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**FACULTY OF COMMERCE
DEPARTMENT OF ACCOUNTING**

An analysis into the implications of Information Technology on the internal audit function: A case study of Bulawayo City Council

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This dissertation is submitted in partial fulfillment of the requirements of the Bachelor of Commerce (Honors) Degree in Accounting in the Department of Accounting at MSU.

Gweru: Zimbabwