworthy conclusion that the Quiscore indicator is a valuable and effective tool for assessing the economic resilience of firms and can serve as an early warning system for economic stress within a region. Furthermore, the research affirmed the significance of risk management as a potent means of fortifying a business's resilience in the face of adversity. This study not only contributes to our understanding of regional resilience but also highlights the role of innovative indicators and risk management strategies in bolstering business resilience.

The study by Jain, Paskan, and Mannan (2020) makes a significant contribution to the field of process system resilience, particularly in the context of risk management and business continuity. It highlights the evolving challenges faced by industries globally, driven by factors such as competition, energy efficiency concerns, and the need for reduced staffing. In this changing landscape, there has been a growing emphasis on public perception of risks, necessitating a shift from traditional risk management to a more comprehensive approach that encompasses business continuity and sustainability objectives. One of the key aspects

discussed in the paper is the application of resilience engineering, which takes into account the dynamic nature of socio-technical systems. The authors introduce the concept of the process resilience analysis framework (PRAF), which provides a structured approach to understanding and enhancing the resilience of process systems. The framework comprises four essential aspects, offering a holistic view of how resilience can be strengthened within these systems. A noteworthy aspect of the paper is its real-world application through the analysis of the 2012 Chevron Richmond Refinery incident. This case study demonstrates the practical relevance of the proposed framework and establishes a clear link between resilience and sustainability. By using the PRAF, the study suggests that process systems can enhance their resilience capabilities, ultimately promoting business continuity and sustainability. However, the study had contextual gap since it was not done in Kenya. While the principles and framework presented in the paper are undoubtedly valuable, further research is needed to adapt and assess their effectiveness within the specific socio-technical and industrial landscape of Kenya.

Sulasi's (2021) study focused on a particularly challenging sector, the oil and gas industry in Malaysia. The choice of this industry was driven by its inherent volatility, uncertainty, and complexity, making it a compelling subject for exploring risk management and its impact. The research unveiled the inescapable reality that the oil and gas sector is intrinsically risky, necessitating rigorous and effective risk management practices as an integral component of its daily operations. A significant revelation was that enhanced risk management practices translated into tangible improvements in business performance within this industry. However, it is essential to note that this study, while shedding light on risk management's effect on business performance, did not explicitly delve into the broader concept of business resilience. This distinction opens up a conceptual gap that merits further exploration in future research. Additionally, given that the research was conducted in the specific context of Malaysia, it presents an opportunity for future studies to expand and generalize findings to a broader international context, thus bridging both contextual and conceptual gaps.

The study by Akbar, Gruben, and Juliarto (2023) highlights the importance of a risk management strategy for businesses in the coffee industry, specifically focusing on a case in Coffee Bada. With the increasing interest in coffee shops and the entry of new entrepreneurs into the market, the need for a robust risk management strategy to address uncertainties becomes crucial, especially for new businesses. The study aims to assess the resilience of Indonesian coffee shops in the face of the pandemic while emphasizing the role of risk

management. Through interviews and a literature review, the findings reveal that many Indonesian coffee shops lack awareness regarding the significance of establishing a risk management strategy for enhancing resilience. This underscores a contextual gap in the awareness and implementation of risk management practices in the Indonesian coffee industry.

2.3.2 Governance and Business Resilience

Lamprinakis (2018) sought to introduce embeddedness as a governance strategy, highlighting its connection with strategies of CSR as well as to show its importance in securing and strengthening business resilience. The study showed that a strong embedded organization becomes deeply rooted to its natural and socio-economic environments, it is thus able to ably participate in high level CSR activities, that can yield CSR related privileges and hence improving the resilience of a business. The research revealed that when an organization becomes deeply embedded in its natural and socio-economic environments, it gains the capacity to actively engage in high-level CSR activities. These CSR initiatives can yield privileges and benefits related to CSR, ultimately contributing to the enhancement of business resilience. This study underscores the significance of embedding as a strategic approach in fostering both CSR and business resilience. However, there is a conceptual gap.

During the peak of the Covid-19 pandemic outbreak in Indonesia, Safira conducted a research study in 2021 to examine the impact of corporate social responsibility (CSR) and corporate governance on firm resilience. The primary focus of this study was the IDX80 index listed on the Indonesia Stock Exchange, and the research employed a quantitative research methodology. The findings of the study indicated that CSR had a significant influence on business resilience, particularly in terms of economic and social transparency. Moreover, the research revealed that the board of directors played a substantial role in enhancing corporate resilience. While this study provides valuable insights, it is important to note a contextual gap as it was conducted in Indonesia, and its findings may not directly apply to the Kenyan context. Further research in Kenya is needed to assess the applicability of these findings to the local business landscape.

The study by Vera, Samba, Kong, and Maldonado (2020) explores the concept of resilience, particularly in the context of leadership practices that enable organizations not only to bounce back from adversity but also to thrive despite it. In the wake of the COVID-19 global health crisis, interest in resilience has surged, prompting a closer examination of what distinguishes organizations that thrive amid adversity. The study challenges existing notions of resilience by emphasizing the shift from "resilience as bouncing back to normal" to "resilience as thriving."

This shift is rooted in a positive leadership perspective that focuses on the combination of positive leadership resources and organizational resilience capabilities that support thriving. Positive leadership encompasses the development and use of socio-psychological resources such as a positive climate, positive relationships, positive communication, and positive meaning. Additionally, the article emphasizes the importance of an organization's ability to Assess, Accept, and Adapt as critical capabilities for thriving. While this research sheds light on leadership practices for thriving resilience, it also identifies a contextual gap, as the study was not conducted in Kenya, where exploring these concepts could provide valuable insights into the local context.

The study by Gichuhi (2021) conducted a systematic literature review to explore the impact of shared leadership on organizational resilience. In the context of contemporary organizations, where leadership paradigms have evolved from the traditional "great man" concept to more collaborative and shared approaches, this research aimed to understand the connection between shared leadership and an organization's ability to navigate and thrive in turbulent business environments. Gichuhi's review involved an extensive search for relevant literature across various databases, including Emerald, Google Scholar, APA PsycNet, Researchgate, and JSTOR, using keywords related to shared leadership, organizational resilience, and the impact of shared leadership on organizational resilience, primarily through Boolean operators. From an initial pool of 200 articles, the study applied inclusion and exclusion criteria, resulting in the review of 43 articles. This comprehensive analysis culminated in the proposal of an integrated model that underscores the urgency of shared leadership in today's business landscape. Notably, the review revealed that the relationship between shared leadership and organizational resilience has not received substantial attention in existing literature, suggesting a potential avenue for future research. However, it's important to note that this study did not specifically address the objectives related to risk management, business advisory, internal business controls, or governance in the context of business resilience at Geothermal Development Company Limited in Kenya, leaving a conceptual gap in relation to these specific objectives.

2.3.3 Internal Business Controls and Business Resilience

In a study by Serfontein and Govender published in 2021, the authors explored how stakeholders in the aviation industry perceived the link between organizational resilience and organizational control systems. Data from 203 stakeholders was gathered for the study.

Descriptive and inferential statistics was used. The findings revealed that there exists a strong positive relationship between organizational control systems and organizational resilience. Organizational control systems like quality assurance and corporate governance have an effect on the organization's internal environment. The study's conclusions showed that a company's internal control structure is far less resilient when quality assurance and corporate governance are separate.

The study conducted by Beuren, Santos, and Bernd (2020) aimed to investigate the influence of the enabling perception of the Managerial Control System (MCS) on both psychological empowerment and organizational resilience. The research involved surveying 161 managers from Brazilian companies that had experienced acquisition processes, and a structural model was constructed to assess the research hypotheses. The findings of the study demonstrated a significant association between the enabling perception of MCS and both psychological empowerment and the capacity for organizational resilience. This suggests that the attributes of the MCS have a direct impact on motivating managers within their work environments and contribute to a company's ability to effectively manage challenges and contingencies. MCSs are shown to play a crucial role in helping organizations adapt to changes and regain stability following temporary disruptions, such as those encountered during acquisitions. In summary, the research underscores the idea that enabling MCSs not only enhance managerial empowerment but also enable companies to better navigate the turbulence they encounter. However, it's important to note that the study did not specifically address the objectives related to risk management, business advisory, internal business controls, or governance in the context of business resilience at Geothermal Development Company Limited in Kenya, leaving a conceptual gap with respect to these specific objectives.

Alao and Gbolagade (2020) undertook a research on frameworks for the recovery of enterprises during and after crises like the Covid-19 pandemic and other comparable calamities. Processes that enable companies and organizations to successfully react to unforeseen disruptions was also considered. The study was guided by the theoretical methodology and analyzed multiple articles and survey results. The findings showed management of business continuity, liquidity and stakeholders' safety are key aspects in building of business resilience. The study recommended that business management should adopt accounting and internal controls in order to enhance performance and resilience. The study purely relied on secondary data and therefore constitutes a methodological gap.

In their study, Beuren, dos Santos, and Theiss (2022) aimed to investigate the impact of organizational resilience on job satisfaction and business performance within companies that had undergone corporate reorganizations. The research involved conducting a survey with 102 executives and managers from Brazilian companies that had experienced corporate reorganization. The researchers utilized structural equation modeling (SEM) to test their hypotheses. The findings of the study revealed several significant relationships. First, organizational resilience was found to have a positive influence on business performance across multiple dimensions, including economy-financial, customers, and processes/learning. Second, organizational resilience also had a positive impact on job satisfaction, particularly in the dimensions of financial and personal benefits. However, the study also uncovered a nuanced relationship between job satisfaction and business performance. While there was a connection between job satisfaction and business performance, it was partial, suggesting that job satisfaction could influence business performance through other intermediary variables. One important implication of this research is its contribution to a deeper understanding of how active organizational resilience can affect various aspects of business performance, moving beyond a narrow focus on financial indicators. Additionally, the study sheds light on the relationship between job satisfaction and both business performance and organizational resilience. However, it should be noted that this study was conducted in the context of Brazilian companies, and there may be variations in other settings, including Kenya, thus highlighting a contextual gap in the research.

2.3.4 Business Advisory and Business Resilience

Ramdani, Binsaif, Boukrami and Guermat (2020) conducted a study to explore how investment banks changes in response to challenges in their environments. The study showed that investment banks can achieve resilience by changing their business models in order to solve challenges that they face both internally and externally. While choosing the right model can present a challenge, the use of business advisors and consultants was positively linked to business resilience. Specifically, the findings revealed that investment banks could adjust their business models by deploying different combinations of activities.

Beninger and Francis (2022) conducted a study to evaluate role of professional advisors in business resilience with a bias to Covid-19 period. . The research focused on 10 capital frameworks drawn from academia and industry practice. The findings identified that using professional advisors helped in reinforcing business resilience and concluded by providing

insights into how businesses can use this framework to become more resilient. The use of the Integrated Capital Frameworks (ICF) creates a methodological gap. The data used was historical. Long-term employment had the best economic resilience but was accompanied with reduced dependence on the gas industry. In addition, local businesses did not necessarily follow the traditional cycle of mini-booms and busts and as such they could not manage cyclical effects. The findings revealed that in order for businesses to manage the unpredictable cyclical effects, they must be flexible yet still maintain coping mechanisms for unforeseen circumstances. The study concluded that timing is important in deciding whether or not busts are small or whether or not they transcend local resilience. The study argued that consultants take a critical role during seasons of vulnerability. The use of advisors was positively linked to business resilience.

The study conducted by Spiegel et al. (2020) emphasizes the crucial role of risk management (RM) in enhancing the perceived resilience capacities of farms and farming systems (FS) in Europe. Through a comprehensive approach that included a farm survey, interviews with farmers, and focus groups involving various FS actors, the research expanded the traditional definition of RM to encompass strategies addressing long-term structural challenges and extended the analysis from the individual farm level to the broader FS level. The findings consistently indicated that European farmers are primarily concerned about economic challenges, especially long-term pressures. Importantly, the study highlighted the diversity of RM strategies adopted by farmers over the past five years, with no single strategy being universally applied. It also revealed a growing demand among FS actors for RM strategies that focus on long-term pressures rather than just short-term shocks. Moreover, interviews and focus group discussions underscored the collaborative nature of future RM strategy development, emphasizing the need for contributions from all FS actors. However, it should be noted that this study's context is specific to Europe, raising a contextual gap in the research for application and adaptation to other regions, including Kenya.

The study by Casalino et al. (2019) emphasizes the importance of managing the process of digital transformation in Small and Medium Enterprises (SMEs) effectively. Digital transformation involves a complex set of changes, encompassing technological, organizational, cultural, and social aspects, which impact the organization as a whole. Merely adopting digital technologies is not sufficient; organizations must also consider the organizational implications of this transformation. The research highlights the need to balance digital transformation with

"digital resilience," which is increasingly crucial for the success of SMEs. Digital resilience should be integrated into the overall strategy and mission of the business and involve all staff. The study discusses key aspects such as decision-making, organizational change, change management, risk prevention, and knowledge management, all of which are essential for a successful digital transformation process. However, it's worth noting that this research context may differ from specific situations in Kenya, creating a conceptual gap that needs to be considered when applying these findings locally.

