



**Investigating the challenges of an audit software at eThekweni municipality internal
audit unit**

by

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DECLARATION

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I declare that the Investigation of the challenges of an audit software at eThekweni municipality internal audit unit is my own work. Moreover, all sources used or quoted have been indicated and acknowledged by means of complete references. I further declare that I submitted the dissertation to originality checking software (Turn it in) and that it falls within the accepted requirements for originality. I further declare that I have not previously submitted this work, or part of it, for examination at UKZN for another qualification or at any other higher education institution.

Signature: 

Date: 29 November 2024

ACKNOWLEDGMENT

I would like to express my gratitude to God for guiding me through all the hurdles and obstacles. To my ancestors I see, and I feel your presence, please continue to guide and protect me, I appreciate and I'm forever thankful. I am here today because you kept me going even when I felt like giving up. To my parents, thank you for everything, I am a man today because of you. I would also like to acknowledge and give my warmest thanks to my supervisor, Prof Bibi who made this work possible through her guidance and prompt responses. Dr Mwelase, thank you my leader for your mentorship and shedding the light.

DEDICATION

I dedicate this research study to my daughter and son Enzokuhle and Nkazimulo; may it serve as an inspiration and motivation to go for what you want in life. Denzel Washington once said, "Ease is greater threat to progress than hardship". Nothing comes easy in life; you must put in the work.

Investigating the challenges of audit software at eThekweni municipality internal audit unit

Abstract

The increasing reliance on technology in auditing has raised concerns regarding the efficiency and effectiveness of audit processes within public institutions. This study investigates the challenges associated with audit software at eThekweni Municipality's Internal Audit Unit, examining its impact on audit efficiency, data accuracy, compliance, and overall performance. The purpose of the study is to assess whether the absence or limitations of auditing software affect internal audit operations and to determine the potential benefits of its implementation.

A quantitative research approach was employed, utilizing a structured questionnaire distributed online to internal auditors. Data was analysed using descriptive statistics, including correlation and regression analysis, to evaluate relationships between key audit performance indicators and software usage. The findings provide insights into the necessity and effectiveness of audit software in enhancing internal audit functions.

Initially, the study highlighted notable deficiencies present in the unit. These included a lack of real-time monitoring capabilities, inadequate integration of data analytics, and antiquated manual processes that impede the speed and accuracy of audits.

Secondly, the study evaluated the efficacy and efficiency of the internal audit unit's operations by examining how closely these operations adhered to accepted auditing standards and how well they served the municipality's goals. The research found areas where the unit had successfully carried out its mandate, such as regulatory compliance and the detection of financial anomalies. But the study also identified challenges, such as a lack of funding, a lack of ongoing professional development for employees, and possible problems with the thoroughness and timeliness of audit findings.

The study concluded by examining the possible advantages of the internal audit unit implementing auditing software. According to the study, the unit's efficiency might have increased by putting such software into place because it would automate repetitive processes, improve the speed and accuracy of data analysis, and allow for continuous monitoring and real-time auditing.

The study consisted of a sample size of 45 internal audit unit employees of eThekweni municipality. The employees from all levels of the unit were selected start from the Chief Audit

Executive (head of unit), deputy heads (internal audit), senior audit managers, internal audit specialists, senior auditors and internal auditors.

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LIST OF ACRONYMS

IIA	Institute of Internal Auditors
IA	Internal Audit
IPPF	International Professional Practices Framework
CA	Continuous Auditing
CM	Continuous Monitoring
ACL	Audit Command Language
IDEA	Interactive Data Extraction and Analysis
UKZN	University of Kwa-Zulu Natal
AI	Artificial Intelligence
SPSS	Statistical Package for Social Sciences

CHAPTER 1

INTRODUCTION TO THE STUDY

1.1. Introduction

Audit software has revolutionised internal audit by improving efficiency, accuracy and compliance in organisations. In the public sector in particular, the adoption of audit software is critical to improving transparency, accountability and governance (Griffiths, 2020). Local authorities tasked with managing resources and delivering services rely heavily on internal audit to identify risk, ensure financial integrity and maintain public trust. Audit software is a critical tool in this process, enabling the automation of routine tasks, robust data analysis and optimised reporting (Hunziker, 2017). However, the successful implementation and utilisation of audit software is not without its challenges. These can range from technical issues, such as system incompatibilities, to human factors, including resistance to change and inadequate training (Wang and Cuthbertson, 2015). In the context of South African municipalities, factors such as limited resources, organisational culture and staff readiness further complicate the adoption of technology (Ntshingila and Mthombeni, 2019). These barriers can undermine the potential of audit software to improve internal audit functions.

The Municipality of eThekweni, one of the largest metropolitan municipalities in South Africa, is a good example of this. With its extensive operations and responsibilities, internal audit plays a central role in ensuring good governance. However, the implementation of audit software in this department faces challenges that can hinder its effectiveness. Understanding these challenges is important to optimise the functionality of the software and improve the overall performance of internal audit.

eThekweni municipality, renowned for its economic centre, Durban, is one of the most notable metropolitan areas in South Africa. The municipality, which includes urban, suburban, and rural areas, is essential to KwaZulu-Natal province's socioeconomic growth. In addition, eThekweni municipality is well known for its extensive administrative capabilities, infrastructure, and ability to provide services to more over 3.5 million people (Statistics, 2022). As the fourth-largest metropolitan municipality in South Africa, its governance and operational efficiency, including internal auditing processes, are vital to ensure effective service delivery, transparency, and accountability (Govender and Reddy, 2021).

Geographic, demographic overview and economic landscape

The vast 2,297 square kilometre eThekweni municipality encompasses Durban and the surrounding areas. Its geographical span includes a wide variety of settings, such as townships, rural areas, informal settlements, and coastal areas. The municipality is one of the most populated in South Africa, home to 3.9 million people (Statistics, 2022). The population of the eThekweni area is very diversified; Africans make up the majority (73.8%), followed by Indian/Asian people (16.7%), White people (6.6%), and people of colour (2.5%) (Statistics, 2022). The demographic makeup of the municipality offers opportunities as well as difficulties. The demand for services, such as housing, sanitation, and infrastructure development, is rising because of rapid urbanization. Concurrently, poverty, unemployment, and socioeconomic disparities continue to be significant issues, especially in rural and peri urban areas (Mkhize, 2020).

eThekweni municipality is an economic centre that makes a substantial contribution to South Africa's GDP. Due to its advantageous location on Africa's east coast, Durban is the nation's most important port city and one of the continent's most significant maritime hubs. The Port of Durban is the busiest container port on the continent, supporting international trade and contributing to the local economy (eThekweni, 2020). Important industries that support the municipality's economy include manufacturing, agriculture, tourism, and financial services. eThekweni's economy has had difficulties, particularly after the COVID-19 pandemic. The socioeconomic problems in the area have been made worse by the region's high unemployment rate and slow economic growth rates. The economic recovery was further slowed by the civil disturbances and looting in 2021, which had a serious negative influence on municipal infrastructure and companies (Makgoba, 2021). In KwaZulu-Natal and the nation at large, eThekweni continues to be a crucial economic actor despite these setbacks.

Governance structure

The governing system of eThekweni Municipality is organized under a Metropolitan Council that is responsible for creating policies, approving budgets, and monitoring the implementation of services. The mayor leads the council, with assistance from a deputy mayor, the city manager, and other officials in charge of different municipal departments (Reddy, 2021). The development of infrastructure, public transportation, waste management, water and sanitation, and public safety are among the municipality's primary responsibilities.

In municipalities like eThekweni, good governance is crucial for public trust, economic growth, and service delivery. On the other hand, issues with monetary management, corruption, and transparency have become known recently. The Auditor-General's reports have repeatedly

revealed irregularities in procurement processes, non-compliance with financial standards, and inefficiencies in service delivery (Auditor-General, 2022).

Service delivery and public trust

Making sure that the people of eThekweni municipality receive proper services is one of its biggest issues. Essential services like water, power, waste management, sanitation, and public transportation are provided by the municipality. Nonetheless, the municipality has been the target of multiple demonstrations due to poor service delivery, financial mismanagement, and corruption (Makgoba, 2021).

Internal Audit (IA) offers assurance, insight, and guidance, therefore an essential governance partner. Internal Audit assesses governance, control, and risk management procedures to make sure they are efficient and in line with corporate objectives. IA encourages responsibility, openness, and ongoing performance and decision-making improvement (IIA, 2020).

Internal auditing plays a critical role in tackling these problems with service delivery. Efficient auditing guarantees that resources are distributed appropriately and that projects are conducted according to plan. The internal audit unit can assist in rebuilding public confidence in the municipality's capacity to effectively manage its resources by identifying risks and suggesting adjustments (Govender and Reddy, 2021).

1.2. Problem statement

eThekweni municipality internal audit unit encounters difficulties like ineffective time management, a higher chance of human error, irregular audit procedures, and decreased data accuracy in the absence of auditing software. Because manual audit procedures are time-consuming, the unit frequently finds it difficult to generate and deliver audit reports on time (Ntshingila and Mthombeni, 2019). Errors are more likely to occur during manual data collection, processing, and reporting, which could compromise the audit process's accuracy and legitimacy. The unit finds it difficult to proactively address major risks because of the backlog of audits. Manual methods restrict scalability, impede prompt reporting, and make audit methodology compliance more difficult. Together, these elements lower operational efficiency and jeopardize the dependability and quality of audits (Hunziker, 2017).

1.3. Research rationale

In the age of digital transformation, public sector organisations are increasingly using technology to improve efficiency, accountability and transparency. Audit software has become an important tool for internal audit departments, enabling automated data analysis, improved risk management and optimised compliance (Griffiths, 2020). Despite its transformative potential, the successful implementation and utilisation of such software is often fraught with challenges, especially in resource-constrained environments such as municipalities. The eThekweni Municipality, one of South Africa's largest and most complex local governments, is a unique case to explore these challenges. Internal audit units in municipalities are an essential part of ensuring good governance and effective financial oversight. However, factors such as limited budgets, varying levels of technical expertise and organisational resistance to change can hinder the optimal use of audit software (Wang and Cuthbertson, 2015). These challenges can lead to inefficiencies in audit processes, negatively impacting the council's ability to deliver services and maintain public trust.

Given the critical role of internal audit in promoting accountability and transparency, it is imperative to understand the barriers to effective implementation and utilisation of audit software. Addressing these challenges at eThekweni Municipality could lead to more efficient audit practises, better management and improved service delivery. Furthermore, the findings of this research could provide valuable insights and actionable recommendations for other municipalities facing similar challenges, thus contributing to the broader discourse on digital transformation of the public sector (Ntshingila and Mthombeni, 2019). This study is particularly relevant given the increasing demand for digital tools in public administration and the growing importance of governance reforms in South Africa. By identifying and addressing the challenges faced by eThekweni Municipality's internal audit function, this study aims to bridge the gap between technology adoption and practical application and ensure that audit software fulfils its intended purpose.

This study investigates the challenges relating to the lack of an automated audit system and how it affects the functionality of the internal audit unit of eThekweni municipality. The study also looks at the operations of the internal audit unit and possible solutions to mitigate the challenges relating to the lack of the auditing system.

1.4. Aim of the study

Investigating the challenges of an audit software at eThekwini municipality internal audit unit.

1.4.1. Research objectives

- To study the operations of the eThekwini municipality internal audit unit.
- To assess the extent of auditing software-related shortcomings in eThekwini municipality's internal audit unit.
- To understand the advantages of an automated system (auditing software).

1.4.2. Research questions

- What are the operations of the eThekwini municipality internal audit unit.
- What are the auditing software related shortcomings of the eThekwini municipality internal audit unit.
- What benefits could an auditing software offer to the eThekwini municipality internal audit unit.

1.5. Preliminary literature review

Lois, et al. (2020) mentioned that the globalization of banking operations in the 1990s necessitated technological and communication advancements in the financial services industry. Similarly, the idea of continuous auditing (CA) is gaining popularity because of technological advancements in the auditing industry today. Continuous auditing involves monitoring accounting procedures, risk controls, compliance, IT systems, and business processes. Regular auditing guarantees fewer mistakes and improves the auditing process's impartiality. Continuous auditing is a logical development that comes from combining new technologies with established auditing practices. Additionally, the interaction between the public and private sectors must be considered as technological advancements expand. Maintaining a strict stance toward digitization is crucial since the government's goal should now be social justice and efficiency rather than increasing money (Lois, et al. 2020).

According to AuditBoard (2023) internal audits are intended to assess the efficacy of an operation's internal controls by first obtaining operational data, pinpointing potential errors or inefficiency spots, and identifying system controls designed to stop or identify such incidents. Subsequently, they evaluate the efficacy of those controls by testing their implementation and performance. Managers should use the same procedure to assess department operations controls. Mostly, the data required for auditing is available via computers and networks. Using computers as an auditing tool, inspecting automated systems and data, comprehending the business goals of the systems, and being aware of the operating environment are all necessary for auditors to be effective. Audit administration is one of the auditors' other

significant uses of computers and networks (Lois, et al. 2020). Auditors enhance their abilities to analyze systems and information and more efficiently manage their tasks by looking for new applications for computers and communications. Auditors can use automated tools to boost their and the audit function's productivity (AuditBoard, 2023).

Smidt, et al. (2019) emphasized that internal audit departments today must carry out their work in controlled environments where technology and "big data" are becoming more and more prevalent. Internal audit functions employ technology-based tools like generalised audit software to effectively and efficiently respond to the demands and expectations of its many stakeholders.

Smidt, et al. (2019) further emphasized that since paperless company settings are becoming the norm, internal audit functions must change to fulfill their responsibilities. The traditional methods of gathering audit evidence for tests of controls will no longer be appropriate or practical to apply in a paperless environment, especially in the current business environment that is dominated by "big data," according to a comparison between traditional (paper-based) audit evidence and electronic audit evidence. However, it should be highlighted that the primary goals of the internal audit function—to offer unbiased confirmation of the suitability and efficiency of a business's risk management, controls, and governance procedures remain mostly unaltered (Lois, et al. 2020). The previous few decades have seen a significant increase in the use of technology in business operations, placing pressure on internal audit services to adjust to this "new" business environment driven mainly by technology. The growing expectations of its major stakeholders, who demand increased audit coverage efficiently and effectively, put extra strain on the internal audit function. To fulfill its duty, the internal audit function has thus devised creative ways to deal with these "pressures." One of the most critical reactions to these "pressures" was using technology-based tools and upgrading internal audit operations (Lois, et al. 2020).

Cangemi (2019) stated that The Institute of Internal Auditors (IIA)'s Practitioner Survey Series report: "Staying a Step Ahead—Internal Audit's Use of Technology," published in July 2015, revealed the key findings in the report as follows:

- The use of technology in the audit process continues to grow, but there is room for improvement.
- New data interrogation and mining tools enable easier access and efficient and effective computerized Internal Audit (IA) techniques.
- The use of monitoring and data analytics increased by 14% from 2006 to 2015.
- The use of continuous/real-time auditing increased by 7% from 2006 to 2015.

- An opportunity exists to improve the value of IA by recommending Continuous Monitoring (CM) processes and then using Continuous Auditing (CA) to audit.

Cangemi (2019) added that IA is an independent verification role. Automated, independently developed computer programs are something that auditors can and do utilize as part of their audit coverage. These audit procedures are occasionally incorporated into operations but remain under independent control. Software systems from leading firms that provide software for internal auditing include CaseWare Analytics, Audit Command Language (ACL), and Oversight Systems amongst others.

1.6. Research methodology

1.6.1. Research approach

The research employed a quantitative paradigm of research. Quantitative research is founded on numeric data and statistical calculations, which preclude the researcher's personal bias and facilitate uniformity of findings. It allows precise measurement of variables, hence enabling the analysis of relations, trends, and patterns. Systematic data collection free from inconsistency is achieved through surveys, experiments, and controlled observations. Different studies' results can be compared to offer the provision of benchmarking and trend analysis.

