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FACULTY OF COMMERCE

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THE IMPACT OF INFORMATION TECHNOLOGY ON AUDIT QUALITY: A SURVEY OF AUDIT FIRMS IN HARARE.

BY

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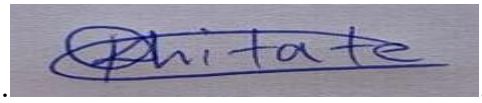
Signed……  …….

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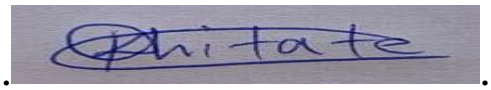
   Signature of student……  **……**

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DEDICATION

To the glory of God, who has given me the wisdom and strength to carry out this research, I dedicate this endeavor. I sincerely thank my parents, Mr. and Mrs. Chitate, for their unwavering love, support, and encouragement throughout my academic career. Lastly, I want to express my gratitude to my close friends for their support, wisdom, and for adding to the significance of this experience.

ABSTRACT

The purpose of this study was to assess the impact of information technology on audit quality as well as the obstacles to digital adoption in Zimbabwean accounting and auditing firms. The goal of the study is to offer suggestions for resolving these problems. The specific goals were to investigate the relationship between blockchain technology and audit quality in Zimbabwe, the impact of big data on audit quality in Zimbabwe, and the impact of artificial intelligence on audit quality in Zimbabwe. To accomplish its objective, the study employed both qualitative and quantitative research methods. In addition to questionnaires, the study includes both descriptive and inferential analysis. A sample size of 136 employees was used for the questionnaires, and a target population of 208 employees was gathered from 10 accounting firms in Harare. Data analysis revealed that big data and analytics have a strong and statistically significant impact on audit quality, while blockchain technology has a positive effect and artificial intelligence has a negative impact. According to the study's findings, the audit profession in Zimbabwe has adjusted to the global auditing environment and is now contributing to the body of literature. According to the research, all audit firms should investigate the use of audit software and make investments in auditor education and training initiatives.

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CHAPTER I

INTRODUCTION

1.1 Introduction

From the IT integration in audit procedures, the field of auditing has undergone many changes. In Zimbabwe, the case for deploying IT to ensure more accuracy, efficiency, and transparency in audits still stands. As technology adoption continues to mitigate human error while speeding up audit workflow, it is critical that practitioners and policymakers at least understand the effects of the technology on the audit quality to steer the development of the sector. Hence, this study intends to investigate the effect of IT on audit quality in Zimbabwe.

This chapter highlights the background to the study, statement of the problem, objectives, limitations, delimitations, significance, and key definitions. The next chapter presents a thorough literature review.

1.2 Background of the Study

IT in modern business plays a pivotal role in the exigencies of attestation for quality. In the words of Abebe (2023) and Crucean and Hategan (2023), about seven in ten auditing firms around the world use one form of IT tool or another in the audit process, highlighting the growing significance it shares. However, still, a question needs answering that often eclipses considerations related to efficiency, speed, and

transparency: Does the utilization of IT systems indeed enhance the overall quality of audits (Stoel, Havelka, & Merhout, 2012)?

Abdelwahed, Abu-Musa, Badawy, and Moubarak (2025) claim that a digital mindset offers a fresh way to carry out and achieve goals. It pushes companies to think about how technology could improve their audit planning and execution (Huh, Lee, & Kim, 2021), transcending the digitizing of manual processes). Technology, digital platforms, and data analytics applied in audits relates to the use of software enabling practitioners to evaluate vast datasets in formerly unheard-of ways (Abdelwahed et al., 2025). If the audit relied on sampling rather than a thorough review of data gathered from the information of the program, auditors can make risk assessments more quickly, create more appropriate procedures, and investigate anomalies that could have stayed unnoticed. Technology has transformed audit data storage, retrieval, and application.

Audit quality, as defined by Moulai (2019), pertains to the auditor's capacity to identify significant errors and diminish the frequency of discrepancies in accounting data; the fundamental elements that enhance the probability of consistently conducting quality audits are encompassed within the term "audit quality." Nguyen, Ha, and Nguyen (2020) describe audit quality as the performance of the audit team inside the whole quality control system, encompassing audit planning, execution, and reporting. Ayo, FAWALE, FAWALE, and Adebayo (2024) contend that the adoption of information technology affects audit quality. Globally, the adoption of IT in auditing has revolutionized the profession by streamlining processes and mitigating human error (Crucean & Hategan, 2023). Automation tools, data analytics, and artificial intelligence are now commonplace, allowing auditors to analyze vast datasets in real time (Nguyen, Ha, & Nguyen, 2020). Kesimli, Kesimli, and Achauer (2019) estimate that the global market for audit technology will exceed USD 12 billion by 2025, underscoring the financial sector's increasing reliance on technology. These innovations enable auditors to enhance their decision-making capabilities, uncover potential fraud, and provide clients with more reliable financial insights. Furthermore, according to Feliciano and Quick (2022), companies that use cutting-edge IT tools report higher audit quality, which is typified by more accurate risk assessments and fewer instances of oversight.

Information technology is having an impact on quality auditing in emerging markets as well as developed ones. Compared to just 45% ten years ago, 68% of auditors in emerging economies are implementing IT solutions, according to a study by Hohenfels and Quick (2020). Blockchain, cloud computing, and data analytics are increasingly being incorporated into Indian audit procedures, improving audit speed and quality (Hohenfels & Quick, 2020). The need for increased efficiency, accuracy, and responsiveness to auditing is driving the audit profession's push toward digitalization.

Although IT integration into the auditing process is still in its infancy in Africa, the potential advantages are obvious (Omonuk & Oni, 2015). Akinola, Daramola, and Adenle (2025) report that, in contrast to global averages of over 70%, less than 50% of audit firms in Africa use advanced IT solutions. Despite this, IT adoption is thought to be essential for increasing transparency and lowering the risk of fraud, which is still a major concern throughout the continent (Akinola et al., 2025). As economies grow, IT will play a critical role in enhancing audit procedures and satisfying stakeholder demands for faster and more accurate financial reporting (Akinola et al., 2025). Additionally, regulatory bodies in African countries are increasingly encouraging the integration of IT to ensure audit processes meet international standards.

Through information technology, the Southern African Development Community (SADC) region is making progress in raising the caliber of audits. Muduva, Mazambani, Masamha, and Dube (2024) report that during the last five years, the region's use of technology in auditing has increased by 27%. But this progress is still uneven, with more developed economies like South Africa setting the standard for IT adoption while other SADC nations struggle with issues like inadequate infrastructure and a lack of skilled workers (Muduva et al., 2024). Notwithstanding these discrepancies, the value of technology in enhancing audit effectiveness and thwarting corruption is becoming increasingly acknowledged, particularly in audits conducted by the public sector.

The use of IT in auditing in the region presents both opportunities and challenges (Chikerema, 2020). The widespread integration of technologies into audit practices has been hampered, according to Chikerema (2020), by the region's economic and

infrastructure challenges, which are made worse by erratic power supplies and restricted access to high-speed internet. However, there is a rare chance to overcome these obstacles thanks to the region's developing IT sector, which has the potential to significantly improve quality auditing through technological innovation. As a sign of a move toward more thorough and dependable auditing procedures, audit firms have started investigating the use of data analytics, cloud-based software, and electronic audit trails.

According to Mazikana (2023), there has never been a greater need for high-quality audits in Zimbabwe, especially in light of the nation's unstable economy and the requirement for increased openness in the public and private sectors. In sharp contrast to the global average, only 41% of audit firms in Zimbabwe are fully utilizing IT solutions, according to Newman, Muzvuwe, and Stephen (2021). This disparity is a reflection of the nation's infrastructure problems, including unstable internet and electricity (Newman et al., 2021). However, as evidenced by the growing number of companies experimenting with software solutions to improve the accuracy and efficiency of their audits, there is growing recognition of the potential benefits of integrating IT into auditing.

To enhance their auditing procedures, the nation's audit firms are progressively implementing IT tools. Smaller businesses encounter major obstacles to entry because of their inadequate technological infrastructure, even though larger companies have already adopted data analytics tools (Mazikana, 2023). Smaller businesses' capacity to compete with their larger counterparts is hampered by these differences. The problem is further exacerbated by the auditors' inability to receive ongoing training on new technologies, which leaves them ill-prepared to fully utilize IT's potential to improve quality auditing.

There is a notable discrepancy in the nation's audit sector's adoption and efficient use of information technologies, and this discrepancy has an impact on the overall caliber of audits. The majority of audit firms still use outdated techniques, which can result in errors and inefficiencies, even though some are adopting new technology. In light of this, this study assesses how IT affects quality auditing.

1.2 Problem Statement

While information technology (IT) has revolutionized auditing practices globally, its specific influence on audit quality within Zimbabwe remains largely unexplored. Despite improvements in technological advancements brought forth within the country, there is no sufficient information on how IT applications enhance or affect the effectiveness and reliability of audits in Zimbabwe. The rapid IT adoption within auditing has also raised the question of whether or not the existing parts of regulatory and operational frameworks are adequate to exploit technology to their greatest potential without diluting audit quality. The lack of empirical studies on the subject makes it difficult for auditors, regulators, and policymakers to fully grasp the impact of IT on audit standards in Zimbabwe.

1.4 Research Objectives

The major goal of the study was developed by the researcher and was further divided into more particular ones.

1.4.1 Main Research Objective

The main objective of this study was to examine the impact of information technology on audit quality in Zimbabwe.

1.4.2 Specific Research Objectives

In order to address the main objective of this study, the researcher satisfied the following specific objectives.

i. To examine the impact of big data analytics on audit quality in Zimbabwe.
ii. To assess the effect of Artificial Intelligence on audit quality in Zimbabwe.
iii. To examine the nexus between blockchain technology use and audit quality in Zimbabwe.

1.5 Research Hypotheses

The study hypothesized the following;

$H_1$1: There is a significant positive impact of big data analytics on audit quality in Zimbabwe.

$H_1$2: Artificial intelligence adoption positively and significantly affects audit quality in Zimbabwe.

$H_1$3: There is a significant positive nexus between blockchain technology use and audit quality in Zimbabwe.

1.6 Significance of the Study

1.6.1 To Policy

i. The findings of this research could offer empirical proof on how IT technologies influence audit quality and efficiency. The outcomes could guide the creation or improvement of rules controlling auditing criteria.
ii. Policymakers can use the study's findings to encourage the adoption of innovative IT solutions within the audit profession thereby helping audit firms enhance efficiency, reduce errors and increase the reliability of financial statements.

1.6.2 To Audit/Accounting Firms

i. The findings may offer audit firms an immense understanding of the synergy between IT tools and audit quality.
ii. Firms may find the findings of this study useful as they can position themselves as leaders in providing high-quality innovative audit services that meet the changing needs of clients in a continuously updating digital world.

1.6.3 To Academia

i. This research's findings may provide valuable insights into the evolving nature of audits in the digital era and assess how emerging technologies impact audit processes.
ii. The findings may inspire further studies on the broader implications of IT in auditing.

1.7 Assumptions of the Study

The study made the following assumptions.

i. The data collected was accurate and reliable
ii. Audit firms have integrated IT systems into their audit functions.
iii. The degree of automation varied among firms

1.8 Delimitations of the Study

i. The study was limited to audit firms in Harare, Zimbabwe. This means that the findings may not be of paramount importance to other firms operating outside the capital.
ii. The study focused exclusively on external audits, excluding internal audit functions.

1.9 Limitations of the Study

i. The study was constrained by the cost of administering questionnaires to a large sample size as it was prohibitive. However, the researcher opted for an online questionnaire to reduce costs and enhance accessibility.

ii. Also, the time of conducting this research was limited since it was only one semester. To curb this limitation, the researcher had to work even during odd hours to achieve meaningful results.

1.10 Definition of Key Terms

i. **Information Technology (IT):** The use of digital networks to transmit, store and process information to different end users.
ii. **Audit Quality:** The reliability, accuracy and thoroughness of an audit.
iii. **Audit:** An impartial assessment of firm financial records to evaluate if they fairly and truthfully represent themselves or include misstatements and also conform with relevant requirements.

1.11 Chapter Summary

In this chapter, the background of the research was presented, alongside the problem statement, objectives, limitations, delimitations, significance, and key definitions. The next chapter will give a detailed review of the related literature.

CHAPTER II

LITERATURE REVIEW

2.1 Introduction

The present chapter looks into the literature concerned with the effects of financial literacy, lifestyle, and social aspects on students' spending behaviors. It provides a theoretical first-level description of relevant concepts and frameworks occasioned by financial literacy, lifestyle, and social factors, as well as empirical findings from previous studies. Doing the literature review is essential because it helps the researcher identify existing studies, thus avoiding unnecessary duplication and acquiring a full understanding of the research problem. This review looks into studies done at worldwide, regional, and local levels.

2.2 The Concept of Information Technology

Information technology (IT) is about managing and processing information through computer systems, telecommunications, software applications, and networks. It assists modern organizations by supporting any kind of business activity within the organization and communication with clients all over the world as well as in managing data. It offers software solutions such as ERP, CRM, and productivity software, but other IT infrastructure consists of physical components, such as servers, workstations, data centers, and networking devices. IT supports the organization's operations, data analysis, storage, and retrieval- all great matters considered during strategic planning and decision-making.

Within organizations, IT drives innovation, productivity, and resilience. As digital technologies spread far and wide, IT departments are now also responsible for ensuring system performance levels are reasonable and Cyber security steps taken to protect confidential information within an organization. Therefore, today's IT is centered on next-generation innovations such as AI, Cloud, Blockchain, and Data Analytics to enable entities to compete and improve agility in a highly dynamic market environment. On the other hand, IT governance is concerned with ensuring that all technology investments are in alignment with the business objectives, adhere to relevant regulations, and address risks. More than ever in the fast-paced world of technology, effective strategic management of IT resources is a prerequisite to sustained organizational development and transformation.

2.3 Auditing and Audit Quality

The auditor ensures that the information set forth in the financial statement complies with and present an accurate account under the prevailing GAAPs (Knechel, 2001: 84). It is said that since antiquity, auditing has been used to make sure that public administrators carried duties honestly and did not violate the law for their personal interest (Flesher, Previts, & Samson, 2005).

Highlighting the British Companies Acts from the 19th century or the stock market crash of 1929 sets a backdrop for many historical records in auditing. The late 1870s and the Pincoffs scandal were the Netherlands' coming-of-age moments for the idea of auditing. As a consequence of this financial turbulence, the first Dutch accounting firm Confidentia was established in 1883. However, the Pincoffs affair was not the sole financial calamity to shake the foundations of corporate governance; other cases of poor financial oversight and audit failures followed, including Enron (2001), WorldCom (2002), American International Group (2005), Lehman Brothers (2008), Bernie Madoff's Ponzi scheme (2008), Carillion (2018), Gupta (2018), and Steinhoff (2019). And after all these processes, there is still no accepted, clear definition of audit quality in the literature.

2.4 Theoretical Literature Review

The theoretical review primarily focused on key concepts expounding upon the effects of information technology on audit quality. Fundamental theories that constitute the core theory landscape for this theoretical review include the Technology Acceptance Model (TAM), the DeLone and McLean Information Systems Success Model, Diffusion of Innovations, Theory of Planned Behavior, Theory of Reasoned Action, and Agency Theory.

2.4 1 Technology Acceptance Model (TAM)

The TAM introduced by Davis, Bagozzi, and Warshaw (1989) serves as a foundational guideline in information systems research set up to predict and explain the acceptance of new technology by individuals. The basic proposition guiding TAM maintains that a person's attitude toward use of technology is determined by his/her perception of usefulness and user friendly. Perceive ease of use is how much effort people believe using technology will provide, affecting their likelihood to adopt and use it. These perceptions mediate the probability of adoption of innovative systems and mediate actual utilization of technology.

TAM has been employed and extended in many fields to explain user behavior when using technological tools. Its strengths come from the very least number of variables and the strong empirical evidence demonstrated by using the model in different organizational and cultural settings. Explanations provided on the basis of TAM have been expanded to include concepts such as experience, social influence, or facilitating conditions, among other factors deemed relevant, to form a broader model describing technology adoption. It thus further enriches our understanding of why professionals embrace or resist new technology in fast-paced environments such as accounting and audit.

TAM allows one to analyze auditors' perceptions of IT and its uses in audit contexts such as ERP systems, data analytic platforms, and computer-assisted audit techniques (CAATs). We would expect auditors to be more willing to work with these new innovations in audit work if there is a high degree of perceived usefulness: that is, if they believe that the technology will reduce work and increase work efficiency, and perceived ease of use: that is, if they think that using the technology itself is not complicated and takes less time to learn. The more widespread use of IT can help improve the early-stage identification of irregularities in audits and risk assessment, along with more timely and accurate reporting-a vital factor for ensuring the quality of audits. Understanding auditor perceptions of IT using TAM can enable organizations in Zimbabwe-whether faced by lack of resources or technology-to artfully circumvent barriers to IT adoption via targeted training, system design improvements, and organizational support.

2.4.2 The DeLone and McLean Information Systems Success Model

Developed in 1992, the DeLone and McLean Information Systems (IS) Success Model is the most favored layout to assess information system effectiveness in organizations. The model has identified six IS success dimensions: system quality, information quality, use, user satisfaction, individual impact, and organizational impact. A primary strength of this model is that it takes into account many aspects of IS success, analyzing not just technical system attributes but also user experience and organizational outcomes. Research based on this model includes domains like enterprise systems, healthcare, and e-commerce, testifying to its more classical approach to IS diagnosis and providing areas for remedial action.

More strikingly, this model serves the higher purpose of assisting audit processes that deal with enhancing audit quality and through organizational processes, IS systems, and IS services. System and information quality have access to trustable data that are timely, good enough, and used to make decisions. Service quality means the system and support operations shall be efficient. User satisfaction is the root of achieving audit quality among auditors who use such information technologies, as higher satisfaction will lead to higher

frequency of system use. Such use of the system consists of assessing the risk much more deeply and enhancing the correctness and confirmability of audit results, which, therefore, stain the improvement of audit quality.