2.4 Summary of Literature

Table 2.1: Summary of Literature

Authors	Study (Topic)	Findings	Research Gap	Focus of the Current Study
Akbar, Gruben, and Juliarto (2023)	Risk management strategy in the coffee industry (Case in Coffee Beda, Indonesia)	Many Indonesian coffee shops lack awareness of the significance of risk management for enhancing resilience.	There is a contextual gap in the awareness and implementation of risk management practices in the Indonesian coffee industry.	Risk management, business advisory, internal business controls, and governance on business resilience at Geothermal Development Company Limited in Kenya
Beuren, dos Santos, and Theiss (2022)	Organizational resilience, job satisfaction, and business performance after corporate reorganizations	Organizational resilience positively influences business performance and job satisfaction.	The study was conducted in Brazilian companies, so findings may not directly apply to the Kenyan context.	Risk management, business advisory, internal business controls, and governance on business resilience at Geothermal Development Company Limited in Kenya
Beninger and Francis (2022)	Role of professional advisors in business resilience during crises (with a focus on Covid-19 period)	Using professional advisors positively reinforces business resilience, with the Integrated Capital Frameworks (ICF).	The study's data is historical, presenting a methodological gap.	Risk management, business advisory, internal business controls, and governance on business resilience at Geothermal Development Company Limited in Kenya
Aldianto, Anggadwita, Permatasari, Mirzanti, and Williamson (2021)	Business resilience framework for startups in Indonesia	Risk management plays a critical role in enhancing startups' business resilience.	Further research needed to adapt findings to other cultural and economic contexts.	Risk management, business advisory, internal business controls, and governance on business resilience at Geothermal Development Company Limited in Kenya.
Sulasi (2021)	Risk management and business performance in the oil and gas industry in Malaysia	Enhanced risk management practices positively impact business performance in the oil and gas industry.	The study did not explicitly delve into the broader concept of business resilience.	Risk management, business advisory, internal business controls, and governance on business resilience at Geothermal Development Company Limited in Kenya

Authors	Study (Topic)	Findings	Research Gap	Focus of the Current Study
Safira (2021)	Impact of CSR and corporate governance on firm resilience (IDX80 index in Indonesia)	CSR significantly impacts business resilience, especially in terms of economic and social transparency.	The study was conducted in Indonesia, so findings may not directly apply to the Kenyan context.	Risk management, business advisory, internal business controls, and governance on business resilience at Geothermal Development Company Limited in Kenya
Gichuhi (2021)	Shared leadership and organizational resilience	The relationship between shared leadership and organizational resilience needs further exploration.	The study did not specifically address risk management, business advisory, internal business controls, or governance in the context of business resilience at Geothermal Development Company Limited in Kenya.	Risk management, business advisory, internal business controls, and governance on business resilience at Geothermal Development Company Limited in Kenya
Serfontein and Govender (2021)	Organizational control systems and their impact on organizational resilience in the aviation industry	Organizational control systems are positively related to organizational resilience.	The study focused on the aviation industry and may not be directly transferable to other sectors.	Risk management, business advisory, internal business controls, and governance on business resilience at Geothermal Development Company Limited in Kenya
Beuren, Santos, and Bernd (2020)	Managerial Control System (MCS) and its influence on psychological empowerment and organizational resilience	The enabling perception of MCS positively impacts psychological empowerment and organizational resilience.	The study did not specifically address risk management, business advisory, internal business controls, or governance in the context of business resilience at Geothermal Development Company Limited in Kenya.	Risk management, business advisory, internal business controls, and governance on business resilience at Geothermal Development Company Limited in Kenya
Alao and Gbolagade (2020)	Frameworks for enterprise recovery during and after crises	Business continuity, liquidity management, and stakeholders' safety are essential for business resilience.	The study solely relied on secondary data, which poses a methodological gap.	Risk management, business advisory, internal business controls, and governance on business resilience at Geothermal Development Company Limited in Kenya
Vera, Samba, Kong, and Maldonado (2020)	Positive leadership practices and organizational resilience	Positive leadership resources and organizational resilience capabilities support	The study was not conducted in Kenya, leaving a contextual gap in understanding the local context.	Risk management, business advisory, internal business controls, and governance on business resilience at Geothermal Development Company Limited in Kenya

Authors	Study (Topic)	Findings	Research Gap	Focus of the Current Study
		organizational thriving.		
Soroka, Bristow, Naim, and Purvis (2020)	Regional resilience and firm-level adaptation strategies	Quiscore credit indicator is effective in assessing the economic resilience of firms.	The study did not explicitly explore the broader concept of business resilience.	Risk management, business advisory, internal business controls, and governance on business resilience at Geothermal Development Company Limited in Kenya
Jain, Pasman, and Mannan (2020)	Process system resilience and its relationship with sustainability and risk management	Process resilience analysis framework (PRAF) strengthens resilience capabilities for business continuity and sustainability.	The study lacks a focus on the specific socio-technical and industrial landscape of Kenya.	Risk management, business advisory, internal business controls, and governance on business resilience at Geothermal Development Company Limited in Kenya
Ramdani, Binsaif, Boukrami, and Guermat (2020)	Investment banks' resilience through business model changes	Investment banks can achieve resilience through changes in their business models.	The study focuses on investment banks, and the findings may not be generalizable to other industries.	Risk management, business advisory, internal business controls, and governance on business resilience at Geothermal Development Company Limited in Kenya
Spiegel et al. (2020)	Risk management's role in enhancing perceived resilience capacities of farms and farming systems in Europe	Risk management strategies should focus on long-term pressures rather than short-term shocks.	The study's context is specific to Europe, and its findings may not be directly applicable to other regions, including Kenya.	Risk management, business advisory, internal business controls, and governance on business resilience at Geothermal Development Company Limited in Kenya
Lamprinakos (2018)	Embeddedness as a governance strategy and its impact on CSR and business resilience	Strong embedded organizations can participate in high-level CSR activities, enhancing business resilience.	There is a conceptual gap in understanding the relationship between embeddedness, CSR, and business resilience.	Risk management, business advisory, internal business controls, and governance on business resilience at Geothermal Development Company Limited in Kenya

Source: Empirical Literature Review; Researcher (2023)

2.5 Conceptual Framework

This pictorial framework defines how variables in a study interrelate (Kothari, 2013) as shown below in Figure 2.1. A diagrammatical representation of a conceptual framework demonstrates the connection between dependent and independent variables. The structure makes it easier for the reader to quickly identify the intended graphic or diagrammatic correlations between the study's variables.

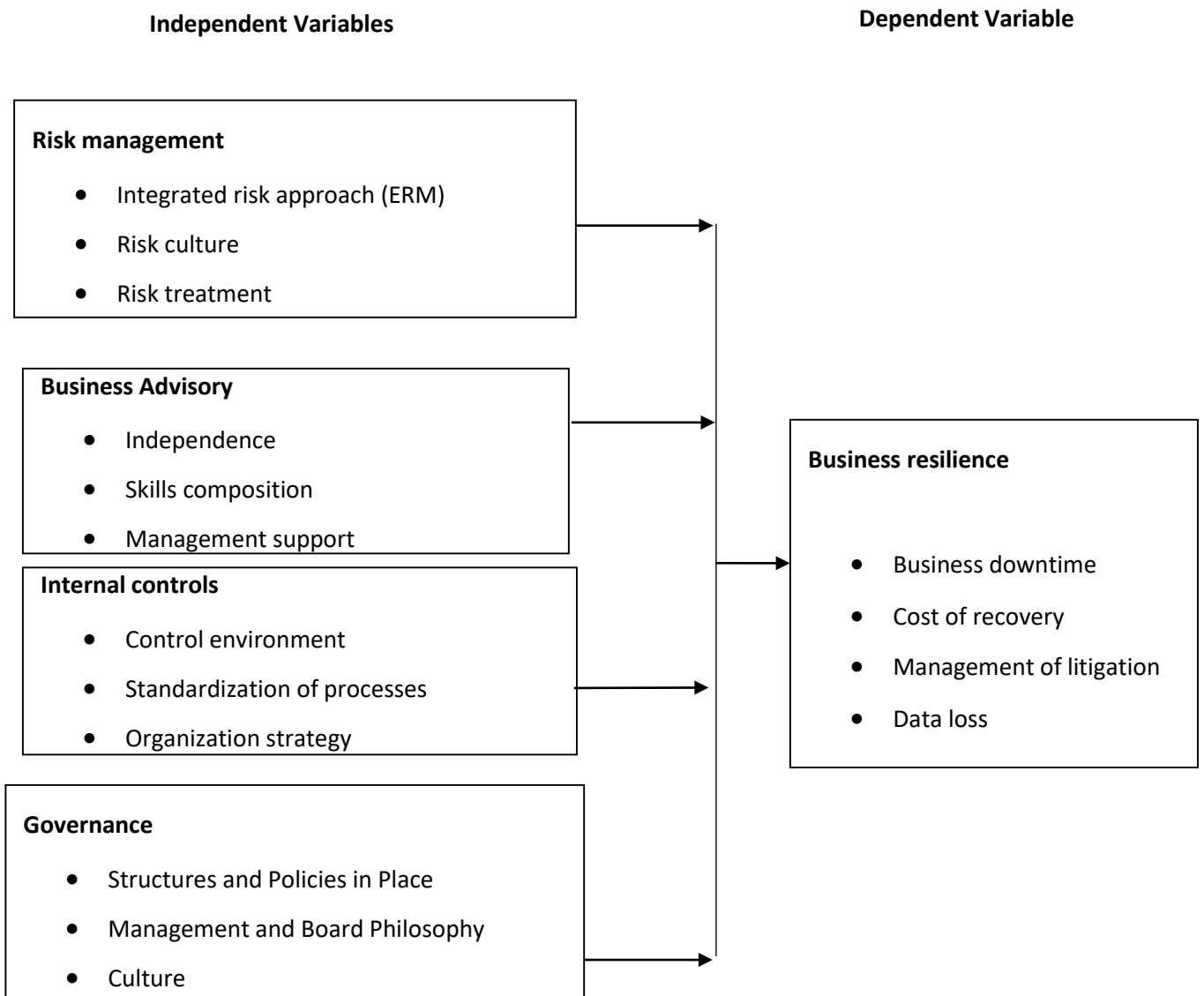


Figure 2.1 Conceptual Framework

Source: Researcher (2023)

Risk management is a fundamental element of business resilience, involving an integrated risk approach (ERM), risk culture, and risk treatment. An integrated risk approach, as advocated by Gichuhi (2021), involves identifying and managing risks comprehensively across the organization, ensuring that no critical vulnerabilities are overlooked. A strong risk culture, as outlined in Jain, Paman, and Mannan (2020), promotes risk awareness and encourages proactive risk mitigation efforts, contributing to resilience. Effective risk treatment, as emphasized by Sulasi (2021), involves developing strategies to mitigate identified risks and ensure that the organization can continue its operations in the face of challenges.

Business advisory services, including independence, skills composition, and management support, are instrumental in strengthening an organization's risk management and resilience

efforts. The independence of advisory teams, as emphasized in Beninger and Francis (2022), ensures unbiased assessments and recommendations, aiding in identifying potential risks and vulnerabilities. A diverse skills composition, as discussed by Ramdani, Binsaif, Boukrami, and Guermat (2020), equips organizations with the expertise needed to navigate complex challenges effectively. Additionally, management support, as highlighted in Spiegel et al. (2020), demonstrates commitment to risk management and resilience, fostering a culture of preparedness and adaptability.

Internal controls are essential components of an organization's risk management and business resilience strategies. The control environment, as highlighted in studies such as Serfontein and Govender (2021), plays a pivotal role in shaping an organization's ability to withstand disruptions. A strong control environment fosters transparency and accountability, contributing to organizational resilience. Standardization of processes, as discussed in Beuren, Santos, and Bernd (2020), is crucial for maintaining consistency and efficiency, reducing vulnerabilities, and ensuring business continuity. Moreover, alignment with the organization's strategy, as indicated by Casalino et al. (2019), ensures that internal controls are tailored to specific goals and objectives, enhancing their effectiveness in promoting resilience.

Governance structures and policies, management and board philosophy, and organizational culture are integral components of risk management and business resilience. The presence of robust governance structures and policies, as discussed by Vera, Samba, Kong, and Maldonado (2020), ensures that risk management practices are well-defined and consistently applied throughout the organization. The philosophy of both management and the board, as highlighted in Lamprinakis (2018), influences the organization's commitment to CSR activities and its resilience in the face of adversity.

Business resilience encompasses various aspects, including business downtime, cost of recovery, management of litigation, and data loss. Studies like Soroka, Bristow, Naim, and Purvis (2020) emphasize the importance of minimizing business downtime to maintain operations during disruptions. The cost of recovery, as indicated by Alao and Gbolagade (2020), involves investing in strategies that facilitate a swift return to normalcy after crises. Effective management of litigation, as discussed in Safira (2021), involves legal preparedness and dispute resolution strategies to mitigate the impact of legal challenges. Data loss, as addressed by Akbar, Gruben, and Juliarto (2023), underscores the significance of safeguarding critical information to ensure business continuity.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

The chapter presents the study design and target population. In addition, the chapter indicates data collection methods data analysis.

3.2 Research Design

The research design, as outlined in this section, plays a fundamental role in guiding the methodological approach employed to achieve the study's objectives (Polit and Beck, 2004). In this study, a descriptive research design was selected as it is particularly well-suited for acquiring information that addresses the questions of 'what, how, when, and where' concerning research problems (Shuttleworth, 2008). The decision to utilize a descriptive design is in line with the perspectives of renowned scholars like Kothari (2004) and Mugenda (2003), who assert that descriptive research designs are primarily aimed at providing an accurate and comprehensive description of a given research problem. This is achieved through the systematic collection of pertinent data, followed by a meticulous process of analysis and interpretation. In the context of this study, the chosen descriptive design was particularly appropriate as it enabled an in-depth exploration of the relationship between internal audit practices and the business resilience of the power sector in Kenya, with a specific focus on the Geothermal Development Company (GDC) as a case study.

3.3 Target Population

The population defines the items or objectives to be studied (Kothari, 2013). The study was carried out in GDC operational areas of Nairobi, Nakuru, and Baringo with the goal of establishing a link between internal audit and business resilience of the power sector in Kenya, in the case of GDC. The decision to limit the target population of this research to specific operational areas, namely Nairobi, Nakuru, and Baringo, as opposed to conducting studies in all 47 counties in Kenya, is a practical and justifiable one. By focusing on these three operational areas within the Geothermal Development Company Limited (GDC), the researcher can achieve a more concentrated and manageable sample size of 200 office and field-based staff. This approach allowed for a more in-depth and focused analysis of the internal audit's link to business resilience within GDC. Additionally, it ensured that the research is

conducted effectively within the available resources and provides a clearer scope for the study. The respondents encompassed a diverse group, including general managers, managers/head of departments, deputy managers, chief officers/engineers/drillers, senior officers/engineers/drillers, and union staff specifically from the drillers category. The summary of the target population is depicted in Table 3.1

Table 3.1: Target population

Category	Population
General Manager	1
Managers/Head of departments	27
Deputy managers	27
Chief officers/engineers/drillers	54
Senior officers/engineers/drillers	45
Union staff -Drillers	46
Total	200

Source: (GDC, Human Resource Division, 2023)

3.4 Sampling Technique and Sample Size

In this study, a census approach was employed as the chosen sampling technique, as the target population consisted of a relatively small number of 200 entities. The decision to undertake a census, where the entire population is studied rather than a subset, was based on several justifications. First, the manageable size of the population made it feasible to include all 200 entities in the study, ensuring comprehensive coverage. This approach is advantageous when the population is relatively small and well-defined, as it eliminates the need for statistical inference and allows for a more precise examination of the entire group. Second, using a census approach in this context was considered appropriate to maximize the accuracy and reliability of the findings, as it minimizes potential sampling errors that may occur when dealing with smaller samples. Lastly, given the importance of the research topic, particularly in the context of the power sector's business resilience, obtaining insights from the entire population of 200 entities was seen as a valuable and practical approach to provide a comprehensive understanding of the issues at hand. Therefore, the decision to employ a Census approach in this study was justified based on the size and nature of the target population and the desire for

robust and accurate findings.

3.5 Pilot Study

This is a small form of study mimicking the main process. The process is meant to evaluate the adequacy of the data collection tool and adjust accordingly (Saunders, 2013). A pilot study was therefore carried out for 10 senior management staff in Nairobi office of GDC to test for completeness, accuracy and relevance of data gathering tools. The participants were excluded from the actual study.

3.5.1 Validity

Validity is the level to which study results depict the actual phenomenon of the study (Mugenda & Mugenda, 2011). Further, validity defines the relevance of the instrument in eliciting valid responses from the respondents. Expert opinion and expertise is often employed in determining validity. Content and construct validity were adapted in this instrument. Under content validity, risk management, and internal control experts including supervisors evaluated the questionnaire. Their views were used to improve the validity of the questionnaire. For construct validity, the tool was separated with key subsections that cover each of the objective.

3.5.2 Reliability

The reliability of a research instrument is a gauge of its ability to produce similar and consistent results (Ghazali, 2016). Cronbach's alpha was adapted to measure the reliability of the questionnaire. Cronbach alpha coefficient value ranges from 0 to 1. Cronbach alpha of 0.7 and above are acceptable and imply the tool is reliable.

3.6 Data Collection Instruments

Creswell (2013) views data collection instrument as tool employed to gather data in research. Using a semi-structured questionnaire, primary data were gathered. Questionnaires are useful in collecting views and opinions of respondents. In this study, data collection was facilitated through the use of a semi-structured questionnaire, a commonly employed data collection instrument in research. The questionnaire was thoughtfully organized into several sections, each corresponding to a specific research objective and thematic area related to the study's focus on internal audit and its contribution to business resilience in the power sector, with a particular emphasis on GDC. Section A was focused on assessing the relationship between risk management practices and business resilience within the power sector, particularly at

GDC, using a questionnaire with relevant questions. Section B aimed to investigate the impact of advisory services on business resilience in the power sector, with questions designed to explore how advisory input influenced the organization's preparedness and resilience in the face of disruptions. Section C delved into the examination of the role of internal controls in enhancing business resilience, particularly at GDC, using a questionnaire with tailored questions addressing various aspects of internal controls and their impact. Section D focused on assessing the influence of governance practices on business resilience within the power sector, using a questionnaire that explored how governance structures and philosophies contributed to the organization's ability to withstand disruptions. Section E addressed broader aspects of business resilience, including downtime, cost of recovery, litigation management, and data loss, aiming to provide a comprehensive view of resilience factors in the power sector, particularly at GDC.

The sections were designed to gather information on various aspects of the research, providing a structured framework for data collection and subsequent analysis. Within each section, a combination of close-ended questions was used to collect specific responses that could be quantitatively analyzed, ensuring a structured approach to data collection. Additionally, open-ended questions were incorporated alongside the closed-ended ones to capture more nuanced and qualitative insights from respondents, promoting triangulation of data. This comprehensive questionnaire design in sections allowed for a thorough exploration of the research questions, ensuring that a holistic view of the topic.

3.7 Data Collection Procedure

The data collection procedure for this study involved a systematic and well-organized approach to ensure the collection of accurate and relevant data. To begin with, necessary permits were obtained from the university's research ethics committee, ensuring that the research adhered to ethical guidelines. Additionally, approval was sought from the National Commission for Science, Technology, and Innovation (NACOSTI) to conduct the study within Kenya. Two research assistants were trained to assist in the data collection process, ensuring consistency and efficiency. The target respondents included a diverse group of individuals within Geothermal Development Company Limited (GDC), such as the General Manager, Managers/Heads of departments, Deputy Managers, Chief Officers/Engineers/Drillers, Senior Officers/Engineers/Drillers, and Union staff (specifically Drillers). This wide range of participants allowed for a comprehensive understanding of internal audit's impact on business

resilience across different levels of the organization. The data collection process involved the distribution of semi-structured questionnaires tailored to each respondent category, facilitating the collection of valuable insights into their perspectives and experiences regarding the research objectives.

3.8 Data analysis and Presentation

Data analysis and presentation refer to the process of examining and interpreting data collected during a research study and presenting the findings in a comprehensible and meaningful manner. This phase is crucial in research as it helps researchers draw conclusions, make inferences, and communicate their results effectively to various stakeholders. Content analysis was utilized for analyzing qualitative data, involving the examination of data based on identified codes and its presentation in prose form. Quantitative data underwent a cleaning process, including the removal of incomplete data and coding, before being entered into an Excel spreadsheet. Subsequently, the data in Excel was imported into SPSS for analysis, which encompassed both descriptive and inferential statistics. Descriptive statistics comprised means, percentages, and dispersion measures. In assessing the relationship between business resilience in GDC's operational areas and four variables (risk management, governance, internal controls, and advisory), correlation and regression analyses were employed. The model for business resilience and the various elements of internal audit was formulated as follows:

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

where, Y = Business resilience of GDC operations

β_0 = constant (coefficient of intercept)

X_1 = Risk management

X_2 = Advisory services

X_3 = Internal controls

X_4 = Governance

β_1, \dots, β_4 = regression coefficient of four variables.

ϵ_i = Statistical noise/error,

The findings were presented in form of tables and figures.

3.9 Ethical Consideration

Research should be guided by ethics including confidentiality, objectivity (Bryman, 2007). The study participants were briefed about the content of the study. The confidentiality of the information provided by the respondents was upheld and participants remain anonymous. The responders were also made aware that the information would only be used for academic research. Plagiarism level was kept at acceptable level. The researcher also asked for permission to gather data for the research from NACOSTI.

CHAPTER FOUR
RESEARCH FINDINGS AND DISCUSSIONS

4.1 Introduction

The thematic areas include risk management, governance, internal controls and business advisory. Data was collected from the respondents from the three operational sites. Descriptive and inferential statistics were used to analyze the data and the results were presented in tables and figures.

4.2 Pilot Test

The study evaluated the validity of the research tools in order to assess estimating consistency, or the extent to which the tools measure in a comparable manner each time they are used to similar people and conditions. The reliability tests are as presented below.

Table 4.1: Reliability

Variable	Number of items	Cronbach alpha	Comments
Risk Management	7	0.727	Reliable
Business Advisory	7	0.735	Reliable
Internal Controls	7	0.805	Reliable
Governance	7	0.762	Reliable
Resilience	10	0.719	Reliable

Table 4.1's findings reveal that the instruments used for measurement were deemed reliable, as all items had Cronbach's alpha coefficients exceeding 0.7. According to Taber (2018), the Cronbach's alpha values of the study's items shouldn't be less than 0.7. Additionally, Gliem and Gliem (2003) advise that a Cronbach alpha should be greater than 0.7, contrary to Golafshani's (2003) recommendation that it not be less than 0.7.

4.3 Response Rate

200 questionnaires were distributed each among the respondents drawn from the three operational sites. A total of 156 questionnaires were completed and returned, indicating a response rate of 78%.

Table 4.2: Response Rate

Response	Returned	Unreturned	Percentage
General Manager	1	0	100%
Managers/Head of departments	20	7	74.10%
Deputy managers	22	5	81.50%
Chief officers/engineers/drillers	41	13	75.90%
Senior officers/engineers/drillers	32	13	71.10%
Union staff -Drillers	40	6	87.00%
Total	156	44	78%

Mugenda and Mugenda (2003) argue that the response rate obtained is appropriate and adequate for analysis and making conclusions. Kothari (2004) states that a response rate of over 50% is satisfactory for descriptive research. Babbie (2004) suggests that return rates of 60% to 70% are excellent and rates of 50% and above are suitable for analysis and publication. Based on the opinions of these scholars, the response rate of over 70% achieved in this study from the target audience is favorable for research and for drawing conclusions.

4.4 Demographic Data

In this section, the study discussed the basic characteristics of the respondents of the study such as their gender, highest levels of education, current post held, age and the number of years worked in the GDC. In addition, the study sought to determine the directorates in which the respondents involved in the study worked.

4.4.1 Gender

The objective of the study was to ascertain the gender of the participants, and the results are presented below.

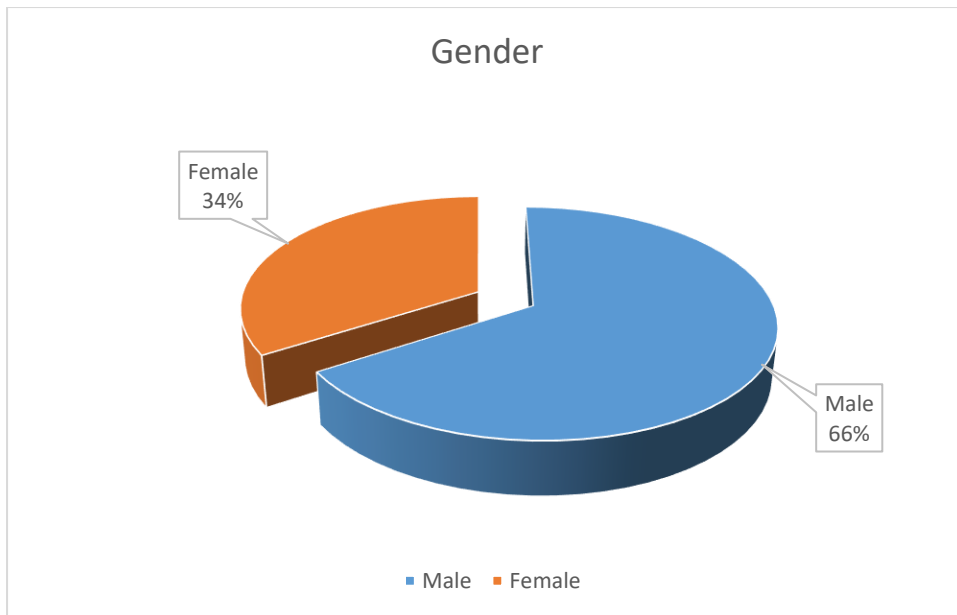


Figure 4.1: Gender

The gender distribution of respondents in the study, with 66% being male and 34% female, has notable implications for Geothermal Development Company Limited (GDC) and similar organizations. Firstly, it highlights a gender imbalance within the company, suggesting a potential underrepresentation of women in various roles. This imbalance may reflect broader challenges related to gender diversity in the energy and engineering sectors. To address this issue, GDC should consider implementing strategies to promote gender diversity and inclusion, such as targeted recruitment efforts, mentorship programs, and initiatives aimed at supporting the career advancement of women within the organization. Increasing the representation of women in the workforce not only promotes equality but also brings diverse perspectives and skills that can contribute to enhanced decision-making and overall business resilience. It's essential for GDC to create an inclusive workplace culture that welcomes individuals of all genders and backgrounds to foster a more balanced and dynamic workforce.

4.4.2 Highest Level of Education

The study sought to determine the highest educational qualifications that the respondents held and the findings were as presented below.

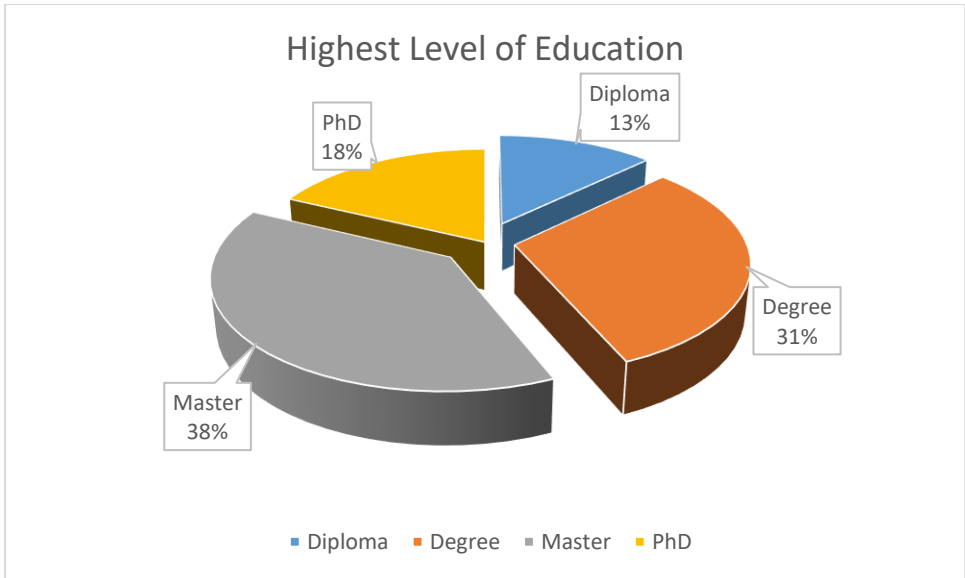


Figure 4.2: Highest Level of Education

Most (38%) respondents had masters degrees while a further 31% had Bachelor’s Degrees. 18% of the respondents were PhD holders and finally 13% had Diplomas. The findings imply that 87% had at least Bachelor’s degrees and as such could easily understand and identify the relationships between internal audit factors and business resilience in the power sector.

4.4.3 Current post held

The study sought to determine the Current post held by and the findings were as presented below in Figure 4.3

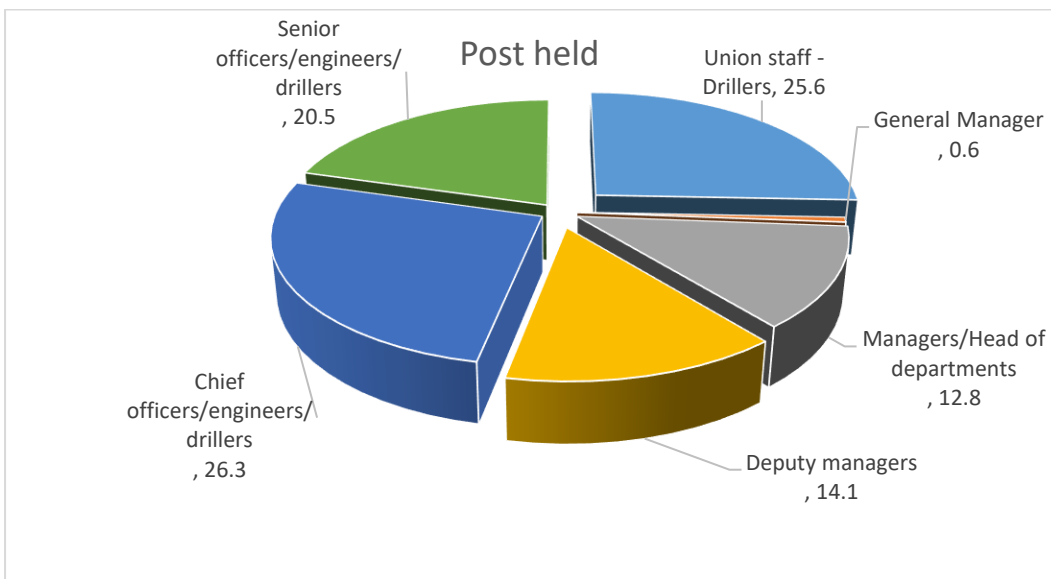


Figure 4.3: Current post held

The study investigated the current positions held by respondents within Geothermal

Development Company Limited (GDC). The results indicate a diverse distribution among various roles within the organization. The largest percentage of respondents were Chief Officers/Engineers/Drillers, accounting for 26.3% of the sample. Following closely were Senior Officers/Engineers/Drillers at 20.5%, while Managers/Heads of departments and Deputy Managers represented 12.8% and 14.1%, respectively. Union staff members, specifically Drillers, constituted 25.6% of the respondents. The study's inclusion of individuals across different job roles provided a comprehensive perspective on the impact of internal audit on business resilience, reflecting the varying responsibilities and experiences within the organization.

4.4.4 Age

The researcher aimed to establish the ages of the participants.