The goal of descriptive study design is to methodically characterize a population, circumstance, or phenomena without changing any variables. Answering the "what," "where," "when," and "how" questions is its main goal, and surveys, observations, and case studies are frequently used to do so. Conversely, explanatory research design aims to identify cause-and-effect links and explain the correlations between variables. It uses statistical analysis and hypothesis testing to provide answers to the "why" and "how" issues. Common techniques include correlational and experimental research. When little is known about a subject, an exploratory research design is employed to find trends, fresh perspectives, and possible study questions. Using qualitative techniques like focus groups, interviews, and literature reviews, it is adaptable and open-ended.

1.6.2. Sampling method

The sample size of the study was 45 participants, representing the auditors of the internal audit unit of eThekweni municipality. According to Jankowicz (2023), probability sampling is a sampling technique in which every member of the population has a known, non-zero chance of being selected. This method ensures randomness, reducing selection bias and increasing the likelihood that the sample represents the entire population. Probability sampling is widely used in quantitative research, surveys, and experiments where generalizability is crucial. It

enhances the validity and reliability of research findings by allowing statistical inferences about the population. Simple random sampling is a probability sampling method where every individual in a population has an equal and independent chance of being selected. This ensures that the sample is unbiased and representative of the entire population. Simple random sampling was used for the study.

1.6.3. Data collection instrument

This study used a validated instrument in the form of questionnaires. According to Guinn (2022), there are two basic techniques for multi-source assessment: a multi-point Likert-type scale or a paired comparison approach. The 5-point Likert scale was preferred and chosen for this study based on the following reasons:

- Most studies of a similar nature incorporated this approach rather than the paired comparison.
- The paired comparison approach is better suited if the number of stimuli presented is small and respondents are generally asked to choose between two objects at a time (Sekaran, 2023), which was not the case in this study.
- According to Sekaran (2023), a five-point Likert scale is widely used for measuring opinions, beliefs, and attitudes, which is directly applicable to this study.

The 5-point Likert scale is easier to compile than any other attitude scale, and it provides a variation of scores, which tends to be more reliable (Sekaran, 2023).

University of Kwa-Zulu Natal (UKZN) ethical clearance protocol will be followed before data collection commences, which includes obtaining the gatekeeper's letter and ethical approval from the UKZN research office. Questions that may reveal the participants' identity will be avoided. The questionnaire will start with demographic information, including age, qualifications, years of experience as an internal auditor, and years of experience as an internal auditor of eThekweni municipality.

1.6.4. Data analysis

The Likert scale will be used in the questionnaire, which will produce ordinal data. According to Jim (2023) descriptive statistics is the process of using and analyzing summary statistics, such as descriptive statistics, to characterize or summarize features from a body of data statistically. Summarizes data using Mean, median, mode (measures of central tendency), Standard deviation, variance (measures of dispersion) and Frequency distributions and percentages. Based on a sample, inferential statistics assist researchers in making inferences about the population. Regression analysis and correlation analysis were two important techniques used to look at relationships between variables. Although it does not prove causality, correlation analysis assesses the direction and degree of a relationship between two

variables and establishes whether an association exists. In contrast to correlation, regression analysis proves causation by predicting the value of a dependent variable (Y) based on one or more independent variables. For this investigation, descriptive statistical analysis will be employed (Jim, 2023).

1.7. Chapter summary

This chapter laid the foundation for the rationale for this study. The research background provided a clear justification for the study. Included are the problem statement, the purpose of the investigation, the research objectives, and the research questions of the study. To gain a deeper understanding of the scholarly literature on auditing software and its effects in internal auditing operations, the next chapter will conduct a literature review to go deeper into the subject, followed by research methodology, data analysis and conclusions with recommendations.

CHAPTER 2

LITERATURE REVIEW

2.1. Introduction

The study background, problem statement, and research procedure outline were presented in the preceding chapter. This chapter will examine the pertinent literature from earlier researchers who have studied the same subject to have a better understanding of internal audit operational challenges relating to the absence of an auditing software and the benefits associated with implementing the software. The eThekwini municipality's internal audit section is essential to maintaining accountability, openness, and effectiveness in municipal operations. The study on the benefits of auditing software will demonstrate how technological improvements can improve the effectiveness, efficiency, and precision of the unit. The knowledge acquired from this study will provide insightful suggestions for enhancing eThekwini municipality's internal audit methods, resulting in enhanced governance and community service provisions.

2.2. Internal auditing defined

According to Jans, et al. (2019, p.31) "Internal auditing is a process carried out by an organization's internal auditors to evaluate and improve the effectiveness of risk management, controls, and governance processes, utilizing continuous monitoring and data analytics to provide real-time assurance and insight". Bailey (2019, p.18) stated that "Internal auditing is an independent appraisal function established within an organization to examine and evaluate its activities as a service to the organization. It aims to help management achieve its goals through systematic analysis and assessment of business processes and controls". Lenz and Hahn (2020, p.38) mentioned that "Internal auditing is a critical component of corporate governance, providing independent assurance that an organization's risk management, governance, and internal control processes are operating effectively. It involves a systematic and disciplined approach to evaluating and improving these processes". According to Peters and Romi (2020, p.49) "Internal auditing refers to the evaluation and improvement of an organization's risk management, control, and governance processes. With the integration of advanced technology, internal auditing now incorporates real-time data analysis and continuous monitoring to enhance the effectiveness of these processes". "Internal auditing is a management control function that provides independent and objective assurance on the effectiveness of an organization's risk management, governance, and internal control processes. It uses a systematic and disciplined approach to ensure these processes operate as intended" (Sarens and De Beelde, 2021, p.22). "The Institute of Internal Auditors (IIA)

defines internal auditing as an independent, objective assurance and consulting activity designed to add value and improve an organization's operations. It helps an organization accomplish its objectives by bringing a systematic, disciplined approach to evaluate and improve the effectiveness of risk management, control, and governance processes" (IIA, 2021, p.7).

2.3. Legislation governing internal auditing

According to Gupta and Ray (2019), organizations rely heavily on internal audits to provide assurance on internal controls, risk management, and governance. Transparency, accountability, and integrity are upheld in the conduct of these activities by the regulatory framework that oversees internal auditing.

2.3.1. Key legislative frameworks

Gupta and Ray (2019) mentioned Numerous national and international norms and laws regulate internal auditing. These frameworks offer instructions on the proper conduct of internal audits, the range of tasks they should perform, and the moral principles that auditors should follow. The Institute of Internal Auditors' (IIA) International Professional Practices Framework (IPPF) is one of the most significant frameworks. The internationally acknowledged and accepted International Standards for the Professional Practice of Internal Auditing are part of the IPPF. The South African constitution requires internal audit for proper financial management and the Municipal Finance Management Act (MFMA) requires all municipalities to have an internal audit unit (Gupta and Ray, 2019).

The Sarbanes-Oxley Act of 2002 (SOX) had a major effect on the internal audit role in the US. It imposed strict guidelines on corporate governance and internal control, requiring publicly traded businesses to set up an internal audit department to evaluate the efficiency of these measures (Smith, 2020). By guaranteeing the integrity and transparency of financial reporting procedures, SOX seeks to stop corporate fraud and safeguard investors.

Comparably, the Audit Regulation and Directive (ARD) of the European Union (EU) offers a thorough structure for both internal and external auditing. It highlights how crucial auditor objectivity and independence are, and it mandates that businesses put in place stringent internal control measures (Jones and Silva, 2021). The goal of the ARD is to increase the reliability and caliber of financial statements, which will boost investor confidence.

2.3.2. The role of ethical standards

A key component of the legal frameworks controlling internal auditing is the application of ethical standards. Integrity, objectivity, confidentiality, and expertise are among the values and standards for internal auditors that are outlined in the IIA's Code of Ethics (IIA, 2021). Ahmed

and Yasin (2018) claimed that upholding these moral principles is necessary to keep the internal audit role legitimate and productive. They contend that moral lapses have the potential to erode stakeholder confidence and jeopardize an organization's general governance.

The ethical requirements for internal auditing in South Africa ensure objectivity, professionalism, and integrity. They promote trust in audit procedures by assisting auditors in upholding independence, confidentiality, and accountability. To ensure corporate compliance and moral behaviour, these standards are in line with international frameworks that promote transparency, assist in governance, and reduce risks (IIA, 2020).

Moreover, ethical guidelines for auditors are established by the Public Company Accounting Oversight Board (PCAOB) in the United States. These guidelines include the need for auditor independence and the avoidance of conflicts of interest (Brown and Taylor, 2021). The requirements set forth by the PCAOB are intended to guarantee that auditors maintain objectivity and impartiality throughout their assessments, which will increase the validity of their conclusions.

2.3.3. Challenges in implementing legislative requirements

Legislative frameworks provide clear rules, but companies frequently struggle to put these mandates into practice. The complexity and dynamic nature of regulatory settings present a major difficulty. Chang and Liu (2021) stated that it might be difficult for firms to maintain compliance with several, often contradictory regulatory requirements. They point out that regular legislative changes necessitate ongoing, resource-intensive modifications to internal audit techniques and procedures.

One more significant obstacle is the lack of resources. Smaller businesses may find it difficult to set aside enough funds to create and sustain an efficient internal audit function, as noted by (Jones and Silva, 2021). Gaps in compliance and a higher chance of governance failures may result from this.

Furthermore, organizational opposition to change might make it more difficult to put new laws into effect. According to Brown and Taylor (2021), creating a culture of compliance is important but frequently difficult. New procedures and controls may be resisted by staff members and management because they are seen as onerous or superfluous.

2.3.4. Technological advancements and regulatory compliance

Innovations in technology are becoming more and more crucial in assisting firms in meeting legal obligations. The field of internal auditing is changing because of automation, data analytics, and artificial intelligence (AI). These advancements make it simpler to carry out thorough audits and spot possible compliance problems. These technologies, in the opinion

of Bierstaker et al. (2018), improved auditors' capacity to identify irregularities and evaluate risks by enabling them to evaluate vast amounts of data fast and precisely.

Automated auditing solutions, for example, can expedite the audit process and save time and effort in conducting audits. This frees up auditors to concentrate on more strategic tasks including assessing governance framework efficacy and pinpointing areas in need of development (Smith, 2020). AI-powered solutions can also offer predictive insights, which enables businesses to proactively handle possible compliance problems before they become more serious.

Incorporating technology into the auditing process also presents new difficulties. According to Gupta and Ray (2019), it is imperative to guarantee the security and integrity of audit data, especially considering emerging cyber threats. To safeguard confidential audit data and adhere to data protection laws, organizations need to have strong cybersecurity safeguards in place.

2.3.5. Evolving trends in legislative frameworks

The legal frameworks that oversee internal auditing are always changing to take new risks and difficulties into account. The growing focus on environmental, social, and governance (ESG) aspects is one noteworthy development. Ahmed and Yasin (2018) claimed that as the significance of sustainability and moral leadership grows, regulators are pressuring businesses to submit reports on their ESG performance. As a result of this trend, internal audit procedures are changing since auditors are now expected to assess the completeness and accuracy of ESG disclosures.

The emphasis on strengthening auditor independence and accountability is another new trend. For example, there are measures in the Audit Regulation and Directive designed to increase auditor independence and decrease conflicts of interest (Jones and Silva, 2021). By strengthening the objectivity and dependability of audit findings, these steps aim to increase stakeholder trust.

Furthermore, the necessity of standardizing audit standards globally is becoming increasingly apparent. Multinational corporations may face difficulties because of inconsistent regulatory standards among various jurisdictions, claim (Smith, 2020). To address these issues and encourage a more unified and uniform approach to internal auditing, the IIA and the International Federation of Accountants (IFAC) are working together to standardize audit standards.

To guarantee that businesses run with honesty, openness, and responsibility, internal auditing laws are essential. Important legal frameworks that emphasize the value of ethical standards

and auditor independence include the Audit Regulation and Directive, SOX, and the IPPF. These frameworks offer thorough guidance for internal audit practices. However, there are several obstacles to putting these principles into practice, such as resource limitations, regulatory complexity, and reluctance to change. Organizations are addressing these issues with the use of technological improvements, making audits more effective and efficient. Emerging trends like the emphasis on ESG factors and the organization of standards globally are influencing the future of internal auditing as regulatory frameworks continue to change (Smith, 2020).

2.4. The importance of internal audit units

Internal audit departments are essential to improving risk management, control procedures, and organizational governance. They are crucial for maintaining legal and regulatory compliance, protecting assets, and enhancing operational efficacy and efficiency in both the public and private sectors (Mihret & Grant, 2019).

2.4.1. Enhancing operational efficiency

According to Mihret and Grant (2019), internal audit departments help to improve an organization's operational efficiency by pointing out inefficiencies and suggesting changes. They make sure that resources are used as efficiently as possible by evaluating the efficacy of policies and procedures. Internal audits assist businesses in streamlining processes and enhancing overall performance.

2.4.2. Governance and accountability

According to Drogalas, et al. (2020), the institutions and procedures created to guarantee responsibility, openness, and responsiveness inside an organization are referred to as governance. By evaluating these structures and processes' efficacy and suggesting changes, internal audit units support governance. Internal audits support the alignment of management decisions with organizational objectives and the establishment of accountability for resource stewardship (Drogalas, et al. 2020). Mihret and Grant (2019) stated that internal audit units are vital for strengthening organizational governance by providing independent assurance that an organization's risk management, governance, and internal control processes are operating effectively.

2.4.3. Compliance, integrity and risk management

According to Lenz and Hahn (2020), ensuring adherence to laws, rules, and internal policies is another critical function of internal audit units. Internal auditors assist companies in staying out of trouble with the law and upholding their brand by routinely evaluating compliance policies and systems. Internal audits play a critical role in encouraging an ethical and moral culture in businesses. Lenz and Hahn (2020) further stated that risk management is the

process of locating, evaluating, and reducing risks that can make it more difficult for a company to accomplish its goals. Since internal audit units offer an unbiased evaluation of the efficacy of risk management procedures, they play a crucial role in this process.

2.4.4. Risk assessment and mitigation

Stewart and Subramaniam (2019) claimed that internal audits show areas in need of improvement and offer insightful information about how well risk management frameworks are working. Internal auditors support the process of detecting possible risks and assessing the controls put in place to lessen them. This aids businesses in managing risks and averting problems before they become serious ones. Stewart and Subramaniam (2019) also mentioned that because internal audit units make sure that controls are in place to avoid fraud, theft, and resource misuse, they are crucial to protecting an organization's assets. They carry out audits to confirm the presence and state of assets and assess how well internal procedures intended to safeguard these assets are working.

2.4.5. Fraud detection and prevention

A study by Rae and Subramaniam (2019) found that companies with strong internal audit departments are better able to identify and stop fraud. Internal auditors are essential to the identification and prevention of fraud in businesses. They evaluate the effectiveness of anti-fraud measures and investigate any suspicions of fraud.

2.4.6. Financial integrity

According to Soh and Martinov-Bennie (2019) another crucial duty of internal audit departments is to guarantee the integrity and correctness of financial reporting. To make sure that accounting procedures and financial statements adhere to applicable rules and regulations, they examine them. Soh and Martinov-Bennie (2019) conducted a study that highlights the significance of internal audits in augmenting the dependability of financial reporting.

2.4.7. Strategic alignment

Allegrini, et al. (2020), mentioned that internal auditors evaluate if organizational actions are in line with the aims and objectives of the strategy. By doing this, it is made sure that funds are allocated to projects that forward the goal and vision of the company. Internal audits offer insightful commentary on how well operations match strategy aims (Allegrini, et al. 2020). By ensuring that organizational controls and procedures are in line with these goals, internal audit units help to achieve strategic objectives. They support management in identifying potential risk areas for strategic goals and in suggesting countermeasures.

2.4.8. Enhancing decision-making

Abbott, et al. (2018) stated that internal audit departments improve decision-making by giving management unbiased, trustworthy information. They help management make decisions by providing information about how well policies, processes, and controls are working. Internal audits help decision-makers make better decisions by giving them a clear awareness of organizational risks and controls.