2.4.3 Diffusion of Innovations Theory

Going back to the two pioneers, Jobs and Smith (1962) suggested that social systems cannot move forward with the acceptance of new technology and new ideas. The theory considers the structure of social systems in regard to the innovation, the time it takes for such an innovation to spread, and how different social influences of interpersonal networks or group dynamics and the novelty of an invention may affect its adoption. According to Rogers, society could be categorized into five groups of adopters on the basis of their acceptance of new technology: innovators who are the first to embrace new ideas; early adopters; early majority; late majority; and laggards, who are more resistant or cautious of accepting innovations.

The speed of adoption can be influenced by some attributes, such as relative advantage, compatibility, complexity, trialability, and observability of the new technology to the member of the society. Applying the DOI theory to auditing shows how rapidly advancing emerging technologies will aid in further elevation of audit efficiency, accuracy, and risk management, especially when considering AI or blockchain.

2.4.4 Theory of Planned Behavior (TPB)

Ajen's 1991 presentation of principle clarifies how the intentions and behaviors of auditors influence the caliber of their output. According to TPB, a person's behavior is maintained by personal emotions about the behavior, the social pressures they experience, and belief in their capacity to execute the behavior. Therefore, the commitment of an auditor to do high-quality audits is determined by their favorable perception of ethical values, the expectations from colleagues and regulatory authorities, and their self-assurance in their auditing skills combined. Positively feeling about their work, under external pressure to perform well, and confident in their abilities causes an auditor to be

more likely to be professionally skeptical, follow policies, and reduce audit risks, therefore improving the audit quality.

2.4.5 Theory of Reasoned Actions (TRA)

Built by Fishbein (1979), the theory started in social psychology, a field of study specialized in Theory of Planned Behavior (TPB). In order to specify the link among personal beliefs, attitude, norm, intention, and behavior (Fishbein, 1979). The notion holds that a person's behavior will inevitably be carried out according to their behavioral goal. The attitudes and subjective standards of the individual planning the behavior indicate the goal. Subjective norm explains the his or her estimate which most individuals who are important to him tend to agree or disagree about acting in specific circumstances (Hale, Householder, & Greene, 2002).

Applied in auditing, the theory helps grasp how auditors' attitudes toward new auditing practices, the influence of colleagues or regulatory standards (subjective norms), and their confidence in their ability to perform audits effectively (perceived behavioral control) impact the quality of audits they produce. Auditors are more inclined to act in ways that raise audit quality when they feel that using modern technologies or following strict standards enhances audit results and when they have the means and support to properly use these practices. Understanding these elements allows companies to create an environment that motivates auditors to regularly adopt best practices, therefore producing more accurate, dependable audits.

2.6 Empirical Literature Review

2.6.1 The Impact of Big data analytics on Audit Quality

Al Lawati, Sanad, and Al Farsi (2024) studied how big data analytics affect audit quality in Oman. The annual reports from financial companies listed in Muscat Stock Exchange between 2014 and 2020 were content-analyzed to determine the level of big data analytics disclosure. Panel data regression and ordinary least squares were used to test the

correlation between audit quality and disclosure levels. The findings confirmed that big data analytics disclosure significantly enhances audit quality of Omani financial companies. The authors thus advised audit firms to educate their clients on the relevant regulations affecting such disclosures in annual reports to improve the credibility and validity of financial statements, thereby enhancing audit quality.

2.6.2 The Effect of Artificial Intelligence on Audit Quality

The study by Wadesango and Nyakurera (2020) explored the effects of computer-assisted auditing techniques and tools (CAATTs) on the auditing processes in Romania. A quantitative approach was adopted, with answers to a questionnaire supplied by 20 respondents being analyzed with SPSS version 12 and graphically and tabularly presented. The findings suggest that CAATTs assist in the automatic execution of audit tasks to enable auditors in examining accounting data electronically in cases where manual analysis is not feasible. The study further highlighted that, with an increase in companies investing in high-end technologies, auditors will also have to upgrade their skills to provide an effective and efficient auditing service in a dynamic business context. Another highlight was that the study indicated a limited use of modern innovations such as artificial intelligence, blockchain, and cloud computing in Zimbabwe at the moment but predicts a rapid adoption shortly, which causes a requirement for auditors to change.

Alaba and Ghanoum (2020) conducted a qualitative study in Sweden examining adoption of AI in auditing. Semi-structured interviews with auditors from firms using AI-based audit technologies informed their deductive approach, providing strong evidence that AI systems improve professional standards and the effectiveness of audits at every stage of the process. This is paramount considering that data have increased exponentially and data processing capabilities need to be enhanced to sustain audit integrity. The study concluded that AI-aided auditing systems are more effective than traditional systems; however, to derive full benefits from AI, auditors should be technically proficient with AI tools and possess a high degree of professional skepticism. Consequently, this contributed

to restructuring the original research framework towards emphasizing auditor IT competence in conjunction with classical auditing skills.

Saad (2022) studied the influence of AI on the auditing profession in Egypt, with a focus on how AI supports complex audit tasks, augments audit quality, and enhances auditor proficiency. The study managed to get 118 usable responses from 135 questionnaires distributed to auditors in the State of Palestine. The results showed statistically significant positive linkages between Ai use and increased auditor performance (R^2 = 87.1%), increased ability to handle demanding audit tasks (R^2 = 91.4%), and increased audit effectiveness (R^2 = 87.4%).

Noordin, Hussainey, and Hayek (2022) explore the perspectives among UAE external auditors regarding AI and its potential to develop audit quality. The study compared perceptions of local and foreign audit firms through an internet-based survey involving senior auditors, partners, and audit managers from 22 local and 41 global firms. Analysis yielded a non-significant difference between the views of local and foreign auditors regarding the contribution of AI to audit quality.

Rahman, Zhu, and Yue (2024) explored AI adoption by audit firms and their clients in China for audit quality and timeliness using data from 2011 to 2020. Audit success was assessed through audit report lag and the frequency of restated annual reports. Utilizing propensity score matching and two-stage ordinary least squares regression to deal with complexity, results from the analysis imply that audit reports would lag longer where AI is used by just the audit firm or just the client. However, the overall audit process would be shortened through an earlier audit report when both parties apply AI jointly. The study also suggested there existed mediation of prolonged audit efforts in the connection between AI usage and audit quality.

According to Qader and Cek (2024) measured the influence of AI on audit quality in Turkish firms from primary data collected form 300 randomly selected participants. Using PLS-SEM in analyzing the relationship between the variables, their observations

indicated that AI facilitates the smooth running of audit processes and fraud detection, thereby enhancing the quality of financial reports. The research concludes with assertion that AI positively influences regulators, corporations, investors, and government agencies by fostering trust in the financial system and better governance. Reliable financial statements produced by AI help investors in making investment decisions while policymakers, on the other hand, will be assisted through better regulatory framework.

2.6.3 The Nexus Between Blockchain Technology and Audit Quality

Bonsón and Bednárová (2019) attempted to understand blockchain technology and its disruptive potential for accounting, by providing a thorough review of existing literature on blockchain and presenting the technical and non-technical challenges that have to be faced before its full adoption. Some of the major challenges include cybersecurity, scalability, adaptability, and design issues. Importantly, the authors stressed the urgent need for auditors, regulators, and other stakeholders to agree on how blockchain could be properly used in actual accounting practice to better the quality of information available.

With the rising prominence of BC and IoT, Wu, Xiong, and Li (2019) proposed two blockchain-IoT transaction models for application to accounting. These models facilitate the automatic collection, uploading, and recording of business transaction data when certain conditions occur, all without human intervention. This data recorded onto distributed ledgers cannot be changed. This innovation generates event data that supports event-based accounting theory by allowing accounting information to be realized in real time on demand. The study confirmed that blockchain technology might seriously enhance the relevance, accuracy, timeliness, and comparability of accounting information.

Jie Wang and Cheng (2020) evaluate data transparency in state-owned enterprises based on the decentralized and immutable nature of blockchain technology to improve the effectiveness of audit processes and detect covert corruption at an early stage. The results

show that information transparency correlated negatively with executive impact, with greater power equating to less oversight and, consequently, a risk of hidden corruption. They, hence, suggested the application of blockchain technology to enhance audit precision, efficiency, and diminution of audit risk, thereby preventing executive misbehavior in these enterprises.

Jumah and Li (2020) looked into auditors´ acceptance of blockchain technology (BC), given that expected to revolutionize auditing. First, they assessed auditors´ knowledge of blockchain and accounting software; and their understanding of auditing fundamentals, which all positively influenced BC adoption. Then, they explored auditors´ sampling decisions based on materiality; and professional skepticism (PS), defined as a skeptical mindset in evaluating evidence. Results showed that higher levels of materiality and PS decreased the chances of BC adoption. The evidence collected from both internal and external auditors could serve in the identification of the key factors affecting BC use and in guiding subsequent research and implementation efforts.