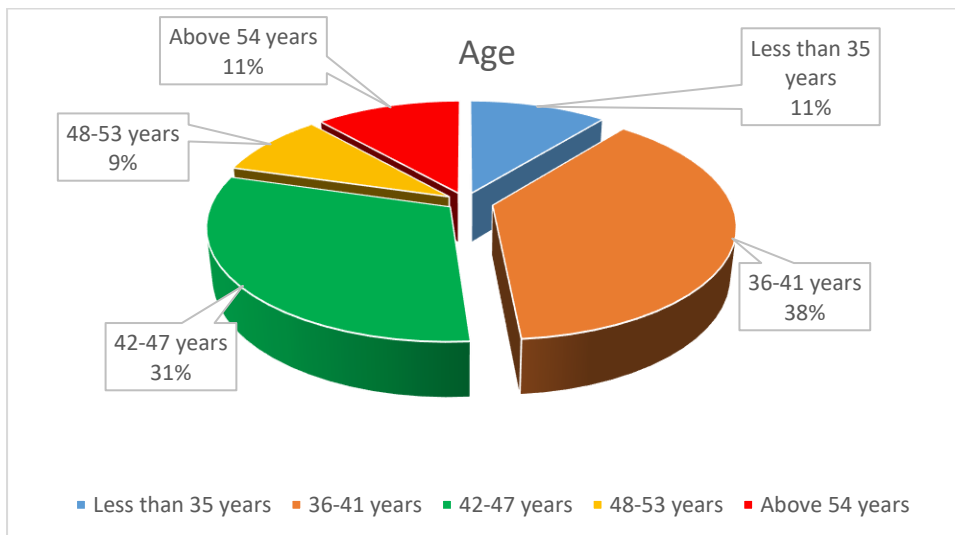


Figure 4.4: Age

According to the results, 38% of the participants were aged between 36 and 41 years, while 31% fell within the 42 to 47 years age bracket. Additionally, 11% were below 35 years, another 11% were above 54 years, and 9% were between 48 and 53 years old. These findings suggest that the majority of the respondents were in the age range of 36 to 47 years and as such are expected to still be at the organization for the foreseeable future. As such, they may be open to internal audit measures as a way of enhancing business resilience in the long term.

4.4.5 Working Experience

The duration of employment for the respondents at GDC was another variable of interest in the study, and the findings are summarized below.

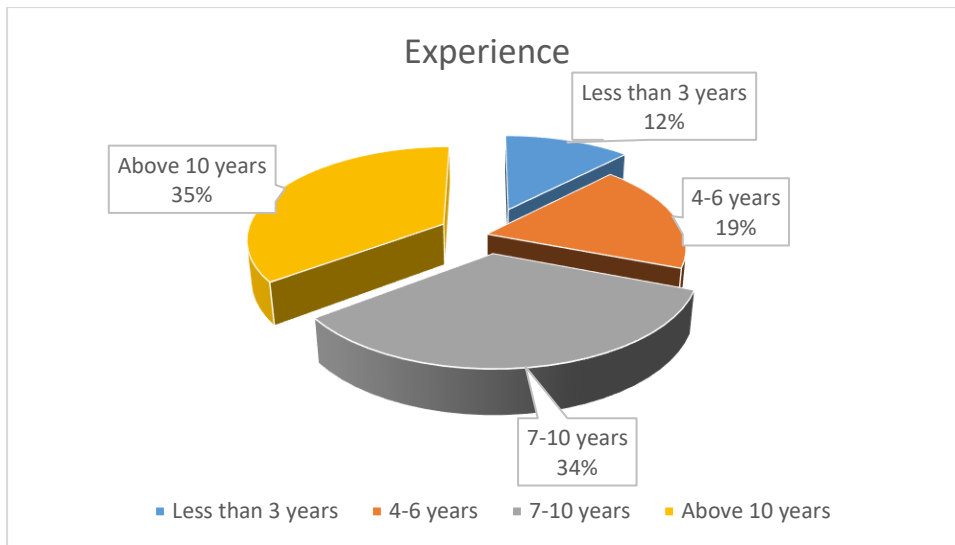


Figure 4.5: Working Experience

According to the findings, 35% of the participants had been working at GDC for more than ten years, and 34% had worked there for a duration ranging from seven to ten years. Moreover, 12% had been employed for less than three years, and 19% had worked at GDC for a period between four and six years. This implies that most of the respondents are knowledgeable on the workings of GDC making them ideal to provide information on the variables of the study.

4.4.6 Directorate

Finally, the study asked whether the respondents worked in the service or technical directorates. The findings were as shown below.

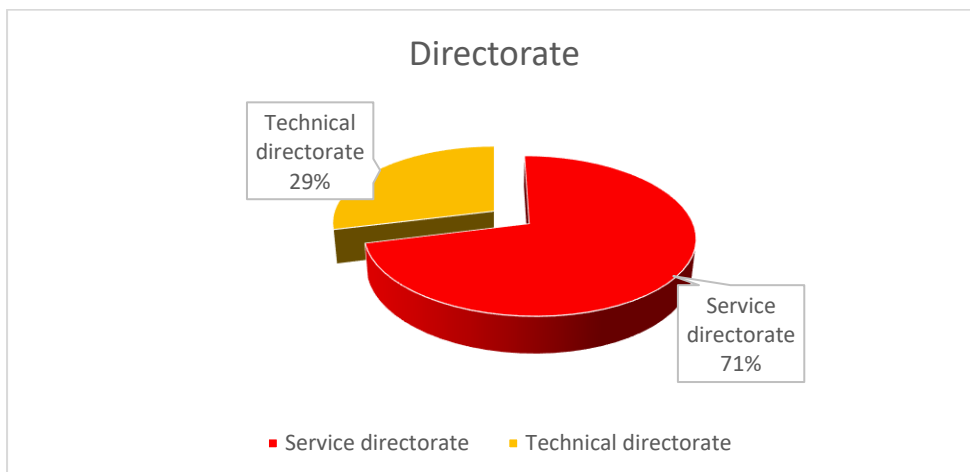


Figure 4.6: Directorate

71% of the respondents worked in the service directorate while 29% were in the technical directorate. The service directorate involved departments such as finance, strategy research and

innovation, internal audits, human resource and supply chain. As such, the respondents were well suited to provide data regarding internal audit practices and their effects on business resilience at GDC.

4.5 Descriptive Statistics

The study discusses the descriptive statistics of risk management, advisory, internal controls and governance and business resilience. According to the research questionnaire, the responses 1 and 2 (strongly disagree and disagree) and 3 (neutral) were combined together as disagree, whereas the responses 4 and 5 (agree and strongly agree) were classified together as agree.

4.5.1 Risk Management

The first objective of the study was to investigate the impact of risk management on business resilience at GDC. To achieve this, the researcher asked the participants to express their level of agreement or disagreement with statements related to risk management.

Table 4.3: Risk Management

Statement	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Mean	Std. Dev
Enterprise risk management framework have interlinked all business processes within GDC and it is active.	0.60%	16.70%	29.50%	26.90%	26.30%	3.615	1.068
In all business processes of GDC not limited to: budgeting, procurement, drilling, contractual obligations, strategy and objectives setting, component of risk is comprehensively addressed and incorporated.	0.00%	7.10%	18.60%	41.70%	32.70%	4.000	0.894
Staff are risk conscious, and they are regularly sensitized on risk management	1.30%	6.40%	24.40%	34.60%	33.30%	3.923	0.974
Should unforeseen event occur, all the staff are aware of what to do as all processes within GDC are categorized depending on their criticality (mission, safety, security, business) and risk tolerance	0.00%	7.70%	14.70%	36.50%	41.00%	4.109	0.927
Regularly, risk treatment methods to GDC processes (Mitigate, Accept, Transfer, Avoidance) are assessed and best rational method applied promptly	0.60%	6.40%	16.00%	41.70%	35.30%	4.045	0.911

The process owner is responsible for monitoring existing and identifying emergent risks as well as updating the risk register.	0.00%	5.80%	19.20%	39.10%	35.90%	4.051	0.886
Internal auditors recommendations from their audits are promptly implemented before the identified risk manifests	1.30%	4.50%	17.90%	41.00%	35.30%	4.045	0.911

The study found that the statement, "Enterprise risk management framework has interlinked all business processes within GDC and it is active," had a mean score of 3.615 with a standard deviation of 1.068. This implied that respondents' opinions were somewhat divided regarding the extent to which the enterprise risk management framework effectively interconnected all business processes within GDC. While the mean score suggests a moderate level of agreement, the relatively high standard deviation indicates a notable variability in respondents' perceptions. Some individuals strongly agreed, while others strongly disagreed or fell somewhere in between, suggesting a lack of consensus on this particular aspect of risk management within the organization. The statement, "In all business processes of GDC not limited to: budgeting, procurement, drilling, contractual obligations, strategy and objectives setting, a component of risk is comprehensively addressed and incorporated," had a mean score of 4.000 with a lower standard deviation of 0.894. This indicated a stronger consensus among respondents, with a majority expressing agreement that risk considerations were indeed comprehensively integrated into various business processes at GDC. The lower standard deviation suggests that respondents' opinions were more closely aligned on this aspect, indicating a higher level of agreement and confidence in the organization's approach to addressing risk within its processes.

Furthermore, the statement, "Staff are risk-conscious, and they are regularly sensitized on risk management," had a mean score of 3.923 with a standard deviation of 0.974. This meant that, on average, respondents tended to agree that staff members at GDC were conscious of risks and received regular training on risk management. However, the relatively high standard deviation indicated a certain degree of variability in perceptions, with some respondents expressing stronger agreement and others less so. This variability suggests that while there was generally a positive perception of risk awareness and training, there were differing levels of confidence among respondents regarding its effectiveness and consistency.

Moving on to the statement, "Should unforeseen events occur, all the staff are aware of what

to do as all processes within GDC are categorized depending on their criticality (mission, safety, security, business) and risk tolerance," it had a mean score of 4.109 with a standard deviation of 0.927. This high mean score indicated a strong agreement among respondents that staff members at GDC were well-prepared for unforeseen events, thanks to the categorization of processes based on criticality and risk tolerance. The relatively low standard deviation suggested a relatively consistent agreement among respondents, emphasizing a high level of confidence in the organization's readiness for unexpected events.

Regarding the statement, "Regularly, risk treatment methods to GDC processes (Mitigate, Accept, Transfer, Avoidance) are assessed and the best rational method is applied promptly," it had a mean score of 4.045 with a standard deviation of 0.911. This mean score indicated a high level of agreement that risk treatment methods were regularly assessed and applied rationally within GDC processes. The standard deviation of 0.911 suggested relatively consistent agreement among respondents, highlighting their confidence in the organization's ability to assess and apply appropriate risk treatment methods promptly. In relation to the statement, "The process owner is responsible for monitoring existing and identifying emergent risks as well as updating the risk register," it had a mean score of 4.051 with a standard deviation of 0.886. This high mean score indicated a strong agreement that process owners were indeed responsible for monitoring and updating the risk register within GDC. The relatively low standard deviation suggested a relatively consistent agreement among respondents, indicating a high level of confidence in the organization's risk monitoring and register updating practices.

Lastly, the statement, "Internal auditors' recommendations from their audits are promptly implemented before the identified risk manifests," had a mean score of 4.045 with a standard deviation of 0.911. This mean score indicated a high level of agreement that recommendations from internal auditors' audits were promptly implemented at GDC before identified risks manifested. The standard deviation of 0.911 suggested relatively consistent agreement among respondents, emphasizing their confidence in the organization's responsiveness to internal auditors' recommendations and its proactive approach to risk mitigation. In summary, the study's findings reveal varying levels of consensus and variability in perceptions among respondents regarding different aspects of risk management within GDC. While some areas exhibited stronger consensus and positive perceptions, others showed more divided opinions and uncertainties among respondents. These variations can provide valuable insights for GDC

in terms of understanding where improvements or clarifications may be needed in their risk management practices.

In an open-ended question that asked respondents for their opinions on the current gaps in the role of internal auditors in risk management at GDC, several key themes emerged from the responses. The respondents highlighted a need for greater collaboration and communication between the internal audit department and other departments within GDC. They expressed concerns that silos and lack of coordination hindered the effective identification and management of risks. Respondents suggested that internal auditors should actively engage with different teams and departments to gain a better understanding of their specific risks and challenges. This feedback underscores the importance of cross-functional collaboration in risk management. In addition, respondents pointed out the need for more proactive risk identification and assessment by internal auditors. They felt that internal auditors should not solely rely on historical data and routine audits but should actively anticipate emerging risks. This proactive approach would enable GDC to be better prepared for potential disruptions. Respondents emphasized the importance of forward-looking risk assessments to enhance business resilience.

Additionally, several respondents raised concerns about the depth of expertise and technical knowledge within the internal audit team. They believed that internal auditors should possess a deeper understanding of the intricacies of the power sector and the specific risks associated with it. Respondents suggested that ongoing training and development programs should be implemented to enhance the skills and knowledge of internal auditors. Further, some respondents highlighted the need for a more dynamic and flexible risk management framework. They argued that in a rapidly changing business environment, risk management processes should be adaptable and responsive. Respondents recommended that GDC should regularly review and update its risk management strategies to address new and evolving risks effectively. Hence, the responses to the open-ended question provided valuable insights into the current gaps in the role of internal auditors in risk management at GDC. These gaps encompassed issues related to collaboration, proactive risk assessment, technical expertise, and the adaptability of risk management processes. Addressing these gaps would be crucial for GDC to strengthen its risk management practices and enhance its overall business resilience in the dynamic power sector.

The study results align with the findings of Aldianto, Anggadwita, Permatasari, Mirzanti, and

Williamson (2021), who emphasized the critical role of risk management in enabling startups to effectively deal with multifaceted challenges that impact their business resilience. By identifying and managing risks, startups can better position themselves to withstand various disruptions. In their research, Soroka, Bristow, Naim, and Purvis (2020) affirmed the significance of risk management as a potent means of fortifying a business's resilience in the face of adversity. This study not only contributes to our understanding of regional resilience but also highlights the role of innovative indicators and risk management strategies in bolstering business resilience. The study by Jain, Pasman, and Mannan (2020) makes a significant contribution to the field of process system resilience, particularly in the context of risk management and business continuity. It highlights the evolving challenges faced by industries globally, driven by factors such as competition, energy efficiency concerns, and the need for reduced staffing. Sulasi's (2021) research unveiled the inescapable reality that the oil and gas sector is intrinsically risky, necessitating rigorous and effective risk management practices as an integral component of its daily operations. A significant revelation was that enhanced risk management practices translated into tangible improvements in business performance within this industry. The study by Akbar, Gruben, and Juliarto (2023) underscores the importance of a risk management strategy for businesses in the coffee industry, specifically focusing on a case in Coffee Beda.

4.5.2 Business Advisory

The second objective of this study was to determine the impact of business advisory on business resilience at GDC. To achieve this, the researcher requested the participants to state their level of agreement or disagreement with regards to business advisory through a set of statements. The outcomes have been presented in Table 4.4.