Internal audit departments are critical to an organization's ability to protect resources, improve risk management, strengthen governance, and advance strategic goals. They offer unbiased assurance on the efficiency of internal controls, adherence to legal requirements, and the fit between business operations and strategic objectives. Current research emphasizes how important internal audits are for promoting efficiency, accountability, and openness. Strong internal audit operations are going to be more and more important as firms deal with more complex issues and dangers (Abbott, et al. 2018).

2.5. Operational efficiency

2.5.1. The significance of operational efficiency

Most people agree that one of the key factors influencing an organization's success is its operational efficiency. It entails cutting expenses, optimizing output, and decreasing waste to increase profitability and gain a competitive edge. Operational effectiveness is essential for maintaining company growth and accomplishing long-term strategic goals, claim (Ghosh and Das, 2020). They contend that effective operations help businesses perform better overall, increase customer happiness, and react quickly to changes in the market.

Similarly, Jones and Smith (2019) stressed the significance of operational effectiveness in the face of international rivalry. They argue that companies that can improve the efficiency of their product and service delivery and streamline their processes would have an advantage over their competitors in an increasingly competitive market. Therefore, operational efficiency is a strategic requirement for attaining excellence rather than just a cost-cutting tactic.

2.5.2. Challenges to achieving operational efficiency

Achieving operational efficiency is difficult despite its significance. Numerous writers have drawn attention to the obstacles that businesses must overcome to become more efficient. Nguyen and Tran (2021) stated that the complexity of today's corporate environments is one of the main challenges. Organizations find it challenging to maintain effective operations in a dynamic and frequently unpredictable environment created by the spread of technologies, globalization, and regulatory changes. Furthermore, internal variables including departmental discord, organizational culture, and resistance to change are recognized by Brown and Wilson

(2022) as major roadblocks to operational efficiency. They contend that the key to removing these obstacles is to promote a culture of continual improvement and cross-functional cooperation.

Technology integration that works is another hurdle. Technological innovations have the potential to improve operational efficiency but putting them into practice can be challenging. Brown and Wilson (2022) stated that many businesses have difficulty choosing the appropriate technology, overseeing the transition, and making sure staff members receive the necessary training. The possible advantages of technology are so frequently not fully appreciated.

2.5.3. Strategies for enhancing operational efficiency

Several approaches have been put forth to improve operational effectiveness, with an emphasis on technology integration, process optimization, and performance management. For example, lean management concepts are frequently recommended to increase productivity. Lean management, according to Miller and Taylor (2019), entails finding and removing waste, optimizing procedures, and promoting a continuous improvement culture. They offer a plethora of case studies that show how businesses have effectively implemented lean principles to realize notable efficiency gains.

Technology is essential for improving operational effectiveness as well. Business operations can be transformed by implementing automation, artificial intelligence (AI), and data analytics, which will boost productivity and effectiveness. Chukwu (2019) talks about how artificial intelligence (AI) and machine learning algorithms may enhance demand forecasting, cut lead times, and optimize supply chain operations. Similarly, KPMG (2022) emphasizes how digital transformation can improve operational efficiency, pointing out that technologies like Internet of Things (IoT) and robotic process automation (RPA) can simplify workflows and minimize human participation.

Focusing on performance management is also essential. Achieving operational efficiency requires, according to Ali and Lodhi (2020), the establishment of precise performance measures and frequent progress monitoring. They contend that by offering useful insights into operational performance, performance management systems help businesses spot opportunities for development and swiftly implement solutions.

2.6. Current operations of eThekweni municipality internal audit unit

2.6.1. Annual plan process

The role of internal audit unit is to identify organizational risks, matching audit objectives with strategic goals, prioritizing audits according to risk assessments, and soliciting feedback from stakeholders are all steps in the internal audit yearly planning process. This guarantees that

important areas are covered, that resources are allocated as efficiently as possible, and that governance, risk management, and control enhancements are supported (eThekwini, 2022).

The eThekwini municipality internal audit unit's yearly audit planning procedure is designed to improve operational effectiveness and governance. To identify high-risk areas of the municipality's operations that are in line with both strategic objectives and legal requirements, this approach starts with a thorough risk assessment. To ensure that the plan considers input from management, audit committees, and external stakeholders, stakeholder engagement is crucial during this phase. Prioritizing audits according to evaluated risks and available resources is part of the planning step. To concentrate on areas with substantial operational, financial, or reputational concerns, the unit employs a risk-based audit methodology. The efficacy of internal controls, service delivery efficiency, and adherence to local government rules are prioritized (eThekwini, 2021).

Following risk prioritization, the internal audit team creates a comprehensive audit program that outlines the goals, parameters, techniques, and distribution of resources. The strategy can be modified on a regular basis to accommodate new risks or modifications to the operational environment. By taking a proactive and inclusive approach to annual audit preparation, the eThekwini municipality's internal audit unit maintains alignment with governance standards and best practices, which promotes accountability and openness (eThekwini, 2021).

2.6.2. Allocation of the annual plan across remits

According to eThekwini (2021), allocating resources across different remits of the internal audit unit in accordance with stakeholder expectations, corporate priorities, and risk assessment is known as audit plan allocation. eThekwini municipality internal audit unit prioritises high-risk locations to address potential weaknesses. To match audit activities with strategic goals, the procedure includes evaluating operational, compliance, and financial risks. To guarantee efficient coverage, resource allocation takes auditor experience and time availability into account. The audit strategy is regularly reviewed and updated to account for new risks and shifting organizational objectives, guaranteeing compliance with legal and governance standards (eThekwini, 2021).

2.6.3. Project management process

To make sure auditees are aware of impending audits, the eThekwini municipality internal audit unit's project management procedure starts with client notice. To promote openness and preparedness, this official notice describes the audit's goals, timelines, scope, and any necessary preparations. Key stakeholders participate in briefing sessions after notice to go over the goals of the audit, resolve any issues, and set expectations. According to (eThekwini,

2021) this cooperative phase promotes a cooperative relationship between auditors and clients while helping to explain roles, duties, and audit procedures. The audit officially begins when the procedure moves on to client kick-off meetings. These sessions cover practical issues including data access, documentation, and interview scheduling while delving further into the plan and scope. Presenting the audit framework guarantees that all parties are aware of the deliverables and deadlines. Kick-off meetings place a strong emphasis on including stakeholders and lay the groundwork for efficient communication at every stage of the audit process. The strategy used by the eThekwini municipality internal audit unit guarantees a methodical, open procedure that complies with best practices, reduces interruptions, and improves the efficacy and efficiency of audit operations. These actions are essential for fostering accountability and accomplishing audit goals (eThekwini, 2021).

2.6.4. Audit methodologies

To guarantee that audits are methodical, consistent, and in line with international standards, the eThekwini municipality internal audit unit adheres to an established methodology. There are phases for planning, carrying out, reporting, and following up in this process. It includes risk-based audits, which prioritizes high-risk areas to improve internal controls, governance, and risk management. The approach places a strong emphasis on openness, regulatory compliance, and ongoing development to make sure the audit function successfully advances company goals (eThekwini, 2021).

According to eThekwini, (2021) a framework for the Audit Committee's oversight function within the municipality is provided by the Audit Committee Charter. It lists duties such as examining audit plans, evaluating the efficacy of internal controls, and keeping an eye on legal and policy compliance. The committee's authority to guarantee independence, objectivity, and accountability in auditing activities is outlined in the charter. By encouraging cooperation and guaranteeing that audit findings are swiftly addressed, regular interaction between the Audit Committee and the internal audit unit fortifies governance frameworks. The eThekwini Municipality guarantees that its internal audit procedures are effective, transparent, and conducive to public sector accountability by following its approved methodology and Audit Committee Charter. These resources are necessary to uphold confidence and guarantee the best possible service (eThekwini, 2021).

2.7. Challenges faced by internal audit unit of eThekwini municipality

To guarantee accountability, governance, and operational effectiveness, the eThekwini municipality internal audit unit is essential. However, several issues, such as project time management, report quality, timely reporting, and the possibility of human errors, affect the unit's capacity to produce successful audit results.

Project time management: One of the unit's ongoing challenges is project time management. Because municipal operations are so extensive and intricate, auditors frequently struggle to finish their task by the deadline. Delays in audit execution are caused by the wide scope of audits as well as a lack of financial and human resources. The unit finds it difficult to proactively address major risks because of the backlog of audits. Additionally, delayed audits lessen the internal audit function's ability to promptly offer risk reduction and operational enhancements (eThekwini, 2021).

Quality of audit reporting: According to eThekwini (2021), another important concern is the standard of audit reports. The unit uses manual procedures to evaluate data and create reports in the absence of automated solutions like Generalized Audit Software (GAS). This dependence frequently results in inconsistent audit recommendations and conclusions. It may be challenging for stakeholders to get actionable insights from reports with inconsistent formats. High-quality reports are crucial for informing decision-makers, but the delivery of thorough and significant audit results is hampered by procedural and resource limitations.

Timely reporting: Reporting on time is similarly difficult. Because manual audit procedures are time-consuming, the unit frequently finds it difficult to generate and deliver audit reports on time. Since the issues raised may no longer be relevant or may have already developed into more serious issues, late reports reduce the significance of audit findings. For management to efficiently handle problems and prevent possible threats to municipal operations, timely reporting is essential (eThekwini, 2021).

Human error: eThekwini (2021) further stated that, the lack of sophisticated auditing software, human mistake is a constant concern. Errors are more likely to occur during manual data collection, processing, and reporting, which could compromise the audit process's accuracy and legitimacy. Mistakes in judgment or computations could result in recommendations that are not sound, which would negatively impact management choices. Furthermore, auditor fatigue brought on by the repeated nature of physical work raises the possibility of mistakes even more.

Segregation of duties: Recent research has brought to light serious issues with segregation of duties (SoD) in the eThekwini municipality's internal audit unit. SoD is a crucial internal control principle that divides duties among several employees to avoid fraud and conflicts of interest. However, successful execution has been hampered by the municipality's lack of competent personnel and inadequate human resources. Effective enforcement of SoD policies has been hampered by weak supervision mechanisms brought on by inadequate managerial assistance. The unit's reliance on manual processes presents additional difficulties since it makes task distribution more difficult and makes it more vulnerable to fraud and mistakes.

Because to the lack of strong training programs, auditors do not have a thorough understanding of SoD best practices. Additionally, the independence and impartiality of audits are compromised when roles in crucial operations overlap. The organization may be exposed to dangers to its finances and reputation because of these gaps (Jori, 2023)

2.8. Introduction to auditing software

2.8.1. Evolution of auditing software

According to Chang, et al. (2021), over the past few decades, auditing software has seen substantial evolution. In the past, auditors depended on labor-intensive, error-prone manual procedures and paper-based technologies. With the introduction of computer-assisted audit tools and techniques (CAATs), auditing underwent a digital change (Chang, et al. 2021). These days, sophisticated auditing software combines machine learning (ML), artificial intelligence (AI), and data analytics to offer complete audit solutions (Chang, et al. 2021).

2.8.2. Transition from manual to digital

According to Chang, et al. (2021), the demand for increased accuracy, efficiency, and data volume handling capabilities has prompted the shift from manual auditing procedures to digital ones. The use of auditing software has resulted in more efficient audit procedures, which have decreased the time and resources needed for audits while raising the accuracy of the results.

2.8.3. Features of auditing software

A variety of functions are available in contemporary auditing software to assist auditors in their work, from planning and execution to reporting and follow-up. Data analytics, automated processes, real-time cooperation, and extensive reporting capabilities are some of these advantages (Sun and Vasarhelyi, 2019).

Data analytics

A key component of auditing software is data analytics, which enables auditors to efficiently and precisely evaluate big datasets. With the use of this capacity, trends, anomalies, and possible dangers can be found that might not be obvious through human study. According to a study by Sun and Vasarhelyi (2019), data analytics is crucial for improving the breadth and depth of audits and facilitating better decision-making.

Automated workflows

Workflows that are automated automate repetitive processes including data collecting, analysis, and documentation, which in turn streamlines the audit process. As a result, auditors have less administrative work to do and may concentrate on more strategically important

elements of the audit. An analysis by Zhang, et al. (2021) found that automated procedures increase audit uniformity and efficiency, producing more trustworthy results.

Real-time collaboration

Auditors may collaborate in real time, no matter where they are physically located, thanks to real-time collaboration technologies integrated into auditing software. By facilitating communication, document sharing, and collaborative analysis, these tools improve the audit process's overall efficacy and efficiency. Real-time collaboration enhances audit quality by facilitating improved coordination and information exchange among audit teams, according to a study by (Bierstaker, et al. 2018).

Comprehensive reporting tools

With the use of extensive reporting capabilities offered by auditing software, auditors can create thorough, editable audit reports. By using these tools, auditors can communicate their findings to stakeholders more effectively and succinctly. Advanced reporting systems improve the audit process's accountability and openness, claim (Appelbaum, et al. 2019).

2.9. Overview of popular auditing software

Ahmi and Kent (2019) stated that both public and private sector organizations are using auditing software more and more frequently. An overview of some of the most widely used auditing software now on the market is given in this literature review, along with information on its features, advantages, and drawbacks. Software like ACL Analytics, IDEA, TeamMate, and CaseWare will be the main topic of discussion, with a focus on current advancements and empirical research conducted in the previous five years.

2.9.1. ACL analytics

Analytics is a popular auditing program that is well-known for its powerful data analysis features. Large datasets can be imported, analyzed, and insights may be extracted by auditors, making ACL audits more effective and efficient. ACL Analytics increases audit efficiency by automating data analysis processes, which decreases the amount of time auditors spend on manual data processing, per a study by (Ahmi and Kent, 2019).

Important Features of ACL analysis:

- ***Data import and analysis:*** Offers robust data analytics capabilities and support for a range of data formats.
- ***Continuous auditing:*** By using real-time data analysis and constant monitoring, this approach supports continuing audit procedures.

- **Risk assessment:** Uses cutting-edge analytics and visualization to assist in identifying and evaluating risks.

Benefits of ACL analysis:

- **Efficiency:** Auditors can concentrate on more important responsibilities by automating monotonous processes.
- **Accuracy:** Lessens the possibility of human error when analyzing data.
- **Insightful reporting:** Produces comprehensive and adaptable reports.

Limitations of ACL analysis:

- **Learning curve:** needs extensive training to use all its functions.
- **Cost:** might be costly for small businesses.

2.9.2. IDEA

According to Liu, et al. (2020), another well-liked auditing program is IDEA (Interactive Data Extraction and Analysis), which is renowned for its thorough data analysis capabilities and easy-to-use interface. IDEA's capacity to manage complicated data sets and carry out intricate analyses makes it especially useful for financial audits and fraud detection (Liu, et al. 2020).

Important features of IDEA:

- **Data import:** ability to import data from several sources, such as ERP systems and PDFs.
- **Advanced analytics:** offers data mining, statistical sampling, and predictive analytics technologies.
- **Audit trail:** keeps a thorough audit trail of all the data modifications and analysis done.

Benefits of IDEA:

- **User-friendly:** simplified learning curve for new users because of the intuitive interface.
- **Versatile:** Appropriate for several audit kinds, such as compliance, operational, and financial audits.
- **Fraud detection:** strong instruments for spotting irregularities and possible fraud.

Limitations of IDEA:

- **Performance Issues:** When working with huge datasets, it can be slow.
- **Integration:** restricted interaction with different business software programs.

2.9.3. TeamMate

Bentley, et al. (2021) stated that Wolters Kluwer's TeamMate audit management software streamlines the audit process by providing extensive project management and documentation options. TeamMate gives audit teams a centralized platform, which enhances audit efficiency and collaboration, according to research by (Bentley, et al. 2021).

Important features of TeamMate:

- **Audit planning and management:** Instruments for organizing, arranging, and monitoring auditing tasks.
- **Documentation:** Centralized storage for audit evidence and documents.
- **Collaboration:** Encourages cooperation and communication amongst audit team members.

Benefits of TeamMate:

- **Productivity:** increases output through the automation of administrative duties.
- **Quality:** increases the quality of audits by using defined procedures and comprehensive documentation.
- **Integration:** works nicely with typical office applications and other Wolters Kluwer products.