Ferri, Spanò, Ginesti, and Theodosopoulos (2021) looked at the willingness of Italian auditors, and in particular those of Big Four firms, to pick up and embrace "disruptive" technologies such as blockchain. Combining the UTAUT framework with the TAS3 version 3, the research applied structural equation modeling to respondents' data obtained through a Likert-scale questionnaire. The study found that the perception of great performance for blockchain and social influence are the main factors driving general enforcement by the auditors. Also found to have a strong influence on the acceptance of blockchain is its perception as being easy to use.

Sujanto, Lindawati, Zulkarnain, and Liawatimena (2021) studied auditor perceptions of new technologies, including blockchain and computer-assisted audit techniques (CAATs), within Big Four accounting firms in Jakarta. Employing a quantitative design, questionnaires were distributed to sixty purposively sampled auditors. Through SmartPLS

3.0 and IBM SPSS 26 analyses, positive perceptions of blockchain implementation were found to have a significant positive effect on audit quality, whereas opinions on CAATs did not declare a substantial influence on audit quality.

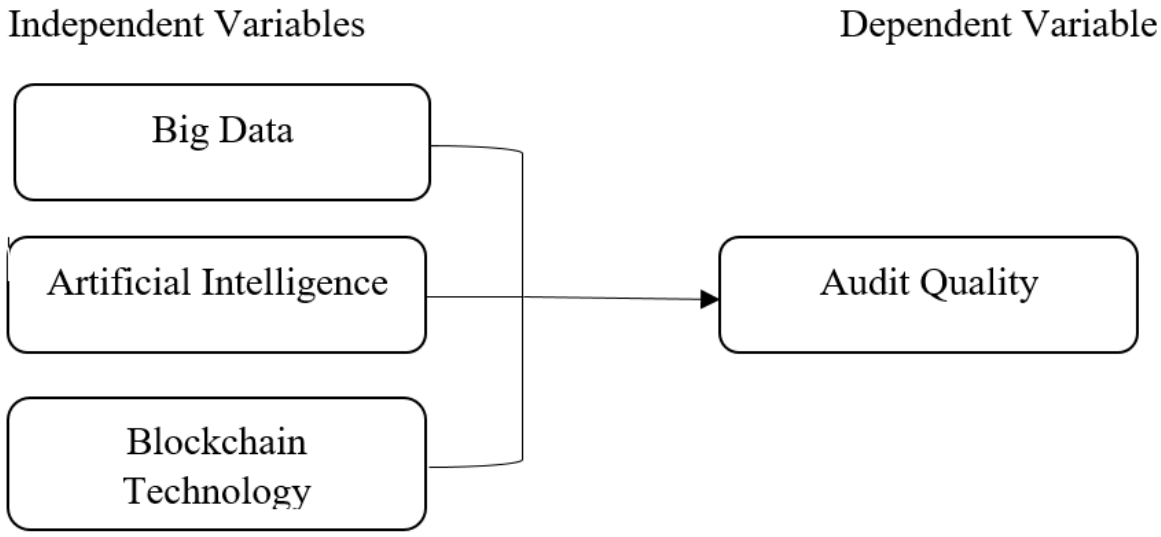
2.7 Research Gap

Previous research has thus far tended to focus on understanding the benefits of information technology (IT). This study, therefore, expands on the literature by focusing on perceptions of quality in respect to external audit and IT. Since most studies conducted are in developed economies, there exists a large gap in understanding interaction of information innovation and auditing in Zimbabwe. Moreover, there appears to be very little research into whether the peculiar economic, regulatory, and cultural factors in Zimbabwe may affect the effective adoption of IT in auditing.

2.8 Conceptual Framework

Firstly, conceptual framework was defined by Hennink et al. (2020), as an ensemble of key ideas and theories that assist the researchers in formulating research questions, selecting appropriate data, and delineating the problem with which one is engaged. On the contrary, Young and Freytag (2021) stress that a conceptual framework illustrates the theoretical linkage among dependent and independent variables. The present research, therefore, conceptualizes a framework that explores the influence of information technology on audit quality in Zimbabwe. Information technology is hence an independent variable, while audit quality is put on the other side as a dependent variable, as shown in Figure 2.1.

Figure 2.1: Conceptual Framework



[Source: Researcher's Computations 2025]

2.8.1 Big data analytics

Firstly, smart information metrics are defined as the process of exterminating of huge volumes and complex datasets-so structured, unstructured, and sometimes semi-structured-larger than what typical data management systems can store, process, and analyze effectively (Jin Wang et al., 2020). Big data due to the sheer quantity, rapid generation, and heterogeneity have had to usher in novel analytics technologies that ensure the efficient collection, processing, and analysis of these rapidly growing volumes of information to maximum value may be extracted by firms.

Machine learning, predictive modeling, and all other types of advanced analytic methods should always constitute the big data analytics toolset to help solve difficult business problems and aid in making decisions. The opposite side of this is that any company, big or small, now has the power to drill deep into vast datasets to extract hidden insights about the unknown order of emerging trends and understand customers and internal operations better, which ultimately helps with forecasting and resource allocation and

facilitates the process of coming up with innovative solutions to operational efficiency, operational advantage, and strategic outcomes..

2.8.2 Artificial Intelligence

The AI is defined as ability of computers to think and learn like humans. Additionally, they assist in problem solving, making decisions and to implement the new information in our daily lives (Ertel, 2024). AI is a field in computer science concerned with designing and studying algorithms and software so that machines can comprehend their surroundings and use learning and reasoning to achieve specific goals.

There are many significant applications of AI pointed out by Ertel (2024): advanced internet search systems like Google; recommendation systems that motivate users from YouTube, Amazon, and Netflix; SMPs such as Google Assistant, Siri, and Alexa; Waymo-headed driverless cars; creative and generative tools like ChatGPT; AI art generators; and strategic games where AI exhibits deep analytical suspicion, above chess and Go. Interestingly, the much-used AI applications are no longer considered AI by users-the familiar and ubiquitous tend to make the association with the term artificial intelligence wither away.

2.8.3 Blockchain Technology

Blockchain technology, according to Habib et al. (2022), is a complicated database system that easily allows companies to clearly exchange data with one another. Data in this type of database is arranged in chains of linked blocks. The chronological integrity of the data is maintained since any modifications or deletions to the chain need consent from the full network (Attaran, 2022). Blockchain technology can thus be applied to produce a permanent, unchangeable record of orders, payments, accounts, and other transactions. The system includes built-in protections that prevent illegal transaction entries and guarantee that everyone interprets these transactions consistently.

Conventional database technologies present several limitations when it comes to recording financial transactions(Attaran, 2022) . To illustrate, consider a property sale.

Upon the exchange of funds, the property's ownership transfers to the buyer. While both the buyer and seller can independently document the financial transaction, neither record can be considered inherently trustworthy. The seller could falsely deny receiving payment despite having done so, and conversely, the buyer could falsely claim payment even if they haven't.

2.8.4 Audit Quality

Auditing is essentially an on-location verification process, which can involve inspection or examination, conducted on a process or quality system to confirm adherence to specified requirements. An audit's scope can encompass an entire organization or focus on a particular function, process, or stage of production. Certain audits serve specific administrative purposes, such as reviewing documents, assessing risk or performance, or verifying the completion of corrective actions.

The matter of audit quality has consistently been a central concern for auditors. Conducting a high-quality audit implies a reduction in audit risk and a decreased probability of the audit firm issuing an unsuitable audit opinion. Nevertheless, regular assessments by regulatory bodies of the work executed by audit firms frequently reveal that audits are not always of the desired high standard, although in the audit firm's own best interest. The aim of this article is to offer some understanding into the reasons why audit firms occasionally compromise audit quality, providing examples of how this occurs and the ramifications of sacrificing audit quality for the profession as a whole. Audit quality is measured by auditors' tenure, audit fee and client size.

2.9 Big data analytics and Audit Quality

Firstly, to increase audit quality, audit firms should develop the processes for conducting audits such as by utilizing information metrics and other cutting-edge innovations (Al Lawati et al., 2024). Abdelwahed et al. (2025) maintain that data metrics allow auditors to get an overall picture of financial reporting processes, thus making for stronger audits and delivering more value to society. Big data analytics tools improve the auditing process by detecting strong patterns that smaller data sets may overlook, providing greater chances to detect fraud, error, and unusual anomalies, and questioning traditional audit sampling

process (Salijeni, Samsonova-Taddei, & Turley, 2019; Jin Wang et al., 2020). There are so many examples of audits that are componentized as being time-consuming and costly; Appelbaum, Kogan, and Vasarhelyi (2017) state there are also numerous instances where audits are inefficiently done. The enforcement of technological solutions such as algorithms and smart information metrics may allow auditors to lessen time exerted on routine tasks and increase effort on complex analyses that require more professional judgment. The advent of technology in data analysis has not only automated a lot of the manual procedures that needed to be carried out before, but also enhanced application areas of big data analytics by auditors, thereby helping rebalance the human involvement in auditing, and subsequently enhancing overall audit quality.