Table 4.4: Business Advisory

Statement	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Mean	Std. Dev
Besides carrying out audits as per audit plan, internal auditors often offer advisory services to their audit clients within GDC	2.60%	6.40%	20.50%	39.70%	30.80%	3.897	0.998
The advice spans on processes that directly impact on GDC strategic objectives	1.90%	4.50%	14.10%	36.50%	42.90%	4.141	0.953

The advice offered saves the process under review inefficiencies, wastage and provide the best way forward	1.90%	3.20%	15.40%	36.50%	42.90%	4.154	0.931
There is management support to implement the outcome of advisory services	4.50%	5.10%	17.30%	38.50%	34.60%	3.936	1.064
Advice offered is practical and implementable	2.60%	4.50%	10.90%	39.10%	42.90%	4.154	0.965
The professional advice is timely and proactively offered	0.60%	3.80%	16.70%	44.20%	34.60%	4.083	0.850
Advisory services offered do not impair independence of internal auditors	1.30%	2.60%	7.70%	48.70%	39.70%	4.231	0.802

The study found that on the statement, "Besides carrying out audits as per the audit plan, internal auditors often offer advisory services to their audit clients within GDC," respondents had a mean score of 3.897 with a standard deviation of 0.998. This implied that there was a moderate level of agreement among respondents that internal auditors frequently provide advisory services in addition to their scheduled audits. However, the relatively high standard deviation indicates a range of opinions and a lack of consensus regarding the frequency of such advisory services.

On the statement, "The advice spans on processes that directly impact GDC strategic objectives," respondents had a mean score of 4.141 with a standard deviation of 0.953. This indicated strong agreement among respondents that the advice offered by internal auditors often addresses processes directly tied to GDC's strategic objectives. The relatively low standard deviation suggests a consistent and confident agreement regarding the alignment of advisory services with strategic goals. Regarding the statement, "The advice offered saves the process under review inefficiencies, wastage, and provides the best way forward," respondents had a mean score of 4.154 with a standard deviation of 0.931. This implied a high level of agreement that the advice provided by internal auditors is effective in eliminating inefficiencies, reducing wastage, and offering optimal solutions for the processes under review. The relatively low standard deviation indicates a consistent and confident agreement regarding the effectiveness of the advisory services.

On the statement, "There is management support to implement the outcome of advisory services," respondents had a mean score of 3.936 with a standard deviation of 1.064. This

suggested a moderate level of agreement that there is management support for implementing the recommendations arising from advisory services. However, the relatively high standard deviation indicates varying levels of confidence among respondents regarding the extent of management support for implementation. The statement, "Advice offered is practical and implementable," had a mean score of 4.154 with a standard deviation of 0.965. This implied a strong consensus among respondents that the advice provided by internal auditors is not only practical but also feasible for implementation. The relatively low standard deviation indicates a consistent and confident agreement regarding the practicality of the advice.

Respondents had a mean score of 4.083 with a standard deviation of 0.850 on the statement, "The professional advice is timely and proactively offered." This suggested strong agreement that the advice provided is not only professional but also timely and proactively given. The relatively low standard deviation indicated a consistent and confident agreement regarding the timeliness and proactivity of the advisory services. Finally, the statement, "Advisory services offered do not impair the independence of internal auditors," had a mean score of 4.231 with a standard deviation of 0.802. This implied a high level of agreement among respondents that providing advisory services does not compromise the independence of internal auditors. The low standard deviation suggests a consistent and confident agreement regarding the preservation of auditor independence while offering advisory support. In summary, the study's findings suggest positive perceptions among respondents regarding the effectiveness, alignment with strategic objectives, practicality, timeliness, and independence of the advisory services provided by internal auditors at GDC. However, there is some variability in perceptions, particularly regarding the extent of management support for implementing advisory recommendations.

In response to the open-ended question about the current gaps in advisory services offered by internal auditors at GDC, respondents provided valuable insights into areas that require urgent attention. First, a recurring theme in the responses was the need for more customized and industry-specific advisory services. Many respondents expressed the view that advisory services should be tailored to the unique challenges and dynamics of the power sector in Kenya. They emphasized the importance of internal auditors having a deep understanding of the industry and its specific risks to provide relevant and effective advice. Besides, respondents highlighted the importance of timeliness in advisory services. They felt that internal auditors should provide advice in a timely manner to support decision-making processes. Delays in

advisory services were seen as a gap that needed to be addressed urgently, as timely advice is crucial for effective risk management and decision-making.

Moreover, the respondents suggested that internal auditors should not wait for specific requests but should actively identify opportunities and risks and provide proactive advice to management. This proactive approach was seen as essential for enhancing business resilience. Furthermore, respondents emphasized the importance of clear communication in advisory services. They highlighted the need for internal auditors to effectively communicate their recommendations and insights to management in a clear and understandable manner. Effective communication was seen as a gap that, if addressed, could lead to better utilization of advisory services. In summary, the responses to the open-ended question highlighted several key gaps in the advisory services offered by internal auditors at GDC. These gaps included the need for industry-specific advice, timeliness, proactivity, and effective communication. Addressing these gaps would be crucial for ensuring that advisory services contribute effectively to GDC's decision-making and business resilience efforts in the power sector.

The study results are consistent with the findings of Ramdani, Binsaif, Boukrami, and Guermat (2020), who revealed that investment banks could adjust their business models by deploying different combinations of activities. Beninger and Francis (2022) also found that businesses must be flexible while maintaining coping mechanisms for unforeseen circumstances in order to manage unpredictable cyclical effects. Timing was identified as crucial in determining the scale of economic downturns and whether they exceed local resilience levels. The study argued that consultants play a critical role during periods of vulnerability, and the use of advisors was positively linked to business resilience. Spiegel et al. (2020) emphasized the critical role of risk management (RM) in enhancing the perceived resilience capacities of farms and farming systems (FS) in Europe. The findings indicated that European farmers are primarily concerned about economic challenges, especially long-term pressures. Importantly, the study highlighted the diversity of RM strategies adopted by farmers over the past five years, with no single strategy being universally applied. Furthermore, the study by Casalino et al. (2019) underscores the importance of effectively managing the process of digital transformation in Small and Medium Enterprises (SMEs). Digital transformation involves a complex set of changes encompassing technological, organizational, cultural, and social aspects, all of which impact the organization as a whole. Merely adopting digital technologies is not sufficient; organizations must also consider the organizational implications of this transformation.

4.5.3 Internal Controls

The goal of the research was to determine how internal controls affected GDC's business resilience. Table 4.5 presents the results of the survey questions on respondents' agreement with various assertions about internal controls. The table shows the frequency distribution of respondents' ratings on a 5-point Likert scale, ranging from strongly disagree to strongly agree.

Table 4.5: Internal Controls

Statement	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Mean	Std. Dev
Management demonstrates integrity and ethical values through their directives, attitudes, and behavior.	3.80%	3.80%	18.60%	35.90%	37.80%	4.000	1.035
Tone at the top has embraced internal controls in place	1.90%	6.40%	17.90%	38.50%	35.30%	3.987	0.984
Control activities designed are in line with the strategic objectives of GDC.	1.90%	5.80%	10.90%	42.90%	38.50%	4.103	0.945
GDC has adopted general control activities over IT infrastructure, and IT controls embedded in SAP are fully utilized	1.30%	4.50%	13.50%	45.50%	35.30%	4.090	0.883
Periodically, management reviews the control activities for effectiveness.	1.30%	5.10%	14.10%	41.70%	37.80%	4.096	0.914
Internal control recommendations made by internal auditors are promptly implemented before risk crystallizes	0.60%	5.80%	26.30%	35.30%	32.10%	3.923	0.934
GDC obtains relevant and quality information to support the functioning of internal control as intended	4.50%	7.10%	17.90%	37.20%	33.30%	3.878	1.092

The study found that on the statement, "Management demonstrates integrity and ethical values through their directives, attitudes, and behavior," respondents had a mean score of 4.000 with a standard deviation of 1.035. This implied that there was a significant level of agreement among respondents that management at GDC indeed demonstrates integrity and ethical values through their actions and behavior. The standard deviation of 1.035 suggests some variability in responses, indicating that while there was agreement, there were differing degrees of confidence among respondents regarding the integrity of management. On the statement, "Tone at the top has embraced internal controls in place," respondents had a mean score of 3.987 with

a standard deviation of 0.984. This indicated a moderate level of agreement that the leadership at GDC has embraced the internal controls in place. The standard deviation of 0.984 suggests some variability in responses, reflecting differing levels of confidence among respondents regarding the extent to which leadership supports internal controls.

Regarding the statement, "Control activities designed are in line with the strategic objectives of GDC," respondents had a mean score of 4.103 with a standard deviation of 0.945. This implied a strong agreement among respondents that control activities are well-aligned with GDC's strategic objectives. The relatively low standard deviation of 0.945 indicates a consistent and confident agreement among respondents regarding the alignment of control activities with strategic goals. On the statement, "GDC has adopted general control activities over IT infrastructure, and IT is embedded in SAP are fully utilized," respondents had a mean score of 4.090 with a standard deviation of 0.883. This suggested a high level of agreement that GDC effectively utilizes general control activities over its IT infrastructure, including IT controls embedded in SAP. The low standard deviation indicates a consistent and confident agreement among respondents regarding the effectiveness of IT controls.

The statement, "Periodically, management reviews the control activities for effectiveness," had a mean score of 4.096 with a standard deviation of 0.914. This implied a strong agreement that management regularly reviews control activities for their effectiveness. The relatively low standard deviation suggests a consistent and confident agreement among respondents regarding the regularity of management's reviews of control activities. On the statement, "Internal control recommendations made by internal auditors are promptly implemented before risk crystallizes," respondents had a mean score of 3.923 with a standard deviation of 0.934. This indicated a moderate level of agreement that internal control recommendations are promptly implemented at GDC. The standard deviation of 0.934 suggests some variability in responses, reflecting differing levels of confidence among respondents regarding the timeliness of implementation.

Regarding the statement, "GDC obtains relevant and quality information to support the functioning of internal control as intended," respondents had a mean score of 3.878 with a standard deviation of 1.092. This implied a moderate level of agreement that GDC obtains the necessary and high-quality information to support the functioning of internal controls as intended. The relatively high standard deviation of 1.092 indicates a range of opinions and a lack of strong consensus among respondents regarding the adequacy of information. In

summary, the study's findings suggest varying levels of agreement among respondents on different aspects of internal controls and management's integrity at GDC. While there is strong agreement on some statements, others exhibit more moderate levels of agreement, and there is some variability in responses, particularly in relation to the adequacy of information and the timeliness of implementing internal control recommendations.

In response to the open-ended question regarding the current internal control gaps in GDC that internal auditors need to urgently address, several themes emerged from the participants' responses. The study found that many respondents pointed out the need for improved documentation and adherence to standard operating procedures. They emphasized the importance of maintaining comprehensive records of processes and transactions, which would facilitate transparency and accountability within the organization. Some respondents felt that there were instances of inadequate documentation, leading to challenges in tracking and auditing activities effectively. Secondly, a significant concern raised by participants was the issue of segregation of duties. Several respondents noted instances where certain employees had access to multiple critical functions, potentially creating opportunities for fraud or errors to go unnoticed. They emphasized the necessity of clearly defined roles and responsibilities to mitigate such risks and ensure a robust internal control system.

Another recurring theme was the need for enhanced cybersecurity measures. Participants expressed concerns about the increasing threat of cyberattacks and data breaches. They stressed the importance of investing in advanced cybersecurity tools and continuous training to protect sensitive information and ensure the resilience of GDC's operations in the digital age. Some respondents highlighted the importance of regular internal audits and independent reviews. They suggested that internal auditors should conduct more frequent and thorough assessments of the organization's internal controls to identify weaknesses and vulnerabilities promptly. Additionally, a few participants emphasized the value of external audits to provide an objective assessment of GDC's control environment. In summary, the responses to the open-ended question underscored several critical areas that internal auditors at GDC need to address urgently. These include improving documentation and adherence to standard operating procedures, enhancing segregation of duties, strengthening cybersecurity measures, and conducting regular internal and external audits. Addressing these internal control gaps will contribute to enhancing the overall resilience and effectiveness of GDC's operations in the power sector.

The study results align with those of Serfontein (2021), who revealed a strong positive relationship between organizational control systems and organizational resilience. Organizational control systems, such as quality assurance and corporate governance, were found to significantly impact the organization's internal environment. The study's conclusions indicated that when quality assurance and corporate governance are separate, a company's internal control structure becomes less resilient. Similarly, Beuren, Santos, and Bernd (2020) demonstrated a significant association between the perception of Management Control Systems (MCS) as enablers and both psychological empowerment and the capacity for organizational resilience. This suggests that attributes of the MCS directly motivate managers within their work environments and contribute to a company's ability to effectively manage challenges and contingencies. Additionally, the findings of Alao and Gbolagade (2020) highlight the importance of managing business continuity, liquidity, and stakeholders' safety in building business resilience. These aspects are crucial for an organization's ability to withstand disruptions and uncertainties. Moreover, Beuren, dos Santos, and Theiss (2022) indicated that organizational resilience has a positive influence on business performance across multiple dimensions, including economic-financial, customer-related, and processes/learning. Organizational resilience was also found to positively impact job satisfaction, particularly in terms of financial and personal benefits. These findings emphasize the multifaceted benefits of organizational resilience for overall business performance and employee satisfaction.

4.5.4 Governance

The research also aimed to determine how governance affected GDC's business resiliency. The respondents were asked to rank the assertions about governance in terms of how much they agreed or disagreed with them.

Table 4.6: Governance

Statement	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Mean	Std. Dev
There is knowledge and adherence to company policies: Not limited to code of ethics and conduct, conflict of interest guidelines and service charter	1.90%	2.60%	18.60%	39.70%	37.20%	4.077	0.913
Staff own to their responsibilities of omission or commission	1.90%	5.10%	19.90%	41.70%	31.40%	3.955	0.946

Reporting lines are clear allowing for forward-backward communication	0.60%	3.80%	9.60%	46.20%	39.70%	4.205	0.817
There is independence in execution of roles at committees and other routine duties	0.60%	4.50%	14.10%	40.40%	40.40%	4.154	0.874
There is staff engagement at a level that match their capabilities and in a manner that foster trust	1.90%	4.50%	17.90%	35.90%	39.70%	4.071	0.965
Staff from different directorates/departments view each other as business partners in GDC processes	2.60%	4.50%	14.70%	39.10%	39.10%	4.077	0.974
GDC strategy is reasonably ambitious and embraced by staff	3.20%	5.80%	8.30%	46.20%	36.50%	4.071	0.984

The study found that on the statement, "There is knowledge and adherence to company policies, not limited to the code of ethics and conduct, conflict of interest guidelines, and service charter," respondents had a mean score of 4.077 with a standard deviation of 0.913. This implied a significant level of agreement among respondents that there is both knowledge of and adherence to company policies at GDC, including policies related to ethics, conduct, conflict of interest, and the service charter. The standard deviation of 0.913 suggests some variability in responses, indicating that while there was agreement, there were differing degrees of confidence among respondents regarding policy adherence. On the statement, "Staff own to their responsibilities of omission or commission," respondents had a mean score of 3.955 with a standard deviation of 0.946. This indicated a moderate level of agreement that staff take ownership of their responsibilities and are accountable for their actions or omissions. The standard deviation of 0.946 suggests some variability in responses, reflecting differing levels of confidence among respondents regarding staff accountability.