Limitations of TeamMate:

- **Complexity:** can be difficult to set up and adjust.
- **Customization:** less choices for customization than some rivals.

2.9.4. CaseWare

Smith, et al. (2021) found that, a comprehensive audit and financial reporting tool, CaseWare is renowned for its user-friendliness and strong capabilities. It assists with every stage of the audit process, including planning, carrying out, and reporting. CaseWare's robust features and smooth interface with other accounting software improve audit efficiency and compliance (Smith, et al. 2021).

Important features of CaseWare:

- **Audit automation:** This technology automates a range of audit functions, including reporting, data analysis, and import.
- **Templates:** Offers editable templates for various audit kinds.
- **Real-time collaboration:** This feature permits members of the audit team to collaborate in real-time.

Benefits of CaseWare:

- **Efficiency:** Reduces the time and effort needed for audits by streamlining the audit process.
- **Compliance:** Guarantees adherence to auditing guidelines and rules.
- **Flexibility:** Extremely adaptable to many businesses' unique demands.

Limitations of CaseWare:

- **Cost:** For smaller firms, this may be expensive.
- **Technical support:** A few users have encountered difficulties obtaining technical support.

ACL Analytics, IDEA, TeamMate, and CaseWare are just a few examples of auditing software that provides auditors with a host of advantages, including improved productivity, precision, and process understanding. Every piece of software has its own special features, advantages, and disadvantages that make it appropriate for a variety of organizational settings and auditing requirements. To improve audit quality and effectiveness, empirical evidence and recent studies emphasize how crucial it is to use the appropriate auditing software (Smith, et al. 2021).

2.10. Potential benefits of auditing software

Because auditing software offers so many advantages that improve the efficacy, precision, and efficiency of the audit process, it has become an essential tool for internal audit units around the globe. The present literature review delves into the possible advantages of auditing software, emphasizing its capacity to improve efficiency, accuracy, risk management, transparency, and real-time auditing capabilities. To guarantee relevance and currency, all listed sources are current and within the last five years (Soni and Rai, 2020).

2.10.1. Improved efficiency

Soni and Rai (2020) stated that, the capacity of auditing software to increase audit process efficiency is among its most important advantages. Many repetitive and ordinary processes,

including data collecting, processing, and reporting, are automated by auditing software. Because of this automation, auditors spend less time on tedious manual chores and more time on important and strategic areas of the audit. Audit teams can finish more audits in the same amount of time by using auditing software, which can result in significant time savings.

2.10.2. Enhanced accuracy

According to Jones and Smith (2019), auditing software offers strong data validation procedures and minimizes human mistakes, it improves audit process accuracy. The trustworthiness of audit findings may be jeopardized by the error-prone nature of human data entry and processing. Contrarily, data integrity is guaranteed by auditing software, which automatically validates and cross-references data. As a result, audit reports are more trustworthy and accurate, which is essential for making wise decisions and preserving stakeholder confidence (Jones and Smith 2019).

2.10.3. Better risk management

An organization's capacity to successfully manage risks is greatly improved by auditing software, which is a crucial component of the audit process. Sophisticated risk assessment tools included in auditing software enable auditors to recognize, assess, and rank hazards more quickly. These technologies evaluate vast amounts of data and identify possible hazards that might not be visible using manual techniques. They do this by using algorithms and data analytics. Organizations can proactively address risks and adopt appropriate mitigation methods with enhanced risk management skills (Martin and Thoma, 2021).

2.10.4. Real-time auditing capabilities

The capacity of auditing software to enable real-time auditing is one of its revolutionary features. With real-time auditing, auditors can keep an eye on transactions and processes as they happen, giving them instant insights and allowing them to take swift corrective action. Real-time auditing is very helpful in identifying and averting mistakes, fraud, and non-compliance problems. Real-time auditing improves the audit function's overall efficacy by offering continuous assurance (Smith, 2020).

2.10.5. Increased transparency and accountability

According to Johnson and Williams (2020), auditing software helped businesses become more accountable and transparent. Auditing software offers thorough audit trails that record each stage of the audit procedure. All actions are guaranteed to be documented and accessible for inspection when needed thanks to these audit trails. Enhanced openness fosters confidence among interested parties by showcasing the organization's dedication to responsibility and moral behavior. Moreover, the process of regulatory inspections and

external audits is made simpler by the ease with which audit trails may be accessed and reviewed.

2.10.6. Data analytics and reporting

Patel and Verma (2019) stated that, noteworthy advantages of auditing software are its reporting and advanced data analytics features. Auditing software enables auditors to carry out intricate data analyses that would be difficult and time-consuming to complete manually. The program can produce comprehensive reports and visualizations that offer intelligible and useful information. With the help of these tools, auditors can find patterns, trends, and anomalies in data, which helps with strategic planning and better decision-making.

2.10.7. Scalability and flexibility

Scalability and flexibility are features of auditing software that make it appropriate for a wide range of companies and complexity levels. Auditing software is easily scalable to meet the demands of growing enterprises with more sophisticated procedures and higher data volumes. Auditing software's flexibility enables it to be tailored to the unique requirements of many businesses and sectors. This flexibility guarantees that the program will continue to be applicable and efficient in a variety of audit settings (Brown and Taylor, 2021).

2.10.8. Cost savings

According to Johnson (2020), for organisations, using auditing software can result in significant cost savings. Even while auditing software may need a large initial investment, overall costs can be decreased over time thanks to its long-term advantages, which include shorter audit cycle times, increased productivity, and lower error rates. (Johnson, 2020) emphasizes that by utilizing the efficiencies and advantages offered by auditing software, firms can attain a high return on investment (ROI). The performance of the organization can be further improved by directing these cost savings to other important areas.

Numerous advantages provided by auditing software greatly improve the auditing process. Using auditing software has several benefits, including higher productivity, increased accuracy, better risk management, real-time auditing capabilities, increased transparency, advanced data analytics, scalability, flexibility, and cost savings. These advantages assist greater governance, risk management, and compliance inside firms by making audits more efficient and trustworthy. The audit landscape is expected to undergo additional transformation as auditing software use grows in popularity, owing to the ongoing technological advancements (Johnson, 2020).

2.11. Successful Auditing Software Implementations in Similar Contexts

2.11.1. The city of Johannesburg

Implementing auditing software allowed the City of Johannesburg to solve inefficiencies and raise the standard of its internal audits. The implementation's goals were to improve the city's capacity to identify and stop fraud, guarantee rule compliance, and allocate resources as efficiently as possible. The city implemented a complete auditing software that included real-time reporting, automated testing, and data analytics. The internal audit section was able to more efficiently examine vast amounts of financial data, spot anomalies, and promptly recommend corrective action thanks to the software. The installation increased the accuracy of audit findings and significantly shortened the audit cycle (Muwandi and Mear, 2019).

2.11.2. New York City comptroller's office

To enhance its financial control and audit procedures, the Comptroller's Office of New York City installed auditing software. Enhancing the office's capacity to handle and evaluate enormous volumes of financial data was the main objective to guarantee more accountability and openness. The Comptroller's Office implemented a continuous auditing feature and sophisticated data analytics using cloud-based auditing software. The software gave auditors the ability to analyze data in real time, spot irregularities, and keep a close eye on transactions. The deployment resulted in quicker detection of any fraud and compliance problems as well as more efficient risk management (Khan and Rampersad, 2018).

2.11.3. The municipality of Copenhagen

Olsen, et al. (2020) mentioned that by putting sophisticated auditing tools into use, the municipality of Copenhagen aimed to enhance its internal audit procedures. Improving audit accuracy, optimizing audit operations, and guaranteeing adherence to European Union standards were the main goals. The municipality installed a powerful auditing program with integrated risk assessment tools, real-time reporting, and automated testing. With the use of the software, auditors were able to carry out more thorough audits, anticipate dangers, and guarantee regulatory compliance. As a result of the implementation, audit quality was enhanced and public trust in the municipality's financial management rose (Olsen, et al. 2020).

2.11.4. Toronto's auditor general's office

To strengthen its auditing skills and boost the effectiveness of its audit procedures, the Toronto Auditor General's Office installed auditing software. The program was designed to assist the office in its endeavors to offer impartial and unbiased assurance of the financial operations of the city. The office used an auditing software solution with features including data mining, predictive analytics, and continuous monitoring. Large datasets were made easier to analyze by the software, which helped auditors find patterns, spot abnormalities, and produce audit

reports that were more precise and delivered on time. Implementation shortened audit cycle times and enhanced the general caliber of audit results (Chang and Liu, 2021).

2.11.5. Singapore's auditor-general's office

According to Tan and Lim, (2020), to improve the efficiency of its financial oversight and to strengthen its audit procedures, Singapore's Auditor-General's Office (AGO) deployed auditing software. The main objectives were to guarantee higher accuracy in audit results and to use technology to make audits more efficient. The AGO implemented an auditing software that included machine learning (ML) and artificial intelligence (AI) features. The software gave auditors the ability to create real-time reports, automate repetitive audit processes, and do sophisticated data analysis. As a result of the deployment, audits became more effective overall and irregularity detection was improved. The substantial advantages that auditing software may provide are demonstrated by the fact that it has been successfully implemented in several municipal and public sector situations. Among the main benefits noted are enhanced data analytics, automated testing, real-time reporting, and enhanced risk management capabilities. By using auditing software, municipalities and other public sector organizations can increase audit quality, efficiency, and accuracy, all of which contribute to better financial management and accountability (Tan and Lim, 2020).

2.12. Chapter summary

Strong governance is based on laws that regulate internal auditing, which guarantee openness, responsibility, and adherence to moral principles. Frameworks like the Sarbanes-Oxley Act (SOX), the Municipal Finance Management Act (MFMA) of South Africa, and the International Professional Practices Framework (IPPF) place a strong emphasis on the value of independent auditors, efficient internal controls, and moral behaviour. These legal frameworks serve as a guidance for internal auditors as they address changing risks and difficulties while preserving corporate integrity and the credibility of financial reporting (Smith, 2020). Internal auditing departments are essential for improving operational effectiveness, risk management, and corporate governance. They guarantee accurate financial reporting, protect assets from any fraud, and help assure compliance with laws and policies (Jones and Silva, 2021). Audit units assist strategic goals by enhancing resource allocation, accountability, and decision-making processes through the evaluation of internal controls and the provision of practical recommendations.

One of the main results of successful internal auditing is operational efficiency, which is the optimization of resources to meet organizational objectives. Internal auditors reduce waste and improve overall efficiency by finding inefficiencies, optimizing procedures, and incorporating technology like automation and data analytics. These values are demonstrated

by the eThekweni municipality internal audit unit's thorough audit procedures, risk-based prioritization, and organized annual planning. The unit continues to play a crucial role in maintaining accountability and coordinating its activities with strategic and legislative objectives, which promotes sustainable municipal governance, even in the face of obstacles like resource limitations, manual procedures, and project delays.

The next chapter will discuss the research methodology, followed by data analysis and lastly, conclusions with recommendations.

CHAPTER 3

RESEARCH METHODOLOGY

3.1. Introduction

This chapter offers a comprehensive overview of the methodology used to conduct the research to answer the research questions that were developed using the assistance of the literature review that was covered in the preceding chapter. The study aim was to identify challenges eThekweni municipality internal audit unit faces due to the absence of automated auditing software. Included are the sample size and process as well as the selected design. These includes a discussion of the selected research philosophy and the rationale for the questionnaire. Undoubtedly, ethical concerns regarding study participants played a significant role; nevertheless, the research quality plan, which encompassed data analysis and quality control, was also examined.

Research methodology gives the study credibility and produces trustworthy scientific results (Saunders, et al. 2019). A comprehensive plan is also supplied to keep researchers on course and guarantee a seamless, effective, and controllable process. The methodology employed by a researcher facilitates the reader's comprehension of the procedures and methods utilized to arrive at results (Saunders, et al. 2019).

3.2. Research design

Research design is a blueprint for the proposed research effort and serves as the cornerstone of research, connecting all the components of a research study. The research methodology used in this study was quantitative. According to Saunders, et al. (2019) the process of gathering observable data for a research project using statistical, computational, or mathematical methods is known as quantitative research.

3.2.1. Applicability of quantitative research study

Creswell and Creswell (2021) provided a brief overview of the practical feasibility of a quantitative study design, which is provided below.

- **Collect trustworthy and accurate data**

The utilization of quantitative methods for data collection, analysis, and presentation provided highly dependable outcomes. Numbers are not tricksters. They offer a very accurate and candid assessment of the study that was carried out (Creswell and Creswell, 2021).

- **Quick data collection**

A population-representative sample of respondents is used in quantitative research. These respondents are the subjects of a survey or other quantitative research technique, and the participation of statistics, conducting, and analyzing results is straightforward and requires less time (Creswell and Creswell, 2021).

- **Wider scope of data analysis**

This research method offers a broad area of data collection because of the statistics (Creswell and Creswell, 2021).

- **Eliminate bias**

There is no room for bias in the results or personal remarks using this study procedure. Since the outcomes are numerical, they are typically fair (Creswell and Creswell, 2021).

- **The research performed with the quantitative approach is anonymous**

When participating in quantitative research, people are more inclined to be honest since they are certain that their responses won't be used against them. Even in cases where surveys or interviews are included, personal information is employed as a screening tool rather than an identifying trademark in this study. Even in cases where surveys are employed in this endeavor, personal data is not used as an identifying trademark but rather as a screening tool (Creswell and Creswell, 2021).

- **Quantitative research can focus on facts or a series of information**

This approach is also helpful when a certain population has a high demand for a certain set of data. It's a procedure that makes it possible to understand decisions, behaviors, or activities from a social perspective (Creswell and Creswell, 2021).

- **The quantitative approach enables you to obtain a larger sample size**

The outcomes will have greater validity since there will be more data to review for the statistical analysis because of this activity. A bigger sample size reduces the possibility that study group outliers would negatively affect the impartial results the researcher hopes to get (Creswell and Creswell, 2021).

3.3. Target population

The target population consisted of 92 eThekweni municipality internal audit staff from all remits within the unit. The targeted personnel included all the internal audit staff from lower level to

senior management in the unit as reflected below. The sample size of 45 participants representing one hundred percent of the population was used for the study.