2.10 Artificial Intelligence and Audit Quality

Numerous studies demonstrate how artificial intelligence (AI) can benefit economics and finance, particularly by uncovering fraud and enhancing audit quality (Noordin et al., 2022). Two AI technologies that improve auditors' ability to analyze data and increase the efficacy and audit efficiency are machine learning and data mining. AI reduces errors and frees up auditors to work on more challenging tasks by handling tedious tasks like data entry, validation, and documentation (Heydon et al., 2021). In addition to increasing accuracy and efficiency, this automation frees up auditors to work on more crucial assignments. According to Alaba and Ghanoum (2020), AI also enables continuous audits and real-time hazard detection. This reduces the amount of information that is not accessible to everyone by making it simpler for auditors to identify and address new issues.

Additionally, AI aids in more precise risk assessments and the prediction of potential audit hazards, which facilitates audit planning and resource allocation (Qader & Cek, 2024). Real-time information and recommendations are provided by AI-powered decision support systems to auditors, assisting them in making better decisions and raising the overall standard of the audit. All things considered, artificial intelligence (AI) have capacity to significantly enhance audit quality through improved analysis, task automation, ongoing monitoring, risk assessment, and decision-making support (Shazly, AbdElAlim, & Zakaria, 2025). To completely comprehend these advantages and address

the issues that accompany them, however, more study and practical application are required.

2.11 Blockchain Technology and Audit Quality

Financial statements are based on transaction records, which are thoroughly examined at the start of the audit process. This step is generally regarded as extensive and hard (Dai, He, & Yu, 2019). To minimize their capital cost, firms that grow and need outside funding must create confidence with capital providers, such as lenders and investors. These providers use financial data to figure out how healthy the company is financially and how safe their investment is. Auditors must follow established auditing standards and take due care and diligence to make sure that the company's financial statements follow accounting principles, accurately reflect its financial position, and that it has a good internal control system (Cagle, 2020).

Therefore, auditors could benefit from using Blockchain technology. According to Qader and Cek (2024), blockchain's data reliability, transparency, and speed can greatly enhance auditing by increasing the effectiveness of monitoring and control. Blockchain's real-time audit trails free up auditors' time to focus on important tasks like assessing internal controls rather than confirming the legitimacy of transactions. Blockchain can also expedite conventional auditing processes. For instance, auditors can act on the feedback they receive and promptly forward documents for verification. By fortifying the audit trail with a network of databases that automatically synchronize and correct discrepancies, guaranteed continuity, the decentralized nature of blockchain also aids in the detection or prevention of fraudulent financial reporting (Bonsón and Bednárová, 2019).

Qader and Cek (2024) conducted a study concerning the barriers faced by businesses in the tourism industry of the Gulf Cooperation Council (GCC) countries while adopting blockchain technology. Through their study of about 38 analysts, senior managers, experts, and professionals, they identified cultural difficulties, doubts about financial feasibility, and an ambiguous legal framework as the main hurdles in the enforcement of blockchain innovations in GCC region. The study is highly useful in clarifying specific

issues hampering project implementation of blockchain innovtions by entities in these countries.

2.12 Chapter Summary

In this chapter, the theoretical and empirical literature studies were presented. Also, conceptual framework was outlined, and the research gap was identified. The following chapter deals with the methodology applied in the study.

CHAPTER III

METHODOLOGY

3.1 Introduction

According to Hennink et al. (2020), research methodology is the combination of theoretical framework, data collection techniques, and analytical approaches that together provide the groundwork for the technological investigation of subjectivity. Research design, data sources, sample procedures, and data collection techniques used to obtain information are all covered in this chapter, along with their validity and reliability. The methods and limitations of the methodology are also addressed.

3.1 Research Design

A research design is a framework that outlines the strategy for carrying out an investigation or a study plan according to the specific requirements of the methodology. Its numerous directional markers guarantee the most effective navigation (Hennink et al., 2020). Descriptive research methodology, according to Cresswell (2013), is a good way to measure current attitudes or practices and offers timely information. According to Bhattacherjee (2012), this method measures multiple research factors using a single questionnaire. A sample of the population or the entire population can be given such a questionnaire. The study employed was descriptive research design.

3.2 Research Philosophy

A philosophical stance is that set of beliefs acting as a basis for proofs or inquiry under assumptions of reality and knowledge. Creswell (2013) observes that paradigms including positivism, interpretivism, constructivism, and pragmatism mediate how knowledge is perceived and interpreted. They are, in essence, varied views on how people perceive and engage with the world.

The research philosophy used in this study was positivism. Cresswell (2013) asserts that only factual and verifiable data should be used to inform theories and conclusions because true knowledge is derived from observable phenomena. This school of thought supports a methodical approach to research that emphasizes experimentation and observation, rejecting metaphysical conjecture in favor of quantitative techniques. Positivists hold that objective understanding and prediction are made possible by the discovery of universal laws governing social phenomena and human behavior through the application of scientific methodologies.

Given that it examines the relationships between variables, tests hypotheses, and draws conclusions that can be applied broadly from empirical data, positivism as a research philosophy is justified in this study. According to Troje and Andersson (2021), positivism places a strong emphasis on the value of objective observation and measurement, which enables researchers to generate quantifiable outcomes that can be subjected to statistical analysis. Also, in the social sciences, where precise, empirical data can direct policy formation and decision-making, this method is especially helpful. Furthermore, positivism makes it easier to employ structured methodologies that improve the validity and reliability of results, like experiments and questionnaire surveys. The researcher reduced subjectivity and bias by concentrating on observable phenomena, which produced stronger findings.

3.3 Research Approach

The methods used by researchers to analyze their issues and collect information are known as research approaches (Hennink et al., 2020). Mixed techniques, qualitative methods, and quantitative methods are three primary research approaches that distinguish themselves from one another. Analyzing and comprehending complicated events through in-depth investigation is the primary objective of qualitative research. This type of study frequently uses focus groups, interviews, and observations to collect detailed and comprehensive data. The findings of Hennink et al. (2020) demonstrate how beneficial this method is for comprehending the subjects' viewpoints, experiences, and motivations. To find patterns, test theories, and establish a connection between variables, quantitative research places greater emphasis on gathering and analyzing numerical information than qualitative research. The majority of time, it uses systematic procedures like experiments and surveys, which aid statistical analysis in producing objective results. Through the use of mixed methods, which combine aspects of qualitative and quantitative research techniques, one can obtain a comprehensive understanding of subjects being investigated by combining contextual insights with numerical data.

Because it can yield results that are objective, reliable, and broadly applicable, the quantitative research method was used for this investigation. Given that the researcher looked at the relationship between variables or investigated specific hypotheses, this approach turned out to be quite beneficial. This made using thorough statistical analysis and systematic data collection easier.

3.4 Study Population

Leseiyo and Ngui (2019) defined the "target population" as a complete set of episodes, people, or goods that have similar characteristics and from which a author conducts an analysis and make inferences.. According to researcher, the demographic of interest consisted of workers employed by the ten accounting firms located in Harare. Audit

Assistants, Audit Seniors/Managers, and Partners are the people who fall under this category specifically. Table 3.1 provides a summary of the information regarding the whole population.

Table 3.1: Target Population

Firm	**Population**
BDO Zimbabwe Chartered Accountants	25
KPMG Zimbabwe	28
Grant Thornton	19
Delta Chartered Accountants	14
Office of the Auditor General	35
Ernst & Young	17
Moore NPA Zimbabwe	16
Cardinal Chartered Accountants	14
Rockstone Chartered Accountants	18
Sahel Chartered Certified Public Auditors	22
Total	208

[Source: Author's Computations (2025)]

3.5 Sampling Techniques and Sample Size

Sampling is the method of choosing an element from the target population in such a way that the chosen elements represent the entire focus group appropriately (Flick, 2015). According to Creswell (2013), sampling allows a researcher to understand the population at large by studying a smaller set that represents the population adequately. The study employed the stratified random sampling method, which, according to Hennink et al. (2020), allows the proportional representation of all subgroups and an equal chance for any individual in these subgroups to be chosen. Accordingly, the researcher distributed the questionnaire at random to members of each subgroup in accordance with the sample size. The calculation for sample size, based on population figures given in Table 3.2, was done according to the formula formulated by Krejcie and Morgan (1970).

Table 3.2: Krejcie and Morgan Table

Table for Determining Sample Size of a Known Population

N	S	N	S	N	S	N	S	N	S
10	10	100	80	280	162	800	260	2800	338
15	14	110	86	290	165	850	265	3000	341
20	19	120	92	300	169	900	269	3500	346
25	24	130	97	320	175	950	274	4000	351
30	28	140	103	340	181	1000	278	4500	354
35	32	150	108	360	186	1100	285	5000	357
40	36	160	113	380	191	1200	291	6000	361
45	40	170	118	400	196	1300	297	7000	364
50	44	180	123	420	201	1400	302	8000	367
55	48	190	127	440	205	1500	306	9000	368
60	52	200	132	460	210	1600	310	10000	370
65	56	210	136	480	214	1700	313	15000	375
70	59	220	140	500	217	1800	317	20000	377
75	63	230	144	550	226	1900	320	30000	379
80	66	240	148	600	234	2000	322	40000	380
85	70	250	152	650	242	2200	327	50000	381
90	73	260	155	700	248	2400	331	75000	382
95	76	270	159	750	254	2600	335	1000000	384

Note: N is Population Size; S is Sample Size *Source: Krejcie & Morgan, 1970*

[Source: Krejcie and Morgan (1970)]

Krejcie and Morgan (1970) state that the user must take into account the next highest value if the precise population size is not specified. Given that the focus group in this investigation was 208, the sample size had to be at least 136. Table 3.3 shows the sample's proportional size.