Regarding the statement, "Reporting lines are clear, allowing for forward-backward communication," respondents had a mean score of 4.205 with a standard deviation of 0.817. This implied strong agreement among respondents that reporting lines at GDC are well-defined, facilitating effective communication both upward and downward. The low standard deviation indicates a consistent and confident agreement among respondents regarding the clarity of reporting lines. On the statement, "There is independence in the execution of roles at committees and other routine duties," respondents had a mean score of 4.154 with a standard deviation of 0.874. This suggested a high level of agreement that there is independence in how

roles are executed, particularly in committees and routine duties. The standard deviation indicates a relatively consistent and confident agreement among respondents regarding the independence of role execution.

Regarding the statement, "There is staff engagement at a level that matches their capabilities and in a manner that fosters trust," respondents had a mean score of 4.071 with a standard deviation of 0.965. This implied a significant level of agreement that staff engagement at GDC is aligned with employees' capabilities and fosters trust. The standard deviation of 0.965 suggests some variability in responses, indicating that while there was agreement, there were differing degrees of confidence among respondents regarding the effectiveness of staff engagement. On the statement, "Staff from different directorates/departments view each other as business partners in GDC processes," respondents had a mean score of 4.077 with a standard deviation of 0.974. This implied a strong agreement among respondents that staff from various parts of GDC view each other as business partners in organizational processes. The standard deviation indicates a relatively consistent and confident agreement among respondents regarding this aspect of collaboration.

Lastly, the statement, "GDC strategy is reasonably ambitious and embraced by staff," had a mean score of 4.071 with a standard deviation of 0.984. This suggested a high level of agreement that GDC's strategy is appropriately ambitious and is embraced by the staff. The standard deviation indicates a relatively consistent and confident agreement among respondents regarding the alignment of staff with the organization's strategic goals. In summary, the study's findings suggest generally positive perceptions among respondents regarding various aspects of organizational culture, communication, accountability, and staff engagement at GDC. While there is a high level of agreement on most statements, some variability in responses exists, particularly in relation to policy adherence and staff engagement, indicating differing degrees of confidence among respondents on these aspects.

In response to the open-ended question regarding the current governance gaps in GDC that internal auditors need to address urgently, participants provided valuable insights into the challenges and areas of improvement within the organization's governance structure. A recurring theme among respondents was the need for greater transparency and accountability in decision-making processes. Many participants expressed concerns about the opacity of certain decisions and felt that there should be more openness in how decisions are made, especially those that have a significant impact on the organization's operations. They

emphasized the importance of clearly communicating the rationale behind decisions to all stakeholders. Some participants raised issues related to ethical conduct and adherence to governance principles. They pointed out instances where ethical lapses and conflicts of interest had been observed. Respondents stressed the importance of promoting a culture of ethics and integrity throughout the organization, with strict enforcement of a code of conduct for all employees and leaders.

Another prominent concern was the need for a more diverse and inclusive governance structure. Participants highlighted that the current composition of leadership roles lacked diversity in terms of gender, age, and background. They suggested that GDC should actively work towards diversifying its leadership team to bring in different perspectives and experiences, which could lead to more robust decision-making. Besides, several respondents mentioned the importance of effective risk management within the governance framework. They felt that GDC needed to establish a systematic approach to identify, assess, and mitigate risks. This includes having a dedicated risk management committee or function that works closely with internal auditors to ensure that risks are adequately addressed. Hence, the responses to the open-ended question shed light on critical governance gaps at GDC that internal auditors should address urgently. These include the need for greater transparency and accountability in decision-making, a stronger emphasis on ethics and integrity, a more diverse and inclusive governance structure, and the establishment of effective risk management practices. Addressing these governance gaps will contribute to enhancing GDC's overall resilience and governance effectiveness in the power sector.

The study results align with those of Lamprinakis (2018), who revealed that when an organization becomes deeply embedded in its natural and socio-economic environments, it gains the capacity to actively engage in high-level CSR activities. These CSR initiatives can yield privileges and benefits related to CSR, ultimately contributing to the enhancement of business resilience. This study underscores the significance of embedding as a strategic approach in fostering both CSR and business resilience. Vera, Samba, Kong, and Maldonado (2020) indicate that positive leadership encompasses the development and use of socio-psychological resources such as a positive climate, positive relationships, positive communication, and positive meaning, which can influence the performance of an organization. The importance of an organization's ability to assess, accept, and adapt are critical capabilities for thriving. The study by Gichuhi (2021) revealed that the relationship between

shared leadership and organizational resilience has not received substantial attention in existing literature, suggesting a potential avenue for future research.

4.5.5 Business Resilience

The business resilience was the dependent variable in this research. The participants were requested to indicate the degree to which they agreed or disagreed with various statements regarding the business resilience of Geothermal Development Company.

Table 4.7: Business Resilience

Statement	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Mean	Std. Dev
Maximum acceptable downtime of business processes in GDC is known	6.40%	5.80%	14.10%	34.00%	39.70%	3.949	1.163
Critical processes are protected against downtime in GDC,	8.30%	6.40%	14.10%	35.90%	35.30%	3.833	1.217
Upon a downtime, the cost of recovery is accountable	5.10%	12.80%	16.00%	38.50%	27.60%	3.705	1.154
Estimated cost of recovery for all the processes in GDC is known prior to the event	3.80%	12.80%	10.30%	38.50%	34.60%	3.872	1.140
Litigations hinder achievement of strategic objectives of operations in GDC	5.10%	7.10%	16.00%	36.50%	35.30%	3.897	1.120
There is a criteria of prioritizing urgency of litigations facing GDC	7.10%	10.90%	16.70%	37.20%	28.20%	3.686	1.196
Data is critical to achievement of GDC strategic objectives	13.50%	7.70%	14.70%	31.40%	32.70%	3.622	1.365
Maximum acceptable data loss for all business processes in GDC is known	13.50%	13.50%	16.70%	28.20%	28.20%	3.442	1.378
In times of process instability in GDC, there are alternative recovery plans/models	16.00%	12.80%	23.10%	25.60%	22.40%	3.256	1.367
The alternative recovery models for business continuity are well known among staff and they are actively used	16.70%	25.00%	21.80%	17.30%	19.20%	2.974	1.368

The study found that on the statement, "Maximum acceptable downtime of business processes in GDC is known," respondents had a mean score of 3.949 with a standard deviation of 1.163. This implied that there was a moderate level of agreement among respondents that the

maximum acceptable downtime for business processes in GDC is known. However, the relatively high standard deviation indicates some variability in responses, suggesting that while there was agreement, there were differing levels of confidence among respondents regarding the knowledge of acceptable downtime. On the statement, "Critical processes are protected against downtime in GDC," respondents had a mean score of 3.833 with a standard deviation of 1.217. This indicated a moderate level of agreement that critical processes are safeguarded against downtime in GDC. The standard deviation suggests some variability in responses, reflecting differing degrees of confidence among respondents regarding the effectiveness of protecting critical processes.

Regarding the statement, "Upon downtime, the cost of recovery is accountable," respondents had a mean score of 3.705 with a standard deviation of 1.154. This implied a moderate level of agreement that the cost of recovery is accounted for in the event of downtime. The standard deviation suggests some variability in responses, indicating that while there was agreement, there were differing levels of confidence among respondents regarding cost accountability. On the statement, "Estimated cost of recovery for all processes in GDC is known prior to the event," respondents had a mean score of 3.872 with a standard deviation of 1.140. This suggested a moderate level of agreement that the estimated cost of recovery for all processes is known in advance. The standard deviation indicates some variability in responses, reflecting differing degrees of confidence among respondents regarding the knowledge of recovery costs.

Regarding the statement, "Litigations hinder the achievement of strategic objectives of operations in GDC," respondents had a mean score of 3.897 with a standard deviation of 1.120. This implied a moderate level of agreement that litigations can impede the attainment of strategic objectives in GDC. The standard deviation suggests some variability in responses, indicating that while there was agreement, there were differing levels of confidence among respondents regarding the impact of litigations. On the statement, "There is a criteria for prioritizing the urgency of litigations facing GDC," respondents had a mean score of 3.686 with a standard deviation of 1.196. This indicated a moderate level of agreement that there is a criteria for prioritizing the urgency of litigations. The standard deviation suggests some variability in responses, reflecting differing degrees of confidence among respondents regarding the existence and effectiveness of such criteria.

The statement, "Data is critical to the achievement of GDC strategic objectives," had a mean score of 3.622 with a standard deviation of 1.365. This implied a moderate level of agreement

that data is crucial for GDC's strategic objectives. The standard deviation indicates some variability in responses, suggesting differing levels of confidence among respondents regarding the importance of data. On the statement, "Maximum acceptable data loss for all business processes in GDC is known," respondents had a mean score of 3.442 with a standard deviation of 1.378. This suggested a moderate level of agreement that the maximum acceptable data loss is known for all business processes. The standard deviation indicates some variability in responses, reflecting differing levels of confidence among respondents regarding knowledge of acceptable data loss limits.

Regarding the statement, "In times of process instability in GDC, there are alternative recovery plans/models," respondents had a mean score of 3.256 with a standard deviation of 1.367. This implied a moderate level of agreement that there are alternative recovery plans/models in place during process instability. The standard deviation suggests some variability in responses, indicating that while there was agreement, there were differing levels of confidence among respondents regarding the availability and effectiveness of alternative recovery plans. On the statement, "The alternative recovery models for business continuity are well known among staff and they are actively used," respondents had a mean score of 2.974 with a standard deviation of 1.368. This indicated a moderate level of agreement that staff are familiar with and actively use alternative recovery models for business continuity. The standard deviation suggests some variability in responses, reflecting differing levels of confidence among respondents regarding staff awareness and utilization of these models. Hence, the study's findings suggest varying levels of agreement among respondents on different aspects of business continuity, downtime, cost accountability, data, litigation, and recovery plans at GDC. While there is moderate agreement on most statements, there is significant variability in responses, particularly regarding knowledge and effectiveness of various aspects of business continuity and recovery.

The study results agree with the findings of Tiep, Wang, Mohsin, Kamran, and Yazdi (2021) who indicated that the power sector has faced numerous challenges, including natural disasters, cyber threats, and the need to transition to cleaner energy sources. Furthermore, Irfan, Zhao, Ahmad, and Mukeshimana (2019) report that increasing interconnectivity of power grids and globalization of energy markets have made business resilience a critical concern for international energy security. Business resilience in the power sector emphasizes the need for cross-border collaboration and information sharing to mitigate transnational risks. Gasser et al.

(2020) indicate that business resilience strategies must encompass not only physical infrastructure but also cybersecurity measures to protect critical power assets. Sridharan et al. (2019) indicate that business resilience in the power sector is a critical aspect of ensuring the continuous and reliable supply of electricity, which is fundamental for modern society's functioning and economic development. The power sector encompasses a complex network of power generation, transmission, and distribution infrastructure, along with various stakeholders, including government entities, utilities, and private companies. Sagel, Rouwenhorst, and Faria (2023) report that ensuring resilience in this sector involves addressing a wide range of challenges and threats that can disrupt electricity supply and impact both individuals and businesses. Ootobo (2022) indicates that the power sector faces several challenges in achieving business resilience. Hanbashi, Iqbal, Mignard, Pritchard, and Djokic (2023) argue that government regulations and policies play a significant role in shaping the resilience of the power sector.

4.6 Inferential Statistics

In this section, the study generated the correlation results, model of fitness as well as the analysis of variance and the regression coefficients of the variables under study.

4.6.1 Correlation Analysis

To assess the association between quantitative data, correlation analysis is performed. A high correlation implies a significant association between two or more variables, while a low correlation suggests a weak one. Correlation analysis, which measures the degree or depth of any link between the variables under consideration, is fundamentally predicated on the notion that there exists a linear relationship between the variables. Also, it indicates how the connection is going to develop.

A correlation study produces a correlation coefficient that ranges between -1 and +1. A coefficient of 1 indicates a complete positive linear relationship between two variables, while a coefficient of -1 indicates a complete negative linear relationship. A coefficient of 0 means that there is no linear relationship between the variables. When the coefficient falls between 0.25 and 0.50, it suggests a weak association between the variables, while a range above 0.6 indicates a strong relationship (Gogtay & Thatte, 2017).

The study employed correlation analysis to examine the relationship between the study variables of risk management, business advisory, internal controls, governance and business

resilience.

Table 4.8 Correlation Analysis

		Business Resilience	Governance	Internal Controls	Business Advisory	Risk Management
Business Resilience	Pearson Correlation Sig. (2-tailed)	1.000				
Governance	Pearson Correlation Sig. (2-tailed)	.530**	1.000			
Internal Controls	Pearson Correlation Sig. (2-tailed)	.562**	.428**	1.000		
Business Advisory	Pearson Correlation Sig. (2-tailed)	.509**	.333**	.346**	1.000	
Risk Management	Pearson Correlation Sig. (2-tailed)	.630**	.506**	.523**	.413**	1.000
		0.000	0.000	0.000	0.000	

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

Table 4.8 indicates that there is a significant and positive correlation ($r=0.530$, $p<0.05$) between governance and business resilience at GDC. This means that when governance at GDC is improved, the company's business resilience also improves. This finding is consistent with the research conducted by Lamprinakos (2018), who found that strong governance in an organization that is closely integrated with its environment can lead to successful participation in high-level corporate social responsibility (CSR) activities, which in turn can enhance the resilience of the business.

The research findings indicate a significant and positive correlation between internal controls and business resilience at GDC ($r=0.562$, $p<0.05$). This suggests that enhancing internal controls can lead to improved business resilience at GDC. These findings align with those of Connie (2017), who established that business resilience and success are contingent on a company's ability to adapt to changes in the business environment and have well-structured controls in place.

Furthermore, a significant positive correlation was observed between business advisory and business resilience at GDC ($r=0.509$, $p<0.05$). This suggests that an enhancement in business advisory services leads to an improvement in business resilience. These findings align with the research conducted by Beninger and Francis (2022) who discovered that employing professional advisors contributed to strengthening business resilience. They further provided insights on how businesses could utilize this framework to enhance their resilience.

The results of the study indicate a strong positive and significant association between risk management and business resilience at Geothermal Development Company (GDC) ($r=0.630$, $p<0.05$). This suggests that improving risk management at GDC can lead to an improvement in business resilience. The findings align with those of Sulasi (2021) who concluded that enhanced risk management can improve business performance and, consequently, business resilience.

4.6.2 Regression Analysis

To determine the statistical significance and link between the independent variables and the business resilience at the Geothermal Development Company, regression analysis was used in this research. The business resilience at GDC and the results of the regression analysis are as shown in this section.