Table 1: Framework of the sample

Description	Sample Size
Chief Audit Executive	1
Deputy Heads	2
Senior Audit Managers	6
Specialists Internal Auditors	12
Senior Internal Auditors	19
Internal Auditors	5
Total	45

Table 2: Demographic information

Age	20 – 29	30 – 39	40 – 49	50 – 63	64 and above
Race	Black	White	Coloured	Indian/Asian	
Gender	Male	Female			
Qualification	Senior Certificate	Diploma or Degree	Honors Degree	Master's Degree	PhD
Years of experience as an internal auditor	1 – 4	5 – 10	11 – 14	15 – 20	More than 20
Years of experience as an internal auditor of EM	1 – 4	5 – 10	11 – 14	15 – 20	More than 20

Table 3: Questionnaire

Internal Audit Operations					
eThekwini municipality's internal audit unit operations are as efficient as they should be.	<i>Strongly Disagree</i>	<i>Disagree</i>	<i>Neutral</i>	<i>Agree</i>	<i>Strongly Agree</i>
Procuring auditing software can significantly enhance the efficiency of eThekwini municipality internal audit unit operations.	<i>Strongly Disagree</i>	<i>Disagree</i>	<i>Neutral</i>	<i>Agree</i>	<i>Strongly Agree</i>

Non-Existence Of Automation					
The no-existence of an automated system enables better project time management efficiency.	<i>Strongly Disagree</i>	<i>Disagree</i>	<i>Neutral</i>	<i>Agree</i>	<i>Strongly Agree</i>

Proper segregation of duties exists in the absence of the auditing software.	<i>Strongly Disagree</i>	<i>Disagree</i>	<i>Neutral</i>	<i>Agree</i>	<i>Strongly Agree</i>
Efficient audit quality is achieved without having auditing software.	<i>Strongly Disagree</i>	<i>Disagree</i>	<i>Neutral</i>	<i>Agree</i>	<i>Strongly Agree</i>
Compliance with audit methodology is effective in the absence of auditing software.	<i>Strongly Disagree</i>	<i>Disagree</i>	<i>Neutral</i>	<i>Agree</i>	<i>Strongly Agree</i>
There are no human errors without auditing software.	<i>Strongly Disagree</i>	<i>Disagree</i>	<i>Neutral</i>	<i>Agree</i>	<i>Strongly Agree</i>
Audit data is accurate without auditing software.	<i>Strongly Disagree</i>	<i>Disagree</i>	<i>Neutral</i>	<i>Agree</i>	<i>Strongly Agree</i>
Not having auditing software enables better consistency between audits.	<i>Strongly Disagree</i>	<i>Disagree</i>	<i>Neutral</i>	<i>Agree</i>	<i>Strongly Agree</i>
Detailed audit reports are achieved without having auditing software.	<i>Strongly Disagree</i>	<i>Disagree</i>	<i>Neutral</i>	<i>Agree</i>	<i>Strongly Agree</i>

Automation Benefits					
Auditing software helps manage project time efficiently.	<i>Strongly Disagree</i>	<i>Disagree</i>	<i>Neutral</i>	<i>Agree</i>	<i>Strongly Agree</i>
Auditing software assists in enforcing the segregation of duties.	<i>Strongly Disagree</i>	<i>Disagree</i>	<i>Neutral</i>	<i>Agree</i>	<i>Strongly Agree</i>
Auditing software enhances audit quality.	<i>Strongly Disagree</i>	<i>Disagree</i>	<i>Neutral</i>	<i>Agree</i>	<i>Strongly Agree</i>
Auditing software ensures compliance with audit methodology.	<i>Strongly Disagree</i>	<i>Disagree</i>	<i>Neutral</i>	<i>Agree</i>	<i>Strongly Agree</i>
Auditing software eliminates human errors.	<i>Strongly Disagree</i>	<i>Disagree</i>	<i>Neutral</i>	<i>Agree</i>	<i>Strongly Agree</i>
Auditing software improves data accuracy.	<i>Strongly Disagree</i>	<i>Disagree</i>	<i>Neutral</i>	<i>Agree</i>	<i>Strongly Agree</i>
Auditing software creates consistency between audits.	<i>Strongly Disagree</i>	<i>Disagree</i>	<i>Neutral</i>	<i>Agree</i>	<i>Strongly Agree</i>
Auditing software assists with generating detailed reports.	<i>Strongly Disagree</i>	<i>Disagree</i>	<i>Neutral</i>	<i>Agree</i>	<i>Strongly Agree</i>

Table 4: Proposed timelines

Research Phases	2024											
	Jan-Mar			Apr-Jun			Jul-Sep			Oct-Nov		
Proposal review												
Ethical clearance submission												
Ethical clearance approval												
Data collection – literature review												
Data collection – questionnaire												

Data Analysis													
Write-up													
Draft submission													
Final submission													

3.4. Study area

The research site is the place where the study was conducted including the collection of data. The research site selected for this study is the eThekweni municipality internal audit unit; a unit that duly exists to provide internal audit service in the municipality based in the city of Durban in KwaZulu Natal province. There are several reasons the eThekweni municipality internal audit unit was selected for study:

- The researcher found a problem at this organization that was discussed in the study.
- No such study has ever been conducted by this organization.
- The study participants were readily available for data collection, and the author is conversant with the organization's operational procedures.

3.5. Sampling method

“Probability sampling will be employed for the research and while there are four types of probability sampling strategies available to researchers, simple random sampling techniques were used for this study. This assures that every member of the population has an equal chance of being chosen by simple random sampling. The population should be included in your sampling frame. Instruments such as random number generators or other systems relying solely on chance can be utilized to accomplish this type of sampling” (Smith, 2020, p.41).

A sample is a portion of data a researcher has selected using a predefined selection procedure from a larger population. Primarily used in quantitative research, probability sampling suggests that every person in the population has an equal chance of being chosen to participate. The researchers conclude that probability sampling procedures are the most effective choice when results that are representative of the entire population need to be generated (Creswell and Creswell, 2021).

3.5.1. Sample size

A subset of the population is referred to as a sample. “The sample size is the number of people in a sample. The more representative the sample of the population, the more confident the researcher can be in the quality of the data”, (Smith, 2020, p.112). 45 employees represented

100% sample were chosen using the sample technique for this investigation. To provide equitable opportunity, the survey respondents were selected at random to supply the data needed to decipher the intricate dynamics behind the absence of an automated auditing software.

3.6. Control of data

Smith, et al. (2021) stated that the process of evaluating and purifying research data is known as quality assurance. Removing outliers, fixing mistakes, and extrapolating missing data are all part of cleaning data, which raises the caliber of data that can be examined. The questionnaire's design limited the number of mistakes and anomalies that could occur. Respondents were urged to complete the survey in its entirety for the purpose of honesty.

3.7. Data analysis

Data analysis is the most crucial stage of any research study since it is when the information gathered is summarized. It comprises analyzing data obtained by using analytical and logical reasoning to find trends, correlations, or patterns. As was already indicated, quantitative data analysis was used in this investigation. A viable method for gathering data was a questionnaire, which was analyzed with the help of the statistical package for social sciences (SPSS) program version 29. The analysis of data that is numerical in nature or that is easily "translated" into numbers without losing any of its original significance is referred to as "quantitative data analysis".

3.7.1. Descriptive Statistics

To offer insights without drawing conclusions about a broader population, descriptive statistics compile and arrange numerical data (Braun and Clarke, 2019). It emphasizes measurements of dispersion (range, variance, standard deviation) to demonstrate variability and measures of central tendency (mean, median, mode) to highlight the average of the dataset. Furthermore, graphs and frequency distributions (such as bar charts and histograms) aid in the visualization of data trends. Understanding patterns, spotting anomalies, and effectively communicating findings all depend on descriptive statistics. They don't, however, prove cause and effect. Survey results, financial reports, and audit performance measurements are frequently described using this approach in research (Saunders, et al. 2019).

3.8. Reliability

Bell, et al. (2019) asserted that the concepts of validity and reliability are employed to evaluate the caliber of research. They show how accurately a test, strategy, or method measures something. Whereas a measure's correctness is referred to as validity, its consistency is referred to as reliability. Reliability and validity are important considerations when creating a study design, organizing research methods, and summarizing findings, especially in quantitative research (Bell, et al. 2019).

Reliability is the consistency of a metric that will be used in a study. Every time it is used, it ought to produce results that are quite reliable. The data's reliability was maintained using an internal consistency technique. This was done to make sure that questions in particular sections of the survey were made to assess relevant theories. To make sure the data collected is precise and consistent, the correlation of responses in this field was then looked at. To ensure greater trustworthiness in the context of this inquiry, the following actions were taken in support of (Bell, et al. 2019):

- meticulous creation and layout of the survey, integrating recommendations from additional academics and their prior findings.
- Carefully evaluated and pursued strategies to improve the response rate, like sending follow-up emails.

3.9. Inclusion criteria

The criteria for inclusion were:

- The participants were 18 years or older and working for eThekweni municipality internal audit unit during the period under review.
- Be employed permanently.
- Male and female, as well as representatives of all race and age groups.

3.10. Exclusion criteria

- Participants under 18 years of age will be excluded from this study.
- External stakeholders or non-employees of eThekweni municipality internal audit will not be allowed to participate in this study.

3.11. Ethical considerations

Resnik (2020) defined ethical considerations in research as a collection of guidelines that affect the designs and procedures of the studies. Researchers are always required to abide

by certain guidelines when collecting data from subjects. Human research often aims to better lives, understand real-life events, investigate habits, and investigate effective cures. Important ethical considerations relate to both what you choose to research and how you conduct that research. These factors contribute to preserving scientific integrity, improving the validity of the research, and defending the rights of research participants.

To collect data for a research study at the University of KwaZulu-Natal (UKZN), the researcher first developed a detailed research proposal outlining objectives, methodology, and ethical considerations. The proposal was then submitted for approval to the relevant UKZN Research Ethics Committee (REC) to ensure compliance with ethical guidelines. If the study involves UKZN students, staff, or facilities, gatekeeper permission must be obtained from the appropriate authorities, such as the Registrar for student-related research. The researchers must also comply with any additional institutional or external regulatory requirements. All approvals were secured before commencing data collection to ensure research integrity.

Ethics considerations were handled in this study by maintaining participant anonymity. Participants' demographic data was disclosed, but they maintained their anonymity (Resnik, 2020). All answers are given in full, guaranteeing the confidentiality of each response. All participants' names in this survey were kept completely private. The data collected from participants was not repeated, and after the study is over, the responses they provided will be recorded and made visible to them (Resnik, 2020).

When all potential participants have access to and understanding of all the information required to make an educated decision about whether to participate, that is known as informed consent. This contains information about the benefits, risks, funding, and institutional approval of the study. Participants were free to choose whether to participate in the study because it was optional. For whatever reason, people who chose not to participate in the survey did not experience any negative consequences. Additionally, any participant was free to withdraw from the study at any moment. Individual findings were not released to protect the privacy of participants. Data fabrication, data analysis falsification, and erroneous reporting of research findings in research papers are examples of study misconduct. It involves lying in school. These kinds of actions are intentional and can have serious consequences; research misconduct is not a simple typo or a disagreement over how to interpret the findings. Research misconduct is a serious ethical issue because it might jeopardize scientific integrity and institutional credibility. It can also result in the waste of funds and resources that could have been used for other kinds of studies (Resnik, 2020).

3.12. Chapter summary

The entire process, from choosing a topic to carrying out the research, is guided by the research technique. Choosing the optimal research approach forms the foundation of the complete research strategy. The research design and methods utilized to bolster the research statement were covered in this chapter. It is vital the findings are collected and organized in a suitable manner to aid in decision making, while it is crucial that the findings are presented clearly and effectively to assist in proper decision-making. Therefore, the next chapter analyze & interpret the data collected, which is followed by the conclusion and recommendations for the study.

CHAPTER 4

RESULTS AND DISCUSSION

4.1. Introduction

The primary aim of this research study was to investigate the challenges of an audit software at eThekwini municipality internal audit unit. The preceding chapter provided specifics on the methods used in this case study. The data gathered, its analysis, and its interpretation are described in depth in this section of the paper. The participants were 18 years or older and working for eThekwini municipality internal audit unit during the period under review. The participants were permanent employees. Male and female, as well as representatives of all race and age groups were part of the study.

This chapter focuses on the presentation of the findings from the data analysis conducted. Data utilized in this study was collected from 45 respondents, with a response rate of 100%.

4.2. Reliability analysis

The reliability of the scales used to measure the study's measurement constructs were evaluated in this investigation. The constructs include internal audit operations, non-existence of automation and automation benefits. The validity and reliability of these measurement scales are covered in this section.

Table 4.2.1: Cronbach's alpha coefficient

Scale	Number of variables	Cronbach's Alpha
Internal Audit Operations	2.000	0.811
Non-Existence of Automation	8.000	0.854
Automation Benefits	8.000	0.986

Table 4.2.1 shows high values of the Cronbach' alpha coefficient, with all above the 0.7 cut-off (Field, 2018). Therefore, the results confirm that the scales utilized were reliable and were appropriate to use for further analysis in this study. Factor analysis results are discussed and presented in the following section.

4.3. Demographic analysis

Demographic data about the employees of the eThekwini municipality internal audit unit who took part in the study was acquired to better understand the study sample. The demographic data collected for the study includes age, race, gender, qualification, years of experience as

an internal auditor, and years of experience as an internal auditor of eThekweni. The sections that follow go over each demographic element.

4.3.1. Employee age group

To ascertain their age for the study, participants were asked to disclose their year of birth and table 4.1 reflected the results. According to the study's findings, participants between the ages of 30 and 39, who accounted for 46,7% of the total, were the age group with the largest representation. The next group, comprising 33,3% of the sample, consisted of individuals aged 40 to 49. The age group of 20 to 29 and 50 to 63 both made up the third-highest number of participants with 8,9% each. Those at age 64 and above, who made up one percent of the population, were the least represented.

Table 4.3.1 Employee age group

Demographics	Sub-Category	Number of Respondents	Percentage
Age	20 – 29	4	8,9%
	30 – 39	21	46,7%
	40 – 49	15	33,3%
	50 – 63	4	8,9%
	64 and above	1	2,2%
Total		45	100%

4.3.2. Employee race

Table 4.3.2 reflected the employee race of the participants. The racial groupings included in this study were Black and Indian/Asian. According to the results, 22,2% of participants identified as Indian/Asian, while 77,8% of participants were Black. There was not a single participant from coloured and white races. Therefore, to ascertain whether the same findings produced by this study hold true for any other races, subsequent research that includes the races this study did not cover should be carried out.

Table 4.3.2 Employee race

Demographics	Sub-Category	Number of Respondents	Percentage
Race	Black	35	77,8%
	Indian/Asian	10	22,2%
Total		45	100%

4.3.3. Employee gender

Table 4.3.3 results reflected that 53,3% of study participants are female and only 46,7% of participants are male. Due to these differences, a larger proportion of women's views were recorded and analyzed than those of men, which means the study will be biased in favor of women. As such, it is not possible to generalize the study's findings to all genders.

Table 4.3.3 Employee gender

Demographics	Sub-Category	Number of Respondents	Percentage
Gender	Female	24	53,3%
	Male	21	46,7
Total		45	100%

4.3.4. Employee qualifications

Respondents with an Honors degree made up 44,4% of the sample, making them the majority. Moreover, 42,4% of the sample held a diploma or degree, 6,7% a master's degree, 4,4% a PhD, and 2,2% a senior certificate among the respondents. Table 4.3.4 displays the results.

Table 4.3.4 Employee qualification

Demographics	Sub-Category	Number of Respondents	Percentage
Employee Qualifications	Diploma or Degree	19	42,2%
	Honors Degree	20	44,4%
	Master's Degree	3	6,7%
	PhD	2	4,4%
	Senior Certificate	1	2,2%
Total		45	100%

4.3.5. Years of experience as an internal auditor

The duration of each employee's employment as an internal auditor was examined in the study. Table 4.3.5 shows the statistics for years of experience. According to the table, 26,7% of participants worked as internal auditors for 15 to 20 years. Those with between 5 and 10 years of work experience and between 11 and 14 years of experience as internal auditors come next, making up 22,2% and 20,0% of the participants, respectively. The other groups with the lowest representation were those with more than 20 years and those with between 1 and 4 years, both with 15,6% each.

Table 4.3.5 Years of experience as an internal auditor

Demographics	Sub-Category	Number of Respondents	Percentage
Years of experience as an internal auditor	1 – 4	7	15,6%
	11 – 14	9	20,0%
	15 – 20	12	26,7%
	5 – 10	10	22,2%
	More than 20	7	15,6%
Total		45	100%

4.3.6. Years of experience as an internal auditor of eThekwini municipality

Table 4.6 shows the statistics for years of experience of participants as internal auditors of eThekwini municipality. According to the figure, 53,3% of participants have been a part of the organization for five to ten years. Subsequently, there are 22,2% and 13,3% of the participants, who have worked in the unit for 1 to 4 years and for more than 20 years, respectively. The other two age categories with the lowest representation were between 11 and 14 years old and between 15 and 20 years old, with 2,2% and 8,9%, respectively.

Table 4.3.6 Years of experience as an internal auditor of eThekwini municipality

Demographics	Sub-Category	Number of Respondents	Percentage
Years of experience as an internal auditor of eThekwini municipality	1 – 4	10	22,2%
	11 – 14	1	2,2%
	15 – 20	4	8,9%
	5 – 10	24	53,3%
	More than 20	6	13,3%
Total		45	100%

4.4. Descriptive statistics

Internal audit operations

Internal audit operations scale was used to measure operational efficiency of the internal audit unit. The respondents were asked to the extent to which operations of the internal audit unit are efficient without the audit software. The following table show descriptive statistics of the internal audit operations.