Table 3.3: Proportional Size of the sample

Firm	**Population**	**Sample Size**
BDO Zimbabwe Chartered Accountants	25	16
KPMG Zimbabwe	28	18
Grant Thornton	19	13

Delta Chartered Accountants	14	9
Office of the Auditor General	35	23
Ernst & Young	17	12
Moore NPA Zimbabwe	16	10
Cardinal Chartered Accountants	14	9
Rockstone Chartered Accountants	18	12
Sahel Chartered Certified Public Auditors	22	14
Total	208	136

[Source: Authors calculation (2025])

3.6 Study Area

The research was conducted in City of Harare in Zimbabwe. The reason for choosing this area was because of convenience in data collection since that is where major accounting firms are headquartered.

3.7 Data Sources

Data sources denote the provenance of the data utilized for research (Cresswell, 2013). Primary and secondary data constitute the two principal sources of information. Primary information refers to firsthand information collected directly by the writer from the original source, whereas secondary data consists of information acquired by institutions or agencies from primary sources. Secondary data does not furnish researchers with direct quantitative information pertinent to the study and mostly analyzes and elucidates original sources (Hennink et al., 2020). The researcher employed primary data sources to enhance comprehension of the topic matter being examined. The use of primary information sources were warranted which enables the author to regulate the quality of the acquired data, with the inquiries designed to elicit information directly pertinent to the research issue.

3.8 Research Instruments

These pertain to the instruments employed for data collecting in the study process (Towo & Jonasi, 2022). Various forms of data collecting instruments encompass interviews, questionnaires, surveys, and observations. This research employed questionnaires with closed-ended questions as the data gathering instrument. The rationale for selecting questionnaires as a data collection method was their provision of ample time for respondents to formulate answers, hence facilitating more precise responses. The researcher developed the questionnaire, which was administered in English.

3.8.1 Questionnaires

Dangaiso et al. (2024) have asserted that a questionnaire is a carefully prepared list of questions put forth in a standardized manner simultaneously to a group of people so as to elicit information pertinent to the researcher´s topic of interest. Questionnaires were distributed online for this particular study. Participants were asked to respond to both closed and open-ended questions in relation to the study objectives. The questionnaires were completed by the respondents themselves. Closed-ended questions were used to establish a structured dataset beneficial for efficient statistics analysis. This was preferably chosen because of the ease of the method, especially when engaging with a large population.

3.8.2 Questionnaire Design

The questionnaires administered were made up of various sections, including the introductory letter and the consent forms. The introductory letter provided by the researcher to the respondents contained a guarantee that any information they provided would be handled in a confidential manner. Consent forms were also issued to ensure that

everyone who participates in the study has given full consent to be part of the study. Discussed below are the benefits of using questionnaires as well as the drawbacks

Advantages

Questionnaires are considered objective because they collect responses in a standardized way. Respondents are often willing to share necessary information due to the anonymity offered. This method ensures uniformity, as the same set of questions are presented to all respondents, making the answers comparable. In addition, questionnaires are flexible, as respondents can complete them at their convenience and in their preferred location.

Disadvantages

When the researcher administered the questionnaire electronically, there was no direct interaction with the respondents. As a result, the researcher was not available to provide clarification if respondents had difficulty understanding some questions. This sometimes resulted in some questions being left unanswered.

3.9 Data Collection Procedures

To ensure inclusiveness of all potential respondents, the questionnaire was send to the Partners of the respective institution, who then randomly send them to respondents according to the size of the sample. Since the questionnaire was designed on Google Docs, responses were instantaneously recorded.

3.10 Data Presentation and Analysis

According to Creswell (2013), data analysis from an operational perspective is defined as organizing and interpreting data into themes and presenting these themes through tables, charts, or figures. Because of the study's quantitative nature, analysis methods from both descriptive and inferential statistics were employed for the data analysis. Findings were depicted with the assistance of tables, graphs, pie charts, and multiple regression analyses. The demographic characteristics of the respondents was summarized by descriptive statistics, on the other hand, were used to test hypotheses and verify relationships. IBM SPSS Statistics version 21 was used for analyzing the data set, which provides a wide range of choices for regression modeling.

3.11 Validity and Reliability

The validity, according to Yin et al. (2017), is concerned with whether or not the measurements adequately represent the concepts the researcher is really interested in studying. Internal validity is ensured through consultation with the supervisor at various stages throughout the research process. External validity was achieved by the selection of respondents who were from various institutions and represented different procurement stakeholders. Reliability is said to be the ability of an instrument to produce results series when it is applied again and again to the same subject (Hennink et al., 2020). In keeping with reliability, a pilot study was performed, whereby the methods of data collection were reviewed and refined where necessary to ensure the instrument produced consistent results from different respondents.

3.12 Ethical Considerations

Morality and the principle of voluntary participation were upheld by providing participants in the study with the opportunity to choose whether or not to take part in the research in a manner that was fair. We did not collect any information regarding the identities of the participants in any way, as we wanted to ensure that their privacy was protected. All of the participants were well-informed, which enabled them to make decisions that were intelligent.

3.13 Chapter Summary

This research adopts a positivist philosophy; hence the methodology used is quantitative. Primary data have been collected using questionnaires which were distributed to selected respondents from the target firms. The following chapter presents the data, analyzes the observations, and discusses the results.

CHAPTER IV

DATA PRESENTATION, ANALYSIS AND DISCUSSION OF FINDINGS

4.0 Introduction

This chapter will analyzes and discusses the observations of the investigation. A descriptive as well as an inferential analysis is provided, with the big data analytics, artificial intelligence, and blockchain technology being the independent variables, and audit quality being the dependent variable.

4.1 Response Rate

Table 4.1: Response Rate

Questionnaires	Frequency	Percentage
Administered	136	100
Returned	103	76
Not Returned	33	24

[Source: Primary Data.]

In the view of Saunders et al. (2016), the response rate is worked out by dividing the number of completed questionnaires by the total number of surveys set out for respondents and multiplying by 100. In this particular research, 136 questionnaires were circulated, and 103 valid responses were obtained; hence the response rate was 76%. According to Hennink et al. (2020), 50% response rate is considered to be acceptable,

while anything over 70% is excellent. The response rate recorded in this particular study falls comfortably within the acceptable limits, as shown in Table 4.1.

4.2 Demographic Analysis

4.2.1 Gender Distribution of Respondents

Table 4.2: Demographic Analysis

Gender

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Female	53	51.5	51.5	51.5
	Male	50	48.5	48.5	100.0
	Total	103	100.0	100.0	

[Source: Primary Data]

As shown in table 4.2, 51.5% of the respondents were female, while 48.5% were male. This slight majority suggests a nearly balanced gender representation among participants, which could contribute to reducing potential gender bias in the findings. The cumulative percentage confirms that all 103 participants were accounted for, ensuring data completeness.

4.2.2 Age Distribution

Table 4.3: age distribution

Age

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Below 20	4	3.9	3.9	3.9
	20-30 years	26	25.2	25.2	29.1

	31-40 years	50	48.5	48.5	77.7
	41-50	20	19.4	19.4	97.1
	Above 50	3	2.9	2.9	100.0
	Total	103	100.0	100.0	

[Source: Primary Data]

The ages of respondents ranged from those younger than 20 years (3.9%) to those between 20 and 30 years (25.2%). An overwhelming majority of participants, however, 48.5%, fell within the 31- to 40-year age band. A minimal share, 2.9%, belonged to the categories above 50, with just three individuals being qualified to claim this age group.

4.2.3 Educational Level

Table 4.4: Educational Level

Educational Level

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Secondary	5	4.9	4.9	4.9
	Professional	17	16.5	16.5	21.4
	Undergraduate	45	43.7	43.7	65.0
	Postgraduate	36	35.0	35.0	100.0
	Total	103	100.0	100.0	

[Source: Primary Data]

As shown in table 4.4, there were only 5 (4.9%) participants with secondary education as their highest qualification. This is justifiable since the majority of workers in audit firms take the university route before start working. The 5 may have come straight from high school to start going through articles so as to qualify to be Chartered Accountants. Those who hold professional qualifications (CIMA, ACCA, CGI etc) constituted 16.5% of the participants. The highest proportion of respondents (43.7%) are holder of undergraduate degrees and those with postgraduate qualifications constituted 35% of the respondents.

4.2.4 Industry Experience

Table 4.5: Industry Experience

Industry Experience

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Below 5 Years	27	26.2	26.2	26.2
	5-10 years	38	36.9	36.9	63.1
	Above 10 years	38	36.9	36.9	100.0
	Total	103	100.0	100.0	

[Source: Primary Data]

The table above shows information that the study sample constituted of well experienced professionals. The majority of respondents (73.8%) have 5 years and above of industry experience. This signifies that the data collected may be a true reflection of the phenomenon under study. Only 26.2% have industry experience below 5 years.