Table 4.9: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.742a	0.551	0.539	0.43557

a Predictors: (Constant), Risk Management, Advisory, Governance, Internal Controls

Table 4.9 shows that the coefficient of determination (R squared) is 0.551 and adjusted R squared of 0.539 at 95% significance level. This implies that the internal audit factors explain about 55.1% of the variation in business resilience at GDC. The adjusted R squared of 0.539 means that the internal audit factors (Risk Management, Business Advisory, Internal Controls and Governance) still explain a significant proportion of the variation in business resilience even after adjusting for the number of independent variables in the model. This suggests that the model with the internal audit factors is a good fit for the data and provides a reasonable estimate of the relationship between internal audit and business resilience at GDC. This also means that the remaining 44.9% of the variation in the dependent variable is explained by factors not included in the study.

Table 4.10: ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	35.115	4	8.779	46.272	.000b
	Residual	28.648	151	0.19		
	Total	63.762	155			

a Dependent Variable: Resilience

b Predictors: (Constant), Risk Management, Business Advisory, Governance, Internal Contr

Table 4.10 indicates that the model used was statistically significant in explaining the influence of internal audits on the business resilience of Geothermal Development Company (GDC), as indicated by a p-value of 0.000. This suggests that the relationship between internal audits and business resilience at GDC is not due to chance and that the model is a good fit.

Table 4.11: Regression Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	-0.283	0.302		-0.938	0.350
Risk Management	0.317	0.072	0.312	4.41	0.000
Business Advisory	0.232	0.06	0.235	3.842	0.000
Internal Controls	0.254	0.072	0.235	3.545	0.001
Governance	0.205	0.069	0.193	2.955	0.004

a Dependent Variable: Resilience

The regression model therefore became;

$$Y = -0.283 + 0.317X_1 + 0.232X_2 + 0.254X_3 + 0.205X_4$$

Where:

Y= Business Resilience

X₁= Risk Management

X₂= Business Advisory

X₃= Internal Controls

X₄= Governance

Table 4.11 demonstrates that risk management had a positive and significant impact on the business resilience of GDC ($\beta = .317$, $p = .000 < .05$). The calculated t-statistic of 4.410 is greater than 1.96, provides support for the statement. The result suggests that a one-unit improvement

in risk management leads to a 0.317 unit improvement in resilience. Therefore, risk management significantly affects the resilience of GDC. These findings back Aldianto et al. (2021), which found that managing risk is an essential approach for startups to overcome diverse pressures related to business strength, particularly in anticipating and managing uncertainty due to the Covid-19 pandemic.

Business advisory as an internal audit had a positive and significant effect on the business resilience of GDC ($\beta = .232$, $p = .000 < .05$). An estimated t-statistic of 3.842, which was higher than the crucial t-statistic of 1.96, confirmed this. This implies that, a unit improvement in business advisory results into an improvement in business resilience by 0.232 units. The results implies further that business advisory significantly affects the business resilience of GDC. These results back Ramdani, Binsaif, Boukrami and Guermat (2020) who established that the use of business advisors and consultants was positively linked to business resilience.

In addition, internal controls had a positive and significant effect on the business resilience of GDC ($\beta = .254$, $p = .001 < .05$). An estimated t-statistic of 3.545, which was higher than the crucial t-statistic of 1.96, confirmed this. This implies that a unit improvement in internal controls results in an improvement in resilience by 0.254 units. These findings are in line with the findings of Sathyamoorthi (2001), who found that it is critical to have an internal control framework over all enterprise activities, irrespective of the mode of business ownership, to ensure the security of the company's resources against risk, waste, and misappropriation.

The study ultimately determined that governance had a positive and significant impact on the business resilience of GDC ($\beta = .205$, $p = .004 < .05$). This suggests that a unit improvement in governance resulted in a corresponding improvement in business resilience by 0.205 units, indicating that governance significantly affects the business resilience of GDC. These findings align with those of Lamprinakis (2018), who found that effective governance enables an organization to integrate with its natural and socio-economic environments, participate in high-level CSR activities, and reap associated benefits that can enhance business resilience.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

In this part, the research presents a summary of its results before discussing its conclusions and suggested actions in light of the data. In accordance with the research's goals, the study explains its findings and suggestions.

5.2 Discussion of the Findings

The purpose was to establish the role of internal audit on business resilience in power sector, case of Geothermal Development Company Limited. Specifically, the study sought to: determine how risk management affects business resilience at Geothermal Development Company Limited, to find out the impact of business advisory on business resilience at Geothermal Development Company Limited, to examine how internal business controls builds on business resilience at Geothermal Development Company Limited and to assess the role of governance on business resilience at Geothermal Development Company Limited. This study was anchored on the Balanced score card, strategic choice theory, transient advantage theory, complexity theory, normal accident theory as well as the strategic management theory.

Descriptive results showed that 53.20% of the respondents agreed that enterprise risk management framework have interlinked all business processes within GDC and it is active. A majority (74.40%) of the respondents were in agreement with the statement that in all business processes of GDC not limited to: budgeting, procurement, drilling, contractual obligations, strategy and objectives setting, component of risk is comprehensively addressed and incorporated. Moreover, most (67.90%) of the respondents agreed that Staff are risk conscious, and they are regularly sensitized on risk management. The results further showed that a majority (77.50%) agreed that should unforeseen event occur, all the staff are aware of what to do as all processes within GDC are categorized depending on their criticality (mission, safety, security, business) and risk tolerance.

Most (77%) of the respondents agreed that regularly, risk treatment methods to GDC processes (Mitigate, Accept, Transfer, Avoidance) are assessed and best rational method applied promptly. Moreover, majority (75%) of the respondents agreed that the process owner is responsible for monitoring existing and identifying emergent risks as well as updating the risk

register. Finally, most (76.30%) respondents agreed that internal auditors recommendations from their audits are promptly implemented before the identified risk manifests.

The study has shown that at GDC, there is a recognized importance of risk management in reinforcing business resilience, but there is a noticeable gap between its acknowledged value and its implementation in practice. Qualitative feedback from participants indicated a consensus on the potential of risk management to strengthen the company's resilience against disruptions. However, they also conveyed a belief that the current practices are not sufficiently proactive or integrated into the organizational fabric to fully realize this potential. This reveals an opportunity for GDC to bridge the divide between understanding the importance of risk management and executing it in a way that is woven into the company's strategic and operational frameworks.

The correlation results indicate a strong positive and significant relationship between risk management and business resilience at GDC, with a correlation coefficient of 0.630 and a p-value of less than 0.05. This means that there is a high degree of association between risk management practices and the ability of GDC to withstand and recover from disruptions. Furthermore, the regression analysis shows that risk management has a positive and significant effect on business resilience at GDC, with a beta coefficient of 0.317 and a p-value of less than 0.05. This means that an improvement in risk management practices is likely to lead to an improvement in the business resilience of GDC. Overall, these findings suggest that GDC should focus on improving its risk management practices in order to enhance its business resilience and ability to cope with potential disruptions. These findings agree with Anggadwita et al. (2021), who found that the management of risk is an important method for startups to conquer disconnected pressures concerning business strength in expecting and managing choppiness because of Covid-19.

The descriptive results indicate that majority (70.50%) of respondents agreed that besides carrying out audits as per audit plan, internal auditors often offer advisory services to their audit clients within GDC. In addition, most (79.40%) respondents agreed that the advice spans on processes that directly impact on GDC strategic objectives. With regards to whether the advice offered saves the process under review inefficiencies, wastage and provide the best way forward, 79.40% agreed. Additionally, most (73.10%) respondents agreed that there is management support to implement the outcome of advisory services. 82% of respondents agreed that the advice offered is practical and implementable. In addition, a majority of the

staff (78.80%) agreed that the professional advice is timely and proactively offered. Finally, most (88.40%) of the respondents agreed that advisory services offered do not impair independence of internal auditors.

The qualitative findings revealed that advisory services are currently seen as insufficiently aligned with the specialized needs of the power sector in Kenya. The feedback underscores a strong demand for personalized, industry-specific guidance from internal auditors. Respondents flagged the lack of timely advice as a significant concern, pinpointing that delays could impede the company's agility in decision-making and risk management. Furthermore, the call for a shift from a reactive to a proactive advisory stance is a clear indicator of the current services not meeting the strategic needs of the company. Lastly, the responses brought to light the critical role of clarity and efficiency in communication, suggesting that the value of advisory services is diminished when insights are not conveyed effectively to the decision-makers at GDC.

The study's correlation analysis indicated a significant and positive relationship between business advisory and business resilience at GDC, with a strong correlation coefficient of 0.509 and a significance level of $p < 0.05$. The regression analysis further confirmed that business advisory, which is a component of internal audits, had a statistically significant positive impact on the business resilience of GDC Limited. These results are in line with Ramdani, Binsaif, Boukrami and Guermat (2020) who established that the use of business advisors and consultants was positively linked to business resilience.

The descriptive results show a majority (73.7%) of respondents agree that management demonstrates integrity and ethical values through their directives, attitudes, and behavior. Most (73.80%) of the staff were in agreement that tone at the top has embraced internal controls in place. Additionally, most (81.4%) of respondents agreed that control activities designed are in line with the strategic objectives of GDC. 80.8% of respondents agreed that GDC has adopted general control activities over IT infrastructure, and IT controls embedded in SAP are fully utilized. Most (79.5%) of the respondents agreed that periodically, management reviews the control activities for effectiveness. In addition, a majority (67.40%) of the staff agreed that internal control recommendations made by internal auditors are promptly implemented before risk crystallizes. Finally, most (70.5%) of the respondents agreed that GDC obtains relevant and quality information to support the functioning of internal control as intended.

From the perspectives shared by the participants through qualitative analyses, the study found that within GDC, there is a clear call for enhanced documentation and stricter adherence to established operating procedures. This gap has been pointed out as a hindrance to transparency and the ability to effectively track and audit company activities. Additionally, concerns were raised about the segregation of duties; there is a perceived risk where employees handling multiple roles could lead to undetected errors or potential fraudulent activities. Moreover, the increasing threat of cyberattacks has heightened the urgency for GDC to improve its cybersecurity measures. The study also revealed a demand for more frequent and meticulous internal audits, as well as the utility of external audits to ensure a rigorous and impartial examination of GDC's internal control environment.

The correlation analysis showed a strong positive and significant relationship between internal controls and business resilience at GDC ($r=0.562$, $p<0.05$). Furthermore, the regression analysis indicated that internal controls had a positive and significant impact on the business resilience of GDC. The results back Sathyamoorthi (2001) who found that it is critical to have inside control framework over all enterprise exercises, irrespective of the mode of business ownership. A fittingly done control structure ensures security of company's resources against hazard, waste and misappropriation.

The descriptive results show that majority (76.90%) of the respondents agree that there is knowledge and adherence to company policies: Not limited to code of ethics and conduct, conflict of interest guidelines and service charter. Most (73.10%) of the respondents agreed that staff own to their responsibilities of omission or commission. In addition, a big percentage (85.90%) of the staff agreed that at GDC the reporting lines are clear allowing for forward-backward communication. In addition, the study revealed that 80.8% of respondents agreed that there is independence in execution of roles at committees and other routine duties. Most (75.6%) of the respondents also agreed that there is staff engagement at a level that match their capabilities and in a manner that foster trust. Additionally, most (78.20%) respondents agreed that staff from different directorates/departments view each other as business partners in GDC processes. Finally, on whether the GDC strategy is reasonably ambitious and embraced by staff, most (82.70%) respondents agreed.

The qualitative results indicates a significant concern regarding transparency and accountability in the company's decision-making process. This concern is coupled with a call for clear communication about decisions to all stakeholders, which is currently perceived as inadequate.

Additionally, the study brings to light issues around ethical conduct and adherence to governance principles, with instances of ethical lapses and conflicts of interest suggesting a gap in promoting a consistent culture of integrity. The need for a governance structure that embodies diversity and inclusiveness was also underscored as a factor that could enhance decision-making and reflect a broader range of perspectives. Moreover, there is an expressed necessity for a more systematic approach to risk management as part of the governance framework, potentially through a dedicated committee that ensures risks are managed proactively.

The correlation analysis indicates a strong positive and significant relationship between governance and business resilience at Geothermal Development Company ($r=0.530$, $p<0.05$) while the regression analysis found that governance had a positive and significant effect on the business resilience of GDC. The results are in line with Lamprinakis (2018) who showed that governance in a strong embedded organization becomes deeply rooted to its natural and socio-economic environments, it is thus able to ably participate in high level CSR activities, that can yield CSR related privileges and hence improving the resilience of a business.

5.3 Conclusions

The study concludes that risk management had a positive and significant effect on business resilience at the Geothermal Development Company (GDC) Limited. This means that when other factors affecting business resilience are held constant, risk management will improve business resilience at GDC. The study highlights the importance of risk management in identifying, assessing, and mitigating potential risks and uncertainties that may impact GDC's operations. By proactively addressing these risks, the internal audit function plays an essential role in building business resilience and ensuring the continuity of power supply in the face of adverse events. This is because the organization will be able to forecast any risks that they may be exposed to and plan for them and to take mitigating measures to protect the organization from the said risks.

The study also concludes that business advisory measures had a positive and significant effect on business resilience at the Geothermal Development Company (GDC) Limited. This implies that when business advisory improves business resilience when other factors affecting resilience are held constant. The study underscores the significance of business advisory services provided by internal audit in supporting GDC's decision-making processes. By offering insights and recommendations, the internal audit function enables the company to

make informed strategic choices that strengthen its long-term resilience. This is because organizations that seek professional business consultancy and advisories get providing strategic guidance, operational support, and risk management expertise that help to enhance the business resilience of the organization.

The study concludes that internal controls had a positive and significant effect on business resilience at the Geothermal Development Company (GDC) Limited. This implies that an increase in internal controls results in enhanced business resilience at GDC. Internal business controls, by design, assist GDC in maintaining a consistent and transparent financial management system, ensuring compliance with regulations, and detecting potential fraud or errors. These control measures, when effectively implemented and monitored by internal audit, serve as a vital safeguard for the company's assets and reputation, which in turn contributes to its overall resilience. Internal controls provide a system of checks and balances to help prevent errors, fraud, and other forms of financial loss. By applying internal business controls, organizations become safer and more resistant to external shocks. In addition, internal controls improve financial management and enhance the operational efficiency of the organization.

Finally, governance has a positive and significant effect on the business resilience of Geothermal Development Company (GDC) Limited. Governance includes the organizational structure, decision-making processes, and policies and procedures. Governance, as another key factor, ensures that GDC maintains a robust organizational structure, with clear roles and responsibilities, effective communication channels, and adherence to ethical practices. These strong governance practices contribute to a solid foundation for the organization, supporting its ability to withstand shocks and adapt to change. These structures and policies can affect the ability of the business to respond to unexpected events and adapt to changing market conditions. With the right governance structure and practices in place, a business becomes more resilient in the face of changes in its operating environment. In summary, this study emphasizes the crucial role that internal audit plays in fostering business resilience at Geothermal Development Company Limited. By focusing on risk management, governance, internal business controls, and business advisory, GDC can better prepare for and manage potential disruptions, ultimately ensuring the company's sustained growth and success within the power sector.