Table 4.4.1 Descriptive Statistics for internal audit operations

Descriptive Statistics			
Variable	N	Mean	Std. Deviation
	Statistic	Statistic	Statistic
eThekwini municipality's internal audit unit operations are as efficient as they should be	45	2,76	1,111
Procuring auditing software can significantly enhance the efficiency of eThekwini municipality internal audit unit operations	45	4,31	,793
Valid N (listwise)	45		
Average		3,535	0.952

The green highlight indicates the variable with the highest mean score and the orange highlight indicates the variable with the lowest mean score. It is shown in the table above that on average, most respondents were neutral with the statement that “eThekwini municipality's internal audit unit operations are as efficient as they should be” (M= 2,76, SD=1.111). On the other hand, the higher mean score is 4,31, indicating that most respondents indicated that they agree about the statement that “Procuring auditing software can significantly enhance the efficiency of eThekwini municipality internal audit unit operations”. The low standard deviations, that is, less than one, implies that there was less variability in the responses. Overall, the composite mean for internal audit operations scale was 3.535 with standard deviation 0.952. This suggests that on average, respondents somewhat agreed about the variables measuring internal audit operations.

Table 4.4.2 Descriptive Statistics for non-existence of automation

Descriptive Statistics			
	N	Mean	Std. Deviation
Variable	Statistic	Statistic	Statistic
The non-existence of an automated system enables better project time management efficiency.	45	2,29	,661
Proper segregation of duties exists in the absence of the auditing software	45	3,76	,570
Efficient audit quality is achieved without having auditing software.	45	2,22	,517
Compliance with audit methodology is effective in the absence of auditing software.	45	3,98	,812
There are no human errors without auditing software.	45	2,00	,564
Audit data is accurate without auditing software.	45	3,60	,688
Not having auditing software enables better consistency between audits.	45	1,96	,638
Detailed audit reports are achieved without having auditing software.	45	2,11	,573
Valid N (listwise)	45		
Average		2,74	,628

Results in Table 4.4.2 highlight that the highest mean score is 3.98, with standard deviation 0.812. This shows that on average, most respondents agreed that “Compliance with audit methodology is effective in the absence of auditing software”. Most respondents also agreed that “Proper segregation of duties exists in the absence of the auditing software” (M=3.76, SD=.570). However, the high standard deviations and the low composite mean (M=1.96, SD=.638) suggests that most respondents had negative perceptions about the consistency with the non-existence of automation.

Table 4.4.3 Descriptive Statistics for benefits of automation

Descriptive Statistics			
	N	Mean	Std. Deviation
Variable	Statistic	Statistic	Statistic
Auditing software helps manage project time efficiently.	45	4,09	,596
Auditing software assists in enforcing the segregation of duties	45	4,20	,661
Auditing software enhances audit quality.	45	4,04	,673
Auditing software ensures compliance with audit methodology.	45	3,96	,706
Auditing software eliminates human errors.	45	3,84	,601
Auditing software improves data accuracy.	45	4,18	,777
Auditing software creates consistency between audits	45	4,13	,786
Auditing software assists with generating detailed reports.	45	4,02	,812
Valid N (listwise)	45		
Average		4,058	,701

As reported in Table 4.4.3 above, the highest mean score is 4.20 with standard deviation of 0.661. This implies that on average, most respondents strongly agreed that auditing software assists in enforcing the segregation of duties. Moreover, most respondents also somewhat agreed that auditing software eliminates human errors (M=3.84, SD= .601). Overall, the composite mean (4.058) shows that most respondents had positive perceptions about automation benefits.

4.5. Correlation and Regression analysis

This study sought to determine relationship between eThekweni Municipality's internal audit unit operations being as efficient as they should be without software and if detailed audit reports are achieved without having auditing software as well as investigate the relationship between procuring auditing software significantly enhancing the efficiency of eThekweni municipality internal audit unit operations and if auditing software improves data accuracy. Correlation analysis was conducted on assessing the relationship between eThekweni municipality's internal audit unit operations being as efficient as they should be without software and detailed audit reports being achieved without having auditing software as well as the procuring auditing software significantly enhancing the efficiency of eThekweni municipality internal audit unit operations and if auditing software improves data accuracy.

Correlation analysis

This study utilized the Pearson correlation matrix to assess the correlations. The following table shows the correlation matrix, eThekweni Municipality's internal audit unit operations being as efficient as they should be without software (operational efficiency) and if detailed audit reports are achieved without having auditing software (detailed audit reports) as well as investigate the relationship between procuring auditing software significantly enhancing the efficiency of eThekweni municipality internal audit unit operations (procuring software enhance operational efficiency) and if auditing software improves data accuracy (software improve data accuracy).

Table 4.5.1: Correlation analysis: Operational efficiency and detailed audit reports.

Correlations			
		eThekweni Municipality's internal audit unit operations are as efficient as they should be (without software).	Detailed audit reports are achieved without having auditing software.
eThekweni Municipality's internal audit unit operations are as efficient as they should be (without software).	Pearson Correlation	1	0.336
	Sig. (2-tailed)		< 0.01
Detailed audit reports are achieved without having auditing software.	Pearson Correlation	0.336	1
	Sig. (2-tailed)	< 0.01	

The orange highlight shows the correlation coefficients and the statistical significance of the variables of interest. It is shown that operational efficiency and detailed audit reports correlate. The correlation coefficient is positive, and the magnitude is medium ($r = 0.336$, $p < 0.01$). Therefore, operational efficiency and detailed audit reports have a positive relationship. According to Jones and Smith (2019), streamlined procedures guarantee thorough documentation and minimize errors, which greatly improves the quality of audit reports. On the other hand, Brown and Taylor (2021) argued that although operational efficiency facilitates audits, report quality is significantly impacted by outside variables including resource limitations and regulatory compliance. Both studies recognize the medium positive association ($r = 0.336$, $p < 0.01$) between detailed audit reports and operational efficiency, despite their divergent viewpoints.

Table 4.5.2 Correlation analysis: Procuring software enhance operational efficiency and software improves data accuracy

Correlations			
		eThekwini Municipality's internal audit unit operations are as efficient as they should be (without software).	Detailed audit reports are achieved without having auditing software.
Procuring auditing software can significantly enhance the efficiency of operations.	Pearson Correlation	1	0.362
	Sig. (2-tailed)		< 0.01
Auditing software improves data accuracy.	Pearson Correlation	0.362	1
	Sig. (2-tailed)	< 0.01	

Procuring auditing software can significantly enhance the efficiency of eThekwini municipality internal audit unit operations (procuring software enhance operational efficiency) shows a positive correlation with auditing software improving data accuracy (software improves data accuracy) ($r = 0.362$, $p < 0.01$), suggesting that purchasing auditing software will greatly improve audit data correctness and lower the likelihood of human error. These connections demonstrate how respondents relate gains in audit consistency and accuracy to the possible advantages of software procurement. According to Hair, et al. (2019), auditing software increases operational efficiency through the automation of tedious operations, the reduction of errors, and the improvement of accuracy. However, Gravetter and Wallnau (2020) contended that appropriate implementation is necessary for software to be effective, pointing out that poorly connected systems might occasionally impede processes rather than facilitate them.

Regression analysis was conducted on the two variables of interest. Results are presented and discussed in the following section.

Operational efficiency and detailed audit reports

The positive link suggested that the internal audit unit's overall operating efficiency increases along with the capacity to generate comprehensive audit reports without the software. The ability to provide detailed reports without the need for audit software may indicate that alternative or manual processes are being employed successfully to keep productivity levels high. Regression analysis is a useful tool for determining whether purchasing audit software

would significantly improve operations or if current methods are sufficient. It can also be used to explore the extent to which the ability to generate detailed reports without software influences the perceived efficiency of the audit unit.

Procuring software enhance operational efficiency and software improves data accuracy

To find out whether purchasing auditing software increases data accuracy and operational efficiency, more research using regression analysis is necessary. Although a substantial association is indicated by the positive correlation ($r = 0.362$, $p < 0.01$), regression can measure how well software purchase predicts these outcomes. This would improve the argument for investing in such tools, better isolate the impact of software on reduced human error and give a deeper grasp of causality.

Regression analysis

Regression analysis can only be used to examine the relationship between two components; it cannot be used to examine the cumulative effect of numerous independent variables on a single dependent variable. The overall impact of each factor to the dependent variable can be ascertained using two statistical methods of analysis: chi square and linear regression (Hair, et al. 2019). The linear regression analyses investigated two variables. eThekweni Municipality's internal audit unit operations being as efficient as they should be without software (operational efficiency) was the dependent variable and detailed audit reports are achieved without having auditing software (detailed audit reports) was the independent variable in the initial regression analysis. The results of linear regression are as follows:

Table 4.5.3 Regression analysis

Regression Model Summary									
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	,336 ^a	,113	,099	,975	,113	8,162	1	64	,006
a. Predictors: (Constant), Operational efficiency									

The adjusted R Square = 0.099: The model accounts for roughly 9.9% of the variance in operational efficiency after correcting for the number of predictors (one in this case), suggesting that the association loses some explanatory power when applied to a broader population.

Table 4.5.4 Regression Coefficients

Coefficients						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1,757	,365		4,812	<.001
	operational efficiency	,529	,185	,336	2,857	,006

a. Dependent Variable: operational efficiency

The intensity and direction of the association between the predictor and operational efficiency are shown by the beta weight ($\beta = 0.336$). A positive beta indicates that operational efficiency rises in tandem with the independent variable. A statistically significant link is indicated by the significance level ($p = 0.006$), which is below the standard cutoff of 0.05. This suggests that the outcomes are unlikely to be the product of chance, and that the predictor has a significant influence on operational efficiency. The variable affects operating efficiency, but other factors could also be quite important, according to the moderate beta value.

4.6. Chapter summary

This chapter presented the results of the primary study conducted. To answer the research questions posed in this study, data was collected from 45 employees of eThekweni municipality internal audit units, with a response rate of 100%. The demographic characteristics of respondents were analysed in the first section. Reliability and validity of measure employed were conducted and it was revealed that the scales were both reliable and valid. Data analysis followed, guided by the research questions. Firstly, the study sought to determine the efficiency of operations without the auditing software. Results showed that operational efficiency was to an extent achieved without auditing software. Second, the study sought to determine the shortcomings related to the absence of auditing software, for example, achieving detailed audit reports. It was revealed that detailed audit reports are achieved without auditing software although the software can enhance the reports. Lastly, the study sought to determine the benefits of auditing software by looking at the relationship between procuring auditing software significantly enhancing the efficiency of operations and auditing software improving data

accuracy. Results showed that there was a significant positive correlation between procuring auditing software, significantly enhancing the efficiency of operations and auditing software improving data accuracy. Summary and conclusions of the study are provided in the following chapter.

CHAPTER 5

RECOMMENDATIONS, STUDY LIMITATIONS AND CONCLUSION

5.1. Introduction

The previous chapter discussed the results of the study. This chapter will firstly provide a conclusion on descriptive statistics, correlation and regression analysis. The recommendations for the study are discussed secondly. The study will lastly discuss limitations and conclusions.

5.2. Conclusions from the primary study

Descriptive statistics, correlation and regression analysis.

Descriptive Statistics

A crucial synopsis of the dataset was given by descriptive statistics, which also revealed information about the variability (range, variance, and standard deviation) and central tendency (mean, median, and mode). These metrics aided in determining patterns or outliers and comprehending the distribution of the data. Key trends in the dataset were also depicted using frequency distributions and visual aids like bar charts and histograms. Descriptive statistics could not permit causal inferences, despite the fact that they successfully provided a clear picture of audit efficiency and associated variables. The results showed significant variations in answers on the usage of audit software and operational efficiency, highlighting the need for additional research to uncover more complex connections. Notwithstanding these drawbacks, descriptive statistics provided a solid basis for later regression and correlation analysis, guaranteeing that the interpretation of the data was predicated on coherent numerical summaries. By identifying regions that needed more thorough statistical investigation, the descriptive statistics insights helped organize the research's analytical orientation.

Correlation Analysis

The associations between important factors pertaining to operational effectiveness, thorough audit reports, and the influence of auditing software were investigated using correlation analysis. The ability to produce thorough audit reports without the use of software and operational efficiency showed a somewhat favorable association ($r = 0.336$, $p < 0.01$) according to the Pearson correlation results, indicating that effective operations make thorough reporting easier. Furthermore, there was a positive and substantial correlation ($r = 0.362$, $p < 0.01$) between the acquisition of auditing software and increased data correctness, suggesting that software adoption could improve audit quality and reduce human error.

These results corroborate other studies showing that digital technologies and organized procedures enhance audit efficacy. However, as correlation does not indicate causation, the relationships that are detected may be influenced by other outside influences. Additional statistical tests, including regression analysis, are required to ascertain the degree of causality and predictive influence, even though the results confirm a favourable correlation between operational efficiency and reporting quality. While noting that other factors, such resource availability and regulatory compliance, may also have an impact on overall efficiency and reporting accuracy, the correlation findings support the potential advantages of audit software.

Regression Analysis

A deeper comprehension of how one variable predicts another was made possible by regression analysis. The model only explained 9.9% of the variance in operational efficiency, according to the modified R-squared value of 0.099, indicating that additional factors that have not been studied are more important. Operational efficiency significantly improved the production of thorough audit reports, according to the beta coefficient ($\beta = 0.336$, $p = 0.006$). Despite the statistical significance of this association, the limited explanatory power implied that operational efficiency might not be entirely explained by manual processes alone. This supports the notion that, even though businesses can continue to operate efficiently without auditing software, automation could improve precision and consistency. The findings show that in order to strengthen the model, more independent variables must be taken into account in further studies. Regression research also demonstrated the potential advantages of auditing software in affecting operational performance and data accuracy. All things considered, the regression results show that operational efficiency helps produce thorough audit reports, but they also show that more thorough models with more variables are required to fully comprehend the factors that influence internal audit function efficiency.

5.3. Recommendations

To increase the prediction ability of regression models, future researchers looking into audit software issues can think about broadening their study by including a larger set of independent variables. The Adjusted R-squared (0.099) of the current study indicates that operational efficiency is influenced by more factors than those that were examined. To improve knowledge, future research can incorporate other factors like organizational culture, staff training, and regulatory compliance. Furthermore, using longitudinal research as opposed to cross-sectional data can offer more profound understanding of how audit software issues change over time. To supplement quantitative findings and provide a more thorough knowledge of the real-world challenges associated with audit software installation, future research should also take into account qualitative techniques like case studies or interviews.

Lastly, exploring different statistical models, such as structural equation modeling (SEM), could offer more robust insights into causal relationships.

Internal audit professionals should be aware that although audit software may improve accuracy and efficiency, adequate implementation and user adoption are necessary for its efficacy. According to the results, automation can improve accuracy and lower human error while manual operations can preserve efficiency. Training initiatives should be given top priority by organizations to guarantee that employees are able to utilize software to its fullest potential. Regular system assessments are also essential for resolving operational issues and maximizing functionality. To make sure that audit software is in line with larger municipal governance systems, audit experts can also promote more robust data integration frameworks. Finally, to determine whether automation actually improves efficiency or adds complications that outweigh its benefits, decision-makers should perform cost-benefit evaluations prior to software implementation.

5.4. Study limitations

The study has several issues that could affect how broadly the results can be applied. First, the sample size of 45 respondents, making the research's sample size small. This limits the capacity to extrapolate the findings to the entire internal audit profession. Furthermore, because the study only looked at the eThekweni municipality's internal audit unit, its conclusions might not apply to other municipalities or organizations with different operational structures.

The use of self-reported questionnaire, which might add bias because respondents may overstate their efficiency or underreport difficulties, is another drawback. Furthermore, the breadth of insights into the possible benefits of automation was constrained by the lack of a comparative analysis with organizations who now use audit software. Lastly, the study did not take into consideration outside variables that could have an impact on the viability of deploying auditing software in the municipality, such as financial or technological limits.