4.2.5 Job Position

Table 4.6: Job Position

Job Position

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Audit Assistant	47	45.6	45.6	45.6
	Audit Senior/Manager	48	46.6	46.6	92.2
	Partner	8	7.8	7.8	100.0
	Total	103	100.0	100.0	

[Source: Primary Data]

The data in table 4.6 reveals that only 7.8% of the respondents were partners. Also, most of the respondents were either audit assistants of audit seniors/managers. The researcher expected such a distribution since assistants and seniors/managers are the ones who are hands-on in audit processes and have the much-needed experiences which are beneficial in this study.

4.3 Descriptive Statistics

Table 4.7: Descriptive Statistics

Descriptive Statistics

	N	Mean	Std. Deviation	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
BD	103	4.1903	.53386	-1.193	.238	4.121	.472
AI	103	4.3767	.52897	-1.586	.238	4.253	.472
BT	103	4.3126	.46499	-1.679	.238	6.166	.472
AQ	103	4.3825	.54521	-1.223	.238	5.162	.472
Valid N (listwise)	103						

BD: Big data analytics
AI: Artificial Intelligence
BT: Blockchain Technology
AQ: Audit Quality
[Source: Primary Data]

Table 4.7 gives descriptive statistics regarding the mean values and the standard deviations for the central variables. All five-point Likert scales were used to measure these variables, and the means of the scores are presented in the table. The five items measuring Big Data Analytics recorded a high average of 4.1903, suggesting that the participants almost fully agreed with the statements. Participants agreed that BDA better

allocates tasks within audit teams, that auditors regularly use BDA to gather information on specific issues in audits, and that BDA allows for evidence to be gathered in a timely manner. Respondents also agreed that BDA increases the ability to audit large volumes of transactions and sample sizes while decreasing the cost of performing audits. Hence, 103 respondents gave their complete and valid responses, ensuring the reliability of data.

Regarding AI, there was strong agreement among respondents with the items presented to them, gaining an average score of 4.3767. In doing so, the items portray a consensus that AI improves audit quality by automating tasks and employing robotics in auditing and accounting processes; that it assists in comprehensive risk assessment; and that AI increases the reliability, accuracy, and speed of communication of audit reports. A fairly low standard deviation of 0.52897 reveals little variation in responses.

Likewise, for Blockchain Technology (BT), an average rating of 4.3126 was accorded to measurement items. Most respondents were in the position of strongly agreeing that BT provides for audit trail management, assures increased financial transparency, and aids in the detection of fraudulent acts during audits.

Lastly, regarding Audit Quality (AQ) post-IT adoption, participants rated the Likert scale average at 4.3825. Respondents were in agreement that they understand corporate information systems adequately before auditing and that audit plans are then drawn up to guide the system. Respondents agree that it is not always necessary to contact the internal auditors of the client and that every audit procedure is carefully assessed for quality control.

4.4 Kaiser-Meyer-Olkin (KMO)

The study employed Bartlett's Test of Sphericity (Bartlett, 1954) and the Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy to understand appropriateness of the data for factor analysis as shown in Table 4.8. A value approaching unity in KMO signifies sampling adequacy or reliability.

Table 4.8: KMO Table

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.924
Bartlett's Test of Sphericity	Approx. Chi-Square	631.457
	Df	15
	Sig.	0.000

[Source: Primary Data]

The findings in Table 4.8 show that factor analysis was capable of being performed on the dataset. The value given for the Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy was 0.924, indicating a sufficiently large sample for the present analysis. Bartlett's Test of Sphericity was significant, with an approximate Chi-Square of 631.457, degrees of freedom=15 and p-value=0.000. The answer to these series of tests confirmed that information obtained is suitable for factor analysis..

4.5 Factor Analysis

A Principal Component Analysis was implemented with a objective of ascertaining whether four assessments were well designed to measure the underlying constructs; observations are shown in Table 4.9.

Table 4.9: Factor Loading Table

Factor Loadings Table

Big data analytics	Component 1	Component 2
BD1	0.784	
BD2	0.824	
BD3	0.874	
BD4	0.862	
BD5	0.848	

[Source: Primary Data]

Artificial Intelligence	Component 1	Component 2
AI1		0.827
AI2		0.874
AI3		0.815
AI4		0.836
AI5		0.873

[Source: Primary Data]

Blockchain Technology	Component 1	Component 2

BT1	0.857	
BT2	0.785	
BT3	0.845	
BT4	0.787	
BT5	0.764	

[Source: Primary Data]

Audit Quality	Component 1	Component 2
AQ1		0.854
AQ2		0.795
AQ3		0.875
AQ4		0.818
AQ5		0.821

[Source: Primary Data]

The exploratory factor analysis revealed two main components, with distinct groupings of items reflecting different constructs. Component 1 was associated with BD and BT. Component 2 was related to AI and AQ. The analysis confirmed that most items were well-aligned with their intended constructs, demonstrating good validity for the measurement scales.

4.6 Reliability Test

Table 4.10: Reliability Test

Item	**Number of Scale**	**Cronbach's Alpha**

	Items	Coefficient
Big data analytics (BD)	5	0.901
Artificial Intelligence (AI)	5	0.848
Blockchain Technology (BT)	5	0.801
Audit Quality (AQ)	5	0.907

[Source: Primary Data]

The reliability of measurement scales used to measure the various constructs was assessed using Cronbach's Alpha coefficients. All the variables exhibited high internal consistency, with Cronbach's Alpha values above 0.7 which is acceptable for internal consistency. Overall, the Cronbach's Alpha values suggest that the measurement scales for all constructs are highly reliable.

4.7 **Testing for Multicolliarity**

The study utilized Pearson's correlation coefficient to confirm the presence of multicollinearity between the predictor variables in the model, as shown in the table. 4.11.

Table 4.11: Pearson's Product Moment Correlation Coefficient Matrix

Correlations

		BD	AI	BT	AQ
BD	Pearson Correlation	1	.344**	.557**	.262**
	Sig. (2-tailed)		.000	.000	.008
	N	103	103	103	103
AI	Pearson Correlation	.344**	1	.440**	.136

	Sig. (2-tailed)	.000		.000	.002
	N	103	103	103	103
	Pearson Correlation	.557**	.440**	1	.293**
BT	Sig. (2-tailed)	.000	.000		.003
	N	103	103	103	103
	Pearson Correlation	.262**	.136	.293**	1
AQ	Sig. (2-tailed)	.008	.172	.003	
	N	103	103	103	103

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

[Source: Primary Data]

The results show a fairly weak correlation between individual predictor variables, as shown in Table 4.11. This signifies the absence of multicollinearity between predictor variables in the model since all coefficients are below 0.8. Multicollinearity is a scenario whereby the predictor variables are highly correlated. According to Gujarati (2008), all descriptive variables ought to be below 0.8 to conclude the nonappearance of multicollinearity.

4.8 Model Summary

Table 4.12: Model Summary

Model Summary

Model	R	R Square[b]	Adjusted R Square	Std. Error of the Estimate
1	.979[a]	.959	.958	.91790

a. Predictors: BT, AI, BD

[Source: Primary Data]

As shown in table 4.12, the model if as depicted by the R Square. R Square measures the proportion of the variability in the dependent variable explained by the regression. The R Square value of 0.979 indicates that approximately 97.9% of the variability in Audit Quality (AQ) can be explained by the independent variables (Big data analytics, Artificial Intelligence and Blockchain Technology). This suggests a strong explanatory power of the model.

4.9 Regression Coefficients

The study employed a multiple linear regression model to evaluate a weight of correlation between dependent and independent variables in this research. Table 4.13 presented the regression results.

Table 4.13: Regression Coefficients

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.457	.890		2.637	.005
	BD	.455	.205	.444	3.243	.017
	AI	-.209	.109	-.219	-.984	.414
	BT	.440	.246	.416	2.786	.000

a. Dependent Variable: AQ

[Source: Primary Data]

The regression equation used was as follows,

$Y = 1.457 + 0.444X_1 - 0.219X_2 + 0.216X_3 + \varepsilon$

The results suggest that big data analytics has a large and statistically significant effect on audit quality, with a coefficient of 0.444 and a P value of 0.005. The data also show that

artificial intelligence makes audits in Zimbabwe worse. A beta coefficient of -0.219 showed this. But the effect wasn't statistically significant because the probability value (P=0.414) was higher than 0.05 at a 95% confidence level. In Zimbabwe, blockchain technology was found to be linked to better audit quality. The beta coefficient in table 4.13 is 0.416, and the p value is 0.000, which is statistically significant. This means that the effect is quite strong.

4.10 Discussion of Findings

4.10.1 To examine the impact of big data analytics on audit quality in Zimbabwe.

The research purpose was to examine the impact of big data analytics on audit quality in Zimbabwe. It reveals a positive and statistically significant relationship, with the regression coefficient value of 0.444 and the respective p-value of 0.005. This means that for every percent increase in the utilization of smart data analytics during audits, audit quality in Zimbabwe would increase by 0.444%.