5.4 Recommendations

The following recommendations are proposed to further strengthen the role of internal audit in

enhancing business resilience at Geothermal Development Company Limited (GDC) and other organizations within the power sector: The study recommends that GDC should continuously review and update its risk management framework to ensure it remains comprehensive, proactive, and relevant. This may involve conducting regular risk assessments, incorporating emerging risks (such as cyber threats or climate change), and integrating risk management into strategic decision-making processes.

The study recommends that GDC should initiate a transformation of its risk management approach to be more forward-looking and integrated into the core business functions. This includes fostering an environment where risk awareness is part of the organizational culture, encouraging open communication and continuous learning about risk across all departments. The company should consider establishing risk management as a key component of strategic planning, ensuring that all employees understand their role in identifying and mitigating risks. Moreover, GDC should invest in regular training for the internal audit team to keep them abreast of the latest industry-specific risks and mitigation strategies. Regular updates to the risk management framework to reflect the ever-changing landscape of the power sector are also imperative. By implementing these recommendations, GDC can aim to not only recognize but also effectively capitalize on the role of risk management in enhancing business resilience.

In addition, GDC should periodically evaluate its governance framework to ensure clarity in roles and responsibilities, adherence to ethical standards, and effective communication across the organization. This may involve regular board evaluations, the implementation of a robust code of conduct, and promoting a culture of transparency and accountability. GDC should also continually monitor and update its internal control systems to guarantee compliance with relevant regulations, safeguard assets, and detect fraud or errors. This may involve adopting advanced technology solutions, such as data analytics or artificial intelligence, to identify potential control weaknesses or instances of non-compliance more efficiently.

To enhance the impact of business advisory on business resilience at GDC, it is essential that the internal audit department refines its advisory services to deliver tailored, sector-specific guidance that addresses the unique challenges of the power industry. Advisory services should also be rendered with a sense of urgency, aligning with the decision-making timelines to facilitate swift and informed actions. GDC should cultivate a culture where internal auditors proactively seek out opportunities for improvement and potential risks, offering strategic advice without waiting for a prompt from management. Additionally, it is imperative to bolster

the communication skills of the internal auditors to ensure that advice is not only actionable but also clearly understood. This might involve training auditors in communication strategies and possibly employing tools or platforms that facilitate better information sharing. By addressing these gaps, GDC could significantly improve the contribution of its advisory services to the company's resilience in the dynamic and challenging power sector environment.

Moreover, it is important that GDC should leverage the expertise of internal audit to provide more in-depth and proactive business advisory services. This may involve collaborating with other departments to identify areas for improvement, offering insights on industry trends and best practices, and providing strategic guidance on matters such as digital transformation or environmental, social, and governance (ESG) considerations. GDC should prioritize the professional development of its internal audit staff, ensuring they possess the necessary skills and competencies to perform their roles effectively. This may involve providing regular training opportunities, sponsoring certifications, or facilitating knowledge-sharing forums.

It is recommended that GDC intensify its focus on internal controls as a cornerstone for business resilience. This would involve formulating and enforcing stricter documentation policies to establish a transparent and accountable operational framework. The company should reassess its division of responsibilities to ensure an effective segregation of duties, thus minimizing the risk of errors and fraudulent activities. With cybersecurity being a significant concern, GDC must invest in state-of-the-art security technologies and commit to ongoing staff training to safeguard against digital threats. To uphold and continually enhance internal control systems, it is advised that GDC conduct more frequent internal audits and embrace the insights from external audits for unbiased evaluations. These measures are critical in fortifying the company against potential risks and ensuring that GDC's business operations are resilient and secure, enabling the company to maintain stability and integrity in Kenya's power sector.

Additionally, GDC should promote a culture of resilience across the organization, where employees understand the importance of risk management, governance, internal controls, and adaptability. This may involve integrating resilience concepts into employee training programs, promoting open communication, and celebrating successes in overcoming challenges. Finally, GDC should consider benchmarking its internal audit practices against industry standards and peer organizations to identify areas for improvement. Additionally, GDC can benefit from collaborating with other organizations in the power sector to share knowledge, experiences, and best practices in building business resilience. Implementing these recommendations will

help GDC further enhance its internal audit function, ultimately contributing to greater business resilience and long-term success within the power sector.

The study recommends that GDC initiate a series of governance reforms to address these gaps. There is an immediate need to elevate the levels of transparency and accountability in how decisions are made and communicated within the company. GDC should implement measures to ensure that the rationale for decisions is shared openly with stakeholders, fostering a culture of trust and credibility. The company must also reinforce its commitment to ethical behavior by establishing clear governance principles and a code of conduct that is rigorously enforced at all levels. To promote better decision-making, GDC should strive to diversify its leadership, encompassing a wider array of demographics and backgrounds, thus enriching the governance with varied insights and experiences. Lastly, the institution of a formal risk management function or committee is critical; this body would work in tandem with internal auditors to ensure a structured and effective approach to identifying and mitigating risks. Such strategic initiatives are essential for strengthening GDC's resilience and ensuring its governance is capable of supporting sustainable operations in Kenya's power sector.

5.5 Contribution of the study to Knowledge

This study's most significant contributions are reflected in its practical recommendations aimed at strengthening the role of internal audit in enhancing business resilience at Geothermal Development Company Limited (GDC) and other organizations within the power sector. The recommendations provide actionable steps for GDC and similar entities to improve their risk management practices, governance frameworks, internal controls, and business advisory services. By suggesting continuous reviews and updates of risk management frameworks, regular evaluations of governance structures, and the implementation of advanced technology solutions for internal controls, the study offers a roadmap for organizations to enhance their resilience strategies.

Furthermore, the study emphasizes the importance of professional development for internal audit staff, promoting a culture of resilience, and benchmarking against industry standards and peer organizations. These recommendations recognize the vital role of human capital in internal audit effectiveness and advocate for ongoing training and knowledge sharing. They also underscore the need for a collective commitment to resilience across the organization, from leadership to employees at all levels. By following these recommendations, organizations can better prepare for disruptions, adapt to changing conditions, and ultimately thrive in the power

sector and beyond, enhancing their overall resilience and long-term success.

5.6 Recommendations for Further Study

There could be other factors besides risk management, business advisory, internal controls and governance that affect the business resilience of the power sector and in particular of Geothermal Development Company (GDC) Limited. As such, future studies should focus on these factors in order to assess their effect on business resilience. In addition, given the study was conducted on GDC, other studies should therefore consider the effect of internal audits on other sectors besides the power sector.

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APPENDICES

Appendix I: COVER LETTER

KENYATTA UNIVERSITY SCHOOL OF BUSINESS,

P.O BOX 43844-00100,

NAIROBI.

RE: INTRODUCTION LETTER

I am a student at Kenyatta University pursuing Master's in Business Administration (Strategic Management option), registration number D53/CTY/PT/32586/2015. I am undertaking a research study on '**Internal audit and business resilience in power sector, case of Geothermal Development Company – Kenya.**' The research is guided by the following objectives:

- a) To establish the effect of risk management on business resilience at Geothermal Development Company Limited.
- b) To find out the role of business advisory from internal audit on business resilience at Geothermal Development Company Limited.
- c) To examine how business controls builds on business resilience at Geothermal Development Company Limited.
- d) To assess the role of governance on business resilience at Geothermal Development Company Limited.

The information collected is only for academic research only.

Yours faithfully,

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David Kanyi.

Appendix II. QUESTIONNAIRE FOR GEOTHERMAL DEVELOPMENT COMPANY EMPLOYEES

This questionnaire is intended to collect data on internal audit and its impact on business resilience for power sector in Kenya, case of GDC. The information you provide will be treated with utmost confidentiality, and shall be used solely to gather information for this research. Thank you in advance.

Where possible, tick appropriately.

INTERNAL AUDIT AND BUSINESS RESILIENCE IN POWER SECTOR. CASE OF GEOTHERMAL DEVELOPMENT COMPANY - KENYA

PART 1: GENERAL INFORMATION

PART 1: General Background information.

Instructions: (Please tick (✓) where appropriate

1. Gender

Male

Female

2. What is your highest level of education?

a.) Diploma b.) Degree c.) Master e.) PhD

f.) Others (Please specify) _____

3. Current post held.

(i) General Manager

(ii) Manager

(iii) Deputy Manager

(iv) Chief Officer

(v) Senior Officer

(vi) Others (Please specify) _____

4. In which age group do you belong?

Less than 35 years	36-41 Years	42-47 years	48-53 years	Above 54 years
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

5. Please indicate the number of years you have been working for GDC

a. Less than 3 years

b. 4-6 Years

c. 7-10 Years

d. Above 10 years

6. Please indicate where you belong, between a service or a technical directorate

For this research the following classification will be used

Service directorates	Technical directorates
(i) Strategy Research & Innovation	(i) Drilling & Infrastructure
(ii) Finance	(ii) Geothermal Resource Development
(iii) Legal Services & Company Secretary	
(iv) Human Resource & Administration	
(v) Internal audit <input type="checkbox"/>	
(vi) Supply Chain	

(i) Service directorate

(ii) Technical directorate

PART 2: Internal audit and business resilience in power sector in Kenya, case of Geothermal Development Company

SECTION A: RISK MANAGEMENT AND BUSINESS RESILIENCE

7. To what extent has GDC adopted enterprise risk management framework?

a.) Very great extent b.) Great extent c.) Moderate extent

d.) Little extent e.) No extent

8. Below are several statements on risk management and its influence on business resilience in GDC. Please indicate the degree to which you agree with each. (Use a scale of 1-5 where; 1= strongly disagree, 2= disagree, 3= neutral, 4= agree and 5= strongly agree)

Statements	1	2	3	4	5
Enterprise risk management framework have interlinked all business processes within GDC and it is active.					
In all business processes of GDC not limited to: budgeting, procurement, drilling, contractual obligations, strategy and objectives setting, component of risk is comprehensively addressed and incorporated.					
Staff are risk conscious, and they are regularly sensitized on risk management					
Should unforeseen event occur, all the staff are aware of what to do as all processes within GDC are categorized depending on their criticality (mission, safety, security, business) and risk tolerance					

Regularly, risk treatment methods to GDC processes (Mitigate, Accept, Transfer, Avoidance) are assessed and best rational method applied promptly					
The process owner is responsible for monitoring existing and identifying emergent risks as well as updating the risk register.					
Internal auditors recommendations from their audits are promptly implemented before the identified risk manifests					

9. In general, to what extent do risk management practices impact on business resilience of GDC?

- a.) Very great extent b.) Great extent c.) Moderate extent
d.) Little extent e.) No extent

10. In your own opinion, what are the current gaps on the role internal auditors on risk management in GDC which need urgent address

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SECTION B: BUSINESS ADVISORY AND BUSINESS RESILIENCE

11. To what extent has professional advisory been embraced in GDC?

- a.) Very great extent b.) Great extent c.) Moderate extent
d.) Little extent e.) No extent

12. Below are several statements on professional advisory and its influence on business resilience

in GDC. Please indicate the degree to which you agree with each. (Use a scale of 1-5 where; 1= strongly disagree, 2= disagree, 3= neutral, 4= agree and 5= strongly agree)

Statements	1	2	3	4	5
Besides carrying out audits as per audit plan, internal auditors often offer advisory services to their audit clients within GDC					
The advice spans on processes that directly impact on GDC strategic objectives					
The advice offered saves the process under review inefficiencies, wastage and provide the best way forward					
There is management support to implement the outcome of advisory services					
Advice offered is practical and implementable					

The professional advice is timely and proactively offered					
Advisory services offered do not impair independence of internal auditors					

13. In general, to what extent do advisory services impact on business resilience of GDC?

- a.) Very great extent b.) Great extent c.) Moderate extent
d.) Little extent e.) No extent

14. What are the current gaps on advisory services offered by internal auditors in GDC which need urgent address

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SECTION C: INTERNAL CONTROLS AND BUSINESS RESILIENCE

15. To what extent have internal controls been developed and adopted in GDC?

- a.) Very great extent b.) Great extent c.) Moderate extent
d.) Little extent e.) No extent

16. Below are several statements on internal controls and its influence on business resilience in GDC. Please indicate the degree to which you agree with each. (Use a scale of 1-5 where; 1= strongly disagree, 2= disagree, 3= neutral, 4= agree and 5= strongly agree)

Statements	1	2	3	4	5
Management demonstrates integrity and ethical values through their directives, attitudes, and behavior.					
Tone at the top has embraced internal controls in place					
Control activities designed are in line with the strategic objectives of GDC.					
GDC has adopted general control activities over IT infrastructure, and IT controls embedded in SAP are fully utilized					
Periodically, management reviews the control activities for effectiveness.					
Internal control recommendations made by internal auditors are promptly implemented before risk crystallizes					
GDC obtains relevant and quality information to support the functioning of internal control as intended					

17. In general, to what extent do internal controls support GDC business resilience?
 a.) Very great extent b.) Great extent c.) Moderate extent
 d.) Little extent e.) No extent

18. In your opinion, what are the current internal control gaps in GDC which internal auditors need to urgently address?

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SECTION D: GOVERNANCE AND BUSINESS RESILIENCE

19. To what extent is governance concept developed in GDC?
 a.) Very great extent b.) Great extent c.) Moderate extent
 d.) Little extent e.) No extent

20. Below are several statements on governance process and its influence on business resilience

GDC. Please indicate the degree to which you agree with each. (Use a scale of 1-5 where; 1= strongly disagree, 2= disagree, 3= neutral, 4= agree and 5= strongly agree)

Statements	1	2	3	4	5
There is knowledge and adherence to company policies: Not limited to code of ethics and conduct, conflict of interest guidelines and service charter					
Staff own to their responsibilities of omission or commission					
Reporting lines are clear allowing for forward-backward communication					
There is independence in execution of roles at committees and other routine duties					
There is staff engagement at a level that match their capabilities and in a manner that foster trust					
Staff from different directorates/departments view each other as business partners in GDC processes					
GDC strategy is reasonably ambitious and embraced by staff					

21. In general, to what extent do governance structures impact on business resilience of GDC?
 a.) Very great extent b.) Great extent c.) Moderate extent
 d.) Little extent e.) No extent

22. In your own opinion, what are the current governance gaps in GDC which internal auditors need to address urgently?

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SECTION E: BUSINESS RESILIENCE IN GDC

Below are several statements on business resilience in GDC.

Please indicate the degree to which you agree with each. (Use a scale of 1-5 where; 1= strongly disagree, 2= disagree, 3= neutral, 4= agree and 5= strongly agree)

Statement	1	2	3	4	5
Maximum acceptable downtime of business processes in GDC is known					
Critical processes are protected against downtime in GDC,					
Upon a downtime, the cost of recovery is accountable					
Estimated cost of recovery for all the processes in GDC is known prior to the event					
Litigations hinder achievement of strategic objectives of operations in GDC					
There is a criteria of prioritizing urgency of litigations facing GDC					
Data is critical to achievement of GDC strategic objectives					
Maximum acceptable data loss for all business processes in GDC is known					
In times of process instability in GDC, there are alternative recovery plans/models					
The alternative recovery models for business continuity are well known among staff and they are actively used					