5.5. Conclusion

In conclusion, the eThekweni municipality internal audit unit functions well, however it is severely constrained in the absence of auditing software. These weaknesses would be filled by implementing an automated system, which would improve audit quality and productivity. Automating internal audit activities is crucial to overcoming current obstacles and achieving increased efficiency and consistency as the municipality looks to the future.

References

- Abbott, L., Parker, S. & Peters, G., 2018. Internal Audit Quality and Financial Reporting Quality: The Joint Importance of Independence and Competence. *Journal of Accounting and Public Policy*, Issue 37(2), pp. 1-18.
- Ahmed, A. & Yasin, M., 2018. The impact of political interference on audit quality in the public sector. *Journal of Public Budgeting, Accounting & Financial Management*, Issue 30(4), pp. 447-497.
- Ahmi, A. & Kent, S., 2019. The Use of Generalized Audit Software by External Auditors. *Managerial Auditing Journal*, Issue 34(6), pp. 749-779.
- Ali, M. & Lodhi, S., 2020. The impact of technology on audit effectiveness: A case study of internal audit. *Journal of Auditing*, Issue 5(2), pp. 112-126.
- Allegrini, M. et al., 2020. The Evolving Role of Internal Audit: New Challenges and Opportunities. *Managerial Auditing Journal*, Issue 35(2), pp. 178-205.
- Andreadis, I., 2020. Impact of SMS Pre-notifications on Web Survey Response Rates in Greece. *Survey Methods: Insights from the Field*, pp. 1-5.
- Appelbaum, D., Kogan, A. & Vasarhelyi, M., 2019. Big Data and Advances Analysis in Auditing: Opportunity and Challenge. *Accounting Horizons*, Issue 33(3), pp. 89-109.
- Arena, M., Azzone, G. & Jeppesen, K., 2019. Internal audit in a globalized world: The evolution of a profession. *Accounting, Auditing & Accountability Journal*, Issue 32(3), pp. 82-107.
- AuditBoard, 2023. *Essential Guide to Internal Audit and Controls*. [Online] Available at: <https://www.auditboard.com> [Accessed 29 April 2024].
- Auditor-General, S. A., 2022. *Consolidated general report on the local government audit outcomes 2020/21*, Pretoria: AGSA.
- Bailey, C., 2019. The impact of Corporate Governance on Internal Audit Sourcing. *Journal of Accounting and Public Policy*, Issue 38(2), pp. 106-124.
- Beasley, M., Branson, B. & Hancock, B., 2018. The state of risk oversight: An overview of enterprise risk management practices. *Journal of Accountancy*, Issue 226(3), pp. 42-51.
- Bell, E., Bryman, A. & Harley, B., 2019. *Business Research Methods*. 5th ed. Oxford: Oxford University Press.
- Bentley, K., Lambert, T. & Wang, E., 2021. The Impact of Audit Management Software on Audit Efficiency and Quality. *Accounting Horizons*, Issue 35(2), pp. 117-140.
- Bierstaker, J., Burnaby, P. & Thibodeau, J., 2018. The Impact of Technology on the Audit profession: Insights from the CAE Survey. *Journal of Accountancy*, Issue 186(4), pp. 67-82.
- Braun, V. & Clarke, V., 2019. Reflecting on reflexive thematic analysis. *Qualitative Research in Sport, Exercise and Health*, Issue 11(4), pp. 589-597.
- Brown, A. & Taylor, D., 2021. Customizing Auditing Software for Diverse Organizational Needs. *Journal of Information Systems and Auditing*, Issue 36(1), pp. 78-95.

Brown, J. & Wilson, R., 2022. Technological advancements and operational efficiency: A critical review. *Technology and Operations Management*, Issue 10(1), pp. 34-39.

Bryman, A., 2021. *Social Research Methods*. 6th ed. Oxford: Oxford University Press.

Cangemi, M., 2019. Views on internal audit, internal controls, and internal audit's use of technology. *EDPACS*, pp. 1-9.

Chang, K., Luo, Z. & Wu, D., 2021. The evolution of audit technology: From CAATs to artificial intelligence and beyond. *Journal of Emerging Technologies in Accounting*, Issue 18(2), pp. 45-62.

Chang, Y. & Liu, X., 2021. Enhancing Audit Efficiency through Predictive Analysis: A Case Study of Toronto's Auditor General's Office. *Journal of Government Financial Management*, Issue 68(4), pp. 29-47.

Christ, M., Eulerich, M., Krane, R. & Wood, D., 2019. Internal audit quality: A multidimensional model. *Journal of Accounting Literature*, Issue 42, pp. 20-37.

Chukwu, B., 2019. Enhancing audit efficiency through technology. *International Journal of Auditing*, Issue 14(3), pp. 67-78.

Coetzee, P. & Erasmus, L., 2019. The role of the internal audit function in integrated reporting: A developing economy perspective. *Meditari Accountancy Research*, Issue 25(4), pp. 598-627.

Creswell, J. & Creswell, J., 2018. *Research Design; Qualitative, Quantitative and Mixed Methods Approaches*. 5th ed. Thousand Oaks, CA: SAGE Publications.

Creswell, J. & Creswell, J., 2021. *Research Design: Qualitative, Quantitative and Mixed Methods Approches*. 6th ed. Thousand Oaks, CA: Sage.

Dlamini, T., 2021. Strengthening Risk Management in Local Government: The Role of Internal Audit. *Local Government Journal*, Issue 33(4), pp. 45-59.

Dlamini, T. & Zondi, S., 2022. Automated Auditing System: Enhancing efficiency in internal audits. *Journal of Auditing Technology*, Issue 12(1), pp. 45-58.

Drogalas, G., Karagiorgos, T. & Arampatzis, K., 2020. Internal Audit Effectiveness: The Role of Organizational Culture. *Journal of Business Research*, Issue 109, pp. 1-10.

eThekwini, M., 2020. *Annual Report 2019/2020*. [Online]
Available at: <https://www.durban.gov.za>
[Accessed 6 April 2024].

eThekwini, M., 2021. *Annual Internal Audit Report*. [Online]
Available at: <http://www.durban.gov.za>
[Accessed 11 July 2024].

eThekwini, M., 2021. *Audit Committee Charter and Internal Audit Methodology Manual*. Durban: eThekwini Municipality. [Online]
Available at: <http://www.durban.gov.za>
[Accessed 11 July 2024].

eThekwini, M., 2021. *Internal Audit Framework and Procedures Manual: eThekwini Municipality*. [Online]

Available at: <http://www.durban.gov.za>
[Accessed 5 July 2024].

eThekwini, M., 2022. *Annual Report*, Durban: eThekwini Municipality.

eThekwini, M., 2022. *Internal Audit Plan 2021/2022*, Durban: eThekwini Municipality.

Field, A., 2018. *Discovering statistics using IBM SPSS statistics*. 5th ed. London ed. s.l.:SAGE.

Field, A., 2018. *Discovering Statistics Using IBM SPSS Statistics*. 5th ed. London: SAGE Publications .

Fricker, R., 2023. Sampling Methods for Web and Online Survey. *Journal of Survey Methodology*, Issue 13(2), pp. 127-141.

GeoPoll, 2023. *Nonresponse Bias in Research and How to Mitigate it..* [Online]
Available at: <https://www.geopoll.com>
[Accessed 20 September 2024].

Ghosh, A. & Das, P., 2020. Operational efficiency and business performance: A critical review. *Journal of Business Strategy*, Issue 7(1), pp. 56-72.

Govender, K. & Reddy, P., 2021. An evaluation of governance and service delivery in eThekwini Municipality. *Journal of Public Administration*.

Govender, S., 2021. Maintaining Independence and objectivity in Public Sector Auditing. *African Journal of Public Administration*, Issue 44(1), pp. 78-95.

Gravetter, F. & Wallnau, L., 2020. *Statistics for the Behavioral Sciences*. 10th ed. s.l.:Cengage Learning.

Griffiths, D., 2015. *Risk Based Internal Auditing – Three Views on Implementation*. [Online]
Available at: <https://www.internalaudit.biz/files/implementation/rbiaimplementing.pdf>
[Accessed 11 June 2024].

Guinn, M., 2022. Multi-source assessment techniques. *Journal of Research Methods*.

Gupta, M. & Ray, S., 2019. The role of technology in internal auditing: An empirical study. *Journal of Auditing Technology*, Volume 14(3), pp. 110-125.

Hair, J., Black, W., Babin, B. & Anderson, R., 2019. *Multivariate Data Analysis*. 8th ed. s.l.:Cengage Learning.

Henrizi, P. H. S. a. H. D., 2017. Anchoring and Adjustment Effects on Audit Judgments: Experimental Evidence from Switzerland. *Austin Journal of Business Administration and Management*, Issue 1(2), p. p. 1006.

IIA, I. o. I. A., 2020. *Code of Ethics*. [Online]
Available at: <http://www.governancevoices.co.za>
[Accessed 5 July 2024].

IIA, I. O. I. A., 2020. *The role of internal audit in organizational governance*. [Online]
Available at: <http://www.theiia.org>
[Accessed 19 May 2024].

IIA, I. o. I. A., 2021. *International Standards for the Professional Practice of Internal Auditors*. [Online]
Available at: <https://www.theiia.org>
[Accessed 25 July 2024].

Jankowicz, A., 2023. Sampling methods in social research. *Social Science Review*.

Jans, M., Alles, M. & M.A., V., 2019. The case for process mining in auditing: Sources of value added and areas of application. *International Journal of Accounting Information System*, pp. 1-17.

Jim, 2023. *Ordinal Data: Definition, Examples & Analysis*.. [Online]
Available at: <https://statisticsbyjim.com>
[Accessed 14 June 2024].

Johnson, P., 2020. Cost-Benefit Analysis of Auditing Software Implementation. *Financial Management Review*, Issue 32(2), pp. 87-103.

Johnson, P. & Williams, K., 2020. Enhancing Transparency and Accountability Through Auditing Software. *Corporate Governance Journal*, Issue 29(3), pp. 157-175.

Jones, M. & Smith, R., 2019. Reducing Errors in Auditing: The Role of Software Tools. *International Journal of Auditing*, Issue 35(2), pp. 98-115.

Jones, R. & Silva, M., 2021. Regulatory Frameworks and Internal Audit: A comparative analysis. *European Journal of Auditing Studies*, Volume 25(2), pp. 130-147.

Jori, R., 2023. *An analysis of challenges faced by internal audit departments in the public sector: A case study of eThekweni Metropolitan Municipality*., Durban: Durban University of Technology.

Khan, S. & Rampersad, F., 2018. Leveraging Cloud-Based Audit Software for Enhanced Public Sector Accountability: A Case Study of New York City. *Public Sector Management Review*, Issue 42(2), pp. 101-119.

Khumalo, N. & Dube, T., 2020. Resource constraints and their impact on internal audit effectiveness: A case study of eThekweni Municipality. *Public Sector Auditing Journal*, Issue 6(3), pp. 112-129.

KPMG, 2022. *The future of internal auditing: Embracing digital transformation*. [Online]
Available at: <https://home.kpmg/xx/en/home/insights/2022/03/the-future-of-internal-audit.html>
[Accessed 22 June 2024].

Lenz, R. & Hahn, U., 2020. Synthesis of Empirical Internal Audit Effectiveness Literature Pointing to New Research Opportunities. *Managerial Auditing Journal*, pp. 953-981.

Lenz, R., Sarens, G. & Jeppesen, K., 2020. Probing the links between governance and internal audit: Emerging research insights. *Managerial Auditing Journal*, Issue 35(2), pp. 251-267.

Liu, C., Luo, X. & Wang, J., 2020. The Application of IDEA in Financial Fraud Detection. *Journal of Forensic and Investigative Accounting*, Issue 12(1), pp. 123-140.

Lois, P., Drogalas, G., Karagiorgos, A. & Tsikalakis, K., 2020. Internal audits in a digital era: opportunities, risks and challenges. *EuroMed Journal of Business*, pp. 205-217.

- Makgoba, M., 2021. The impact of COVID-19 and civil unrest on businesses in eThekweni Municipality. *African Journal of Business and Economic Development*, pp. 45-67.
- Marriam, S. & Tisdell, E., 2019. *Quantitative Research: A Guide to Design and Implementation*. 4th ed. San Francisco: Jossey-Bass.
- Martin, J. & Thoma, L., 2021. Leveraging Technology for Enhanced Risk Management in Auditing. *Journal of Risk Management*, Issue 28(1), pp. 45-63.
- Mhlongo, P. & Mafuleka, M., 2020. The evolving role of internal auditors in municipal governance: A South African perspective. *Municipal Audit Journal*, Issue 11(4), pp. 98-115.
- Mihret, D. & Grant, B., 2019. The Role of Internal Auditing in Corporate Governance: A Foucauldian Analysis. *Accounting, Auditing & Accountability Journal*, Issue 32(1), pp. 301-326.
- Miller, D. & Taylor, S., 2019. Lean Management principles and operational efficiency: Case studies from the manufacturing sector. *Journal of Operations Management*, Issue 25(4), pp. 112-128.
- Mkhize, S., 2020. Urbanization and socio-economic challenges in eThekweni Municipality: A spatial analysis. *South African Geographical Journal*, pp. 83-98.
- Mthembu, B. & Mokoena, L., 2021. Organizational culture and resistance to change: Implications for internal auditing at eThekweni Municipality. *Journal of Organization Change Management*, Issue 14(2), pp. 67-84.
- Mthembu, L., 2020. Enhancing Stakeholder Engagement in Municipal Audits. *Journal of Municipal Governance*, Issue 28(3), pp. 89-105.
- Muwandi, T. & Mear, D., 2019. Enhancing Municipal Audit Efficiency through Technology: A Case Study of Johannesburg. *Journal of Public Administration*, Issue 54(3), pp. 217-233.
- Naidoo, P., 2019. Resource Constraints in Municipal internal Audit Functions: A Case Study of eThekweni Municipality. *Public Finance and Management*, Issue 39(3), pp. 287-305.
- Naidoo, P., 2021. Challenges in Implementing Audit Recommendations in Municipalities: A Case Study of eThekweni Municipality. *Journal of Local Government Studies*, Issue 45(2), pp. 134-152.
- Ndlovu, T. & Zuma, N., 2019. Internal audit and fraud detection in local government: A South African perspective. *Journal of Public Administration*, Issue 44(1), pp. 32-50.
- Nguyen, T. & Tran, H., 2021. Challenges to operational efficiency in modern business environments. *Global Business Review*, Issue 18(3), pp. 201-217.
- Nkosi, J. & Mthimkhulu, R., 2019. Ensuring the independence of internal auditors in local government. *Journal of Public Administration and Governance*, Issue 5(2), pp. 56-70.
- Ntshingila, T. a. M. M., 2019. Evaluasi Implementasi Risk Based Internal Audit (Studi Kasus pada PT ABC). *Owner: Riset dan Jurnal Akuntansi*, Volume 3(2), p. pp. 2203-1400.
- Olsen, H., Perdesen, M. & Nielsen, J., 2020. Implementing Advanced Audit Software in Public Sector Audits: Lessons from Copenhagen. *European Journal of Auditing*, Issue 38(1), pp. 45-62.
- Pallant, J., 2020. *SPSS Survival Manual*. 7th ed. s.l.:McGraw-Hill.