In Oman, Saif Al Maktoomi and Abdul Madhar (2023), whose apprentice results agree, report great value of smart data analytics in audit processes, particularly in lowering audit costs. In the same vein, Silitonga and Hastuti (2022) argued that auditors' capability improves after the use of smart data analytics and, in return, audit quality is enhanced to a considerable extent. Our findings also align with those of Abdelwahed et al. (2025), who proved that smart data analytics positively promote audit quality in general. Moreover, the observations are consistent with that of Al Lawati et al. (2024) they focused on disclosure of smart data analytics may help improve audit quality within Omani financial institutions.

4.12.2 To examine the nexus between blockchain technology and audit quality in Zimbabwe.

In greater Zimbabwe, the blockchain scenario enjoys a positive and statistically significant effect on audit quality, with a p-value of 0.000 and recorded a beta coefficient of 0.416, meaning that an increase of 1% in blockchain adoption increases the audit process by 0.416. These results, therefore, sit well with Nisarga (2024), who states that some of the technologies whose implementation facilitates auditors to perform tasks in an fairer, more accurate, and more efficient manner include automation, data analytics, AI, blockchain, remote auditing, continuous monitoring, and digital documentation. Wu et al. (2019) also conveyed that blockchain can considerably increase accounting information quality on the parameters of relevance, faithful representation, timeliness, comparability, and so on. Sarram et al. (2024) support the fact that all facets of blockchain contribute positively to external audit quality enhancement.

4.13 Chapter Summary

This chapter focused on grouping or summarizing numerical data into formats meant to be statistically analyzed. There was an examination of the response rate and analysis of demographic characteristics. The results of a study were exhibited in tables to aid in clarity and were analyzed using IBM SPSS Statistics 21. In addition, the findings were contrasted with those of other previous studies conducted on similar topics to draw attention to the main trends and discrepancies. The following chapter will give an account of the summary of findings, conclusions, and recommendations.

CHAPTER V

SUMMARY OF FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

5.0 Introduction

In this chapter, the conclusions drawn from the research are expounded upon along with the recommendations presented for future considerations. The in-depth research spearheaded the investigation into the application of information technology in Zimbabwe and how it impacted auditing, specifically through big data analytics, artificial intelligence, and blockchain technologies.

5.1 Summary of Findings

The observations show a positive and strong statistically major impact of big data analytics on audit quality, with coefficients being 0.444 and p-value 0.005. Meanwhile, contrary to the falsified hypotheses in Zimbabwe, it was found that AI exerted its negative effect on audit quality, characterized by a beta coefficient of -0.219, with the p-value at 0.414 above the 0.05 confidence level at 95%, showing impacts of AI on audit quality to be insignificant. Also, blockchain showed a positive significant relationship with audit quality, with a beta of 0.416 and $p = 0.000$, denoting a strong and statistically significant association.

5.2 Conclusions

The study found that auditing in Zimbabwe has caught up with international technological advances and has integrated technologies such as big data analytics for analyzing massive datasets and spotting errors, risks, and frauds. This adds to the literature by offering a specific case about Zimbabwe's adjustment to emerging audit technologies. Also, the study concluded that blockchain creates audit quality, evidencing that auditors who most successfully integrate IT perform well within their respective audit engagements.

5.3 Recommendations

i. A thorough approach is required, one that includes funding for auditor education and training initiatives.

ii. Information technology needs to be used more widely across the Zimbabwean economy.

iii. Robust audit software solutions created especially to improve audit quality should be investigated and implemented by all audit firms.

5.4 Areas for Further Research

Future studies should look at information technology on internal auditing and customers' perceptions.

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APPENDIX I: Introduction Letter

Dear Sir/Madam,

RE: REQUEST TO PARTICIPATE IN A RESEARCH STUDY

I am a student at Bindura University of Science Education pursuing a Bachelor of Accountancy Honours Degree. I am conducting a research as part of the requirements in accomplishing my degree on the impact of Information Technology on Audit Quality in Zimbabwe. A survey of Audit Firms in Harare. Given your exceptional position and experience in the audit sector, you have been selected as one of the participants. Your task in this research study will only entail filling a questionnaire. In addition, the questions which are to be asked will only relate to your opinions and experience in relation to the issue under study. It is necessary that you get to understand that there is no answer which is either correct or wrong. This research study is aimed at permitting you to give details concerning what you sincerely think. In regard to this I am kindly requesting you to devote some time to engage in this exercise. Further, I will also observe anonymity, and I promise you that the responses you will provide will not be revealed to anyone.

Thank you.

The Researcher

APPENDIX II: Research Questionnaire

Kindly provide your responses in the spaces given by ticking at the box that matches your answer.

Part A: Background Information

1. Gender:

Male	**Female**

2. Age

<20	**20-30**	**26-40**	**40-50**	**>50**

2. Education Level:

Primary	**Secondary**	**Professional**	**Undergraduate**	**Postgraduate**

3. Please indicate your years of experience banking with the firm.

Below 5 Years	**Between 5 and 10 Years**	**More than 10 Years**

4. Please indicate your job position.

Audit Assistant	**Audit Senior/Manager**	**Partner**	**Other (Specify)**

PART B: Big data analytics

Kindly respond by ticking on the appropriate scale showing your rating on the following statements as related to the impact of big data analytics adoption on audit quality in Zimbabwe.

1 = Strongly Disagree (SD), 2 = Disagree (D) 3 = Neutral (N), 4 = Agree (A), 5 = Strongly Agree (SA)

S/No	Statement	1	2	3	4	5
BD1	Using big data analytics helps in better distribution of tasks between the audit team					
BD2	I frequently use big data analytics to find information regarding particular issues in the audit process					
BD3	The use of big data analytics helps the auditor to obtain the evidence in a timely manner					
BD4	Using big data analytics improves the ability to audit the largest amount of data and the possibility of increasing the size of test samples					
BD5	Using big data analytics reduces the costs of completing the audit process					

PART C: Artificial Intelligence

Kindly respond by ticking on the appropriate scale showing your rating on the following statements as related to the effect of Artificial Intelligence on audit quality in Zimbabwe.

1 = Strongly Disagree (SD), 2 = Disagree (D) 3 = Neutral (N), 4 = Agree (A), 5 = Strongly Agree (SA)

S/No	Statement	1	2	3	4	5

AI1	The application of artificial intelligence enhances audit quality through the automation of tasks.					
AI2	The use of robotics in auditing and accounting processing aids a robust risk assessment during audits.					
AI3	Neural networks facilitate auditing exercises to enhance the accuracy and reliability of audit reports.					
AI4	Genetic algorithms as a component of artificial intelligence facilitate auditing.					
AI5	Natural language processes assist in quick communication toward the stratification of data in audit exercises.					

PART D: Blockchain Technology

Kindly respond by ticking on the appropriate scale showing your rating on the following statements as related to the nexus between blockchain technology and audit quality in Zimbabwe

1 = Strongly Disagree (SD), 2 = Disagree (D) 3 = Neutral (N), 4 = Agree (A), 5 = Strongly Agree (SA)

S/No	Statement	1	2	3	4	5
BT1	Blockchain technology enhances audit trail management in auditing practices.					
BT2	Implementing blockchain technology can enhance financial transparency in audit processes.					
BT3	Blockchain adoption will improve the detection of fraudulent activities during audits.					
BT4	Blockchain can improve the traceability of audit evidence during the auditing process					
BT5	Blockchain adoption will lead to more effective fraud detection mechanisms in auditing practices.					

PART E: Audit Quality.

Kindly respond by ticking on the appropriate scale showing your rating on the following statements as related to audit quality after adopting information technology**.**

1 = Strongly Disagree (SD), 2 = Disagree (D) 3 = Neutral (N), 4 = Agree (A), 5 = Strongly Agree (SA)

S/No	Statement	1	2	3	4	5
AQ1	To perform the audit task, I need to understand the company's accounting information system					
AQ2	The audit task begins with making a plan and ensuring it is complied with					
AQ3	It is not necessary to contact the company's internal auditors when I perform the audit					
AQ4	Specialization is taken into consideration when distributing tasks between auditors					
AQ5	Each process in the audit work is reviewed to ensure quality control					

Thank you for your time.

APPENDEIX III: Research letter

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DEPARTMENT OFACCOUNTANCY

BINDURA UNIVERSITY OF SCIENCE EDUCATION

27 March 2025

TO WHOM IT MAY CONCERN

Kundai Chitate (B210745B) is doing Bachelor of Accountancy Honours Degree at Bindura University of Science Education and "Information technology and audit quality: A case of Accounting firms in harare.''

We are requesting your authority to allow him to carry out his research in your organization. This research is part of the fulfillment of his degree program.

We would like to thank you for giving him the opportunity to carry out his research.

Thank you

.....

O. Manyani

Chairperson Accountancy Department

BINDURA UNIVERSITY OF SCIENCE EDUCATION
DEPARTMENT OF ACCOUNTANCY
CHAIRPERSON
01 APR 2025
FACULTY OF COMMERCE
PRIVATE BAG 1020, BINDURA, ZIMBABWE