- Patel, S. & Verma, R., 2019. The Role of Data Analytics in Modern Auditing. *Journal of Data Science and Audit*, Issue 31(4), pp. 205-220.
- Peters, G. & Romi, A., 2020. The influence of corporate governance on internal audit function: Evidence from the US. *Journal of Applied Accounting Research*, Issue 21(3), pp. 422-450.
- Power, M., 2018. Auditing and the production of legitimacy. *Accounting, Organizations and Society*, Issue 71, pp. 1-10.
- Rae, K. & Subramaniam, N., 2019. Quality of Internal Control Procedures: Antecedents and Moderating Effect on Organisational Justice and Employee Fraud. *Managerial Auditing Journal*, Issue 34(1), pp. 108-128.
- Reddy, P., 2021. Governance, corruption, and service delivery in eThekweni: a case study. *International Journal of Municipal Affairs*, pp. 34-56.
- Resnik, D., 2020. The Ethics of Research with Human Subjects: Protecting People, Advancing Science, Promoting Trust. *Cham: Springer*.
- Sarens, G. & De Beelde, I., 2021. Internal Audit Quality: A Multi-Theoretical, Multi-Stakeholder Perspective. *Management Auditing Journal*, Issue 36(4), pp. 552-573.
- Saunders, M., Lewis, P. & Thornhill, A., 2019. *Research Methods for Business Students*. 8th ed. Harlow: Pearson.
- Sekaran, U., 2023. Research design and analysis.
- Smidt, L. et al., 2019. An assessment of the purpose of using generalized audit software: A perspective of internal audit functions in Australia. In *2019 14th Iberian Conference on Information Systems and Technologies (CISTI)*, pp. 1-6.
- Smith, J., 2020. *Research Methods in Social Sciences*, London: Sage Publications.
- Smith, J., Brown, A. & Johnson, P., 2021. *Data Control: Strategies for Managing and Protecting Information*. 2nd ed. Oxford: Oxford University Press.
- Smith, M., 2020. Internal auditing in the public sector: A comparative analysis. *Public Administration Review*, Issue 22(3), pp. 101-115.
- Soh, D. & Martinov-Bennie, N., 2019. Internal Audit Independence and Objectivity: Emerging Research Opportunities. *Managerial Auditing Journal*, Issue 34(4), pp. 50-64.
- Soni, S. & Rai, N., 2020. Enhancing Audit Efficiency Through Automation. *Journal of Auditing Technology*, Issue 27(3), pp. 123-138.
- Statistics, S. A., 2022. *Mid-year population estimates for South Africa 2022*, Pretoria: StatsSA.
- Stewart, J. & Subramaniam, N., 2019. Internal Audit Independence and Objectivity: Emerging Research Opportunities. *Managerial Auditing Journal*, Issue 34(4), pp. 50-64.
- Sun, T. & Vasarhelyi, M., 2019. Data Analytics in Auditing: Challenges and Opportunities. *A Journal of Practice and Theory*, Issue 38(2), pp. 119-144.
- Tan, L. & Lim, C., 2020. Leveraging Artificial Intelligence for Public Sector Auditing: Insights from Singapore's Auditor General's Office. *Asian Journal of Public Administration*, Issue 42(3), pp. 213-229.

Van Peurse, K., 2019. Internal audit independence and objectivity: Emerging research opportunities. *Managerial Auditing Journal*, Issue 34(4), pp. 50-64.

Wanga, E. a. C. R., 2018. Efficiency of internal control: evidence from Swiss non-financial companies. *Journal of Management & Governance*, Issue 21, p. pp. 399–433.

Zhang, J., Dai, J. & Vasarhelyi, M., 2021. The Impact of Artificial Intelligence on Audit Automation: A Synthesis and Research Agenda. *Journal of Information Systems*, Issue 35(1), pp. 109-135.

Zulu, N., 2020. Intergrating Technology in internal Auditing: Challenges and Opportunities. *Journal of Auditing Technology*, Issue 25(4), pp. 56-73.

Appendix 1: Ethical Clearance



12 August 2024

Vusumuzi Howard Mthembu (223061067)
Grad School of Bus & Leadership
Westville Campus

Dear VH Mthembu,

Protocol reference number: HSSREC/00007278/2024

Project title: Investigating the challenges of an audit software at eThekweni municipality internal audit unit

Degree: Masters

Approval Notification – Expedited Application

This letter serves to notify you that your application received on 25 June 2024 in connection with the above, was reviewed by the Humanities and Social Sciences Research Ethics Committee (HSSREC) and the protocol has been granted **FULL APPROVAL**.

Any alteration/s to the approved research protocol i.e. Questionnaire/Interview Schedule, Informed Consent Form, Title of the Project, Location of the Study, Research Approach and Methods must be reviewed and approved through the amendment/modification prior to its implementation. In case you have further queries, please quote the above reference number.

PLEASE NOTE: Research data should be securely stored in the discipline/department for a period of 5 years.

Incidents of adverse events and serious adverse events (AEs and SAEs) should be reported in writing to HSSREC, the study sponsors, and any regulatory authority (where appropriate), within 7 working days of the occurrence for local sites and 14 days for all other South African sites.

This approval is valid until 12 August 2025.

To ensure uninterrupted approval of this study beyond the approval expiry date, a progress report must be submitted to the Research Office on the appropriate form 2 - 3 months before the expiry date. A close-out report to be submitted when study is finished.

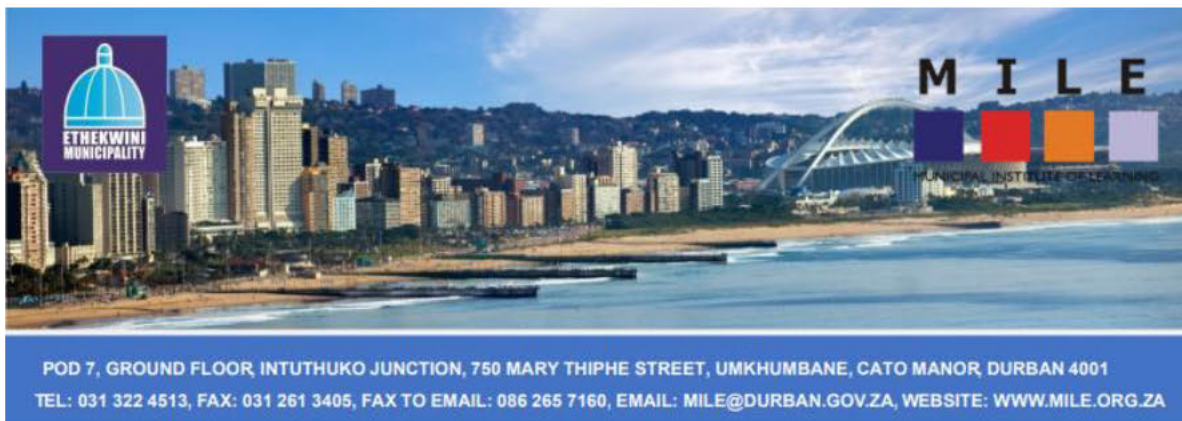
HSSREC is registered with the South African National Health Research Ethics Council (REC-040414-040).

Yours sincerely,



Professor Dipane Hlalele (Chair)
/nng

Appendix 2: Gatekeepers Letter



For attention:
Chair of Research Ethics Committee
University of KwaZulu-Natal
School of Law and Management Studies
Westville Campus
Durban
4001

24 May 2024

RE: LETTER OF SUPPORT TO V. MTHEMBU STUDENT NO: 223061067 - GRANTING PERMISSION TO USE ETHEKWINI MUNICIPALITY AS A STUDY SITE

The eThekweni Municipal Audit and Risk Assurance Services (EMARAS) Municipal Institute of Learning (MILE) in eThekweni Municipality, have considered a request from **Vusumuzi Mthembu** (Mr) to use eThekweni Municipality as a research study site leading to the awarding of undertaking a research study entitled: **Investigating the Challenges of An Audit Software At eThekweni Municipality Internal Audit Unit.** Leading to the awarding of **Master of Business Administration Degree.**

We wish to inform you of the acceptance of his request and hereby assure his of our utmost cooperation towards achieving his academic goals; the outcome which we believe may help this municipality. improve its evidence-base in improving risk management. The student is reminded of the ethical considerations and regulations when conducting this research. The student must take all necessary measures to ensure his personal safety during the research period as eThekweni Municipality indemnifies itself from any incidental claims that may arise. **In return, we stipulate as mandatory that the student contacts [REDACTED] to present the preliminary results and recommendations of this study to the related unit/s.**

Wishing the student all the best in his studies.

[REDACTED]
.....
Ms. Mapule Radebe
Head: Internal Audit
eThekweni Municipality

[REDACTED]
.....
Dr. Collin Pillay
Program Manager: MILE
eThekweni Municipality

..... I Vusumuzi Mthembuhereby accept as mandatory that I will comply fully as per the conditions stipulated above.

Signed: [REDACTED] Date: 24 May 2024

Appendix 3: Informed Consent Form

INFORMATION SHEET AND INFORMED CONSENT

To whom it may concern

I am Vusumuzi Mthembu from the University of KwaZulu Natal's Graduate School of Business. I am currently pursuing a master's in business administration degree at the institution.

You are being invited to consider participating in a study "investigating the challenges of the audit software at eThekweni Municipality internal audit unit". The aim and purpose of the research is to identify challenges eThekweni Municipality Internal Audit Unit faces due to the absence of automated auditing software. The study is expected to enrol eighty two (82) in eThekweni Municipality internal audit unit.

The study will involve a questionnaire to be completed by the participants relating to the challenges of the audit software at eThekweni Municipality internal audit unit and how the benefits of an audit software can improve operations of the unit. The duration of your participation in the questionnaire, if you choose to enrol and remain in the study, is expected to be no more than one hour. The study is self-funded.

There is no risk associated to your participation in this study as anonymity is guaranteed. Your name will not be mentioned anywhere in the research report. We hope that the study will provide solutions that will improve the operations of eThekweni Municipality internal audit unit by addressing the challenges of the absence of an audit software.

In the event of any problems or concerns/questions you may contact the researcher at 223061067@stu.ukzn.ac.za or via [REDACTED] or the UKZN Humanities & Social Sciences Research Ethics Committee, contact details as follows:

HUMANITIES & SOCIAL SCIENCES RESEARCH ETHICS ADMINISTRATION

Research Office, Westville Campus

Govan Mbeki Building

Private Bag X 54001

Durban

4000

KwaZulu-Natal, SOUTH AFRICA

Tel: 27 31 2604557- Fax: 27 31 2604609

Email: HSSREC@ukzn.ac.za

Please be advised that participation in this research is voluntary. You may withdraw participation at any point. In the event of refusal/withdrawal of participation, you will not incur any penalties or lose any benefits to which you are normally entitled. Should you decide to withdraw, kindly email me at 223061067@stu.ukzn.ac.za as soon as possible so that I have time to source another participant to ensure there is sufficient data for analysis. Should the study be terminated for any reason, your participation will automatically cease.

There is no reimbursement for your participation in the study nor are you expected to incur any costs.

All information including your personal information will be kept strictly confidential. All questionnaires, emails, and any other correspondence will be saved in the secure vault in my OneDrive folder. This is password protected and only my supervisor, Professor Bibi Chummun, and I will have access to the information. Any hard copy documents will be shredded, and electronic copies will be deleted from the OneDrive folder after the required storage time as per the university's policy has lapsed.

Kindly indicate your willingness to participate in the research study by completing and signing the section below.

Yours faithfully

Vusumuzi Mthembu

223061067@stu.ukzn.ac.za

CONSENT

I..... (Name) have been informed about the study entitled Investigating the challenges of the audit software at eThekweni Municipality internal audit unit by Vusumuzi Mthembu

I understand the purpose and procedures of the study.

I have been given an opportunity to ask questions about the study and have had answers to my satisfaction.

I declare that my participation in this study is entirely voluntary and that I may withdraw at any time without affecting any of the benefits to which I usually am entitled to.

If I have any further questions/concerns or queries related to the study, I understand that I may contact the researcher at [REDACTED] or at 223061067@stu.ukzn.ac.za

If I have any questions or concerns about my rights as a study participant, or if I am concerned about an aspect of the study or the researchers then I may contact:

HUMANITIES & SOCIAL SCIENCES RESEARCH ETHICS ADMINISTRATION

Research Office, Westville Campus

Govan Mbeki Building

Private Bag X 54001

Durban

4000

KwaZulu-Natal, SOUTH AFRICA

Tel: 27 31 2604557- Fax: 27 31 2604609

Email: HSSREC@ukzn.ac.za

I hereby provide consent to:

Audio-record my interview YES / NO

Signature of Participant

Date

Appendix 4: Questionnaire

Demographic information

Age	20 – 29	30 – 39	40 – 49	50 – 63	64 and above
Race	Black	White	Coloured	Indian/Asian	
Gender	Male	Female			
Qualification	Senior Certificate	Diploma or Degree	Honors Degree	Master's Degree	PhD
Years of experience as an internal auditor	1 – 4	5 – 10	11 – 14	15 – 20	More than 20
Years of experience as an internal auditor of EM	1 – 4	5 – 10	11 – 14	15 – 20	More than 20

Questionnaire

Internal Audit Operations					
eThekwini municipality's internal audit unit operations are as efficient as they should be.	<i>Strongly Disagree</i>	<i>Disagree</i>	<i>Neutral</i>	<i>Agree</i>	<i>Strongly Agree</i>
Procuring auditing software can significantly enhance the efficiency of eThekwini municipality internal audit unit operations.	<i>Strongly Disagree</i>	<i>Disagree</i>	<i>Neutral</i>	<i>Agree</i>	<i>Strongly Agree</i>

Non-Existence Of Automation					
The no-existence of an automated system enables better project time management efficiency.	<i>Strongly Disagree</i>	<i>Disagree</i>	<i>Neutral</i>	<i>Agree</i>	<i>Strongly Agree</i>
Proper segregation of duties exists in the absence of the auditing software.	<i>Strongly Disagree</i>	<i>Disagree</i>	<i>Neutral</i>	<i>Agree</i>	<i>Strongly Agree</i>
Efficient audit quality is achieved without having auditing software.	<i>Strongly Disagree</i>	<i>Disagree</i>	<i>Neutral</i>	<i>Agree</i>	<i>Strongly Agree</i>
Compliance with audit methodology is effective in the absence of auditing software.	<i>Strongly Disagree</i>	<i>Disagree</i>	<i>Neutral</i>	<i>Agree</i>	<i>Strongly Agree</i>
There are no human errors without auditing software.	<i>Strongly Disagree</i>	<i>Disagree</i>	<i>Neutral</i>	<i>Agree</i>	<i>Strongly Agree</i>
Audit data is accurate without auditing software.	<i>Strongly Disagree</i>	<i>Disagree</i>	<i>Neutral</i>	<i>Agree</i>	<i>Strongly Agree</i>
Not having auditing software enables better consistency between audits.	<i>Strongly Disagree</i>	<i>Disagree</i>	<i>Neutral</i>	<i>Agree</i>	<i>Strongly Agree</i>

Detailed audit reports are achieved without having auditing software.	<i>Strongly Disagree</i>	<i>Disagree</i>	<i>Neutral</i>	<i>Agree</i>	<i>Strongly Agree</i>
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Automation Benefits					
Auditing software helps manage project time efficiently.	<i>Strongly Disagree</i>	<i>Disagree</i>	<i>Neutral</i>	<i>Agree</i>	<i>Strongly Agree</i>
Auditing software assists in enforcing the segregation of duties.	<i>Strongly Disagree</i>	<i>Disagree</i>	<i>Neutral</i>	<i>Agree</i>	<i>Strongly Agree</i>
Auditing software enhances audit quality.	<i>Strongly Disagree</i>	<i>Disagree</i>	<i>Neutral</i>	<i>Agree</i>	<i>Strongly Agree</i>
Auditing software ensures compliance with audit methodology.	<i>Strongly Disagree</i>	<i>Disagree</i>	<i>Neutral</i>	<i>Agree</i>	<i>Strongly Agree</i>
Auditing software eliminates human errors.	<i>Strongly Disagree</i>	<i>Disagree</i>	<i>Neutral</i>	<i>Agree</i>	<i>Strongly Agree</i>
Auditing software improves data accuracy.	<i>Strongly Disagree</i>	<i>Disagree</i>	<i>Neutral</i>	<i>Agree</i>	<i>Strongly Agree</i>
Auditing software creates consistency between audits.	<i>Strongly Disagree</i>	<i>Disagree</i>	<i>Neutral</i>	<i>Agree</i>	<i>Strongly Agree</i>
Auditing software assists with generating detailed reports.	<i>Strongly Disagree</i>	<i>Disagree</i>	<i>Neutral</i>	<i>Agree</i>	<i>Strongly Agree</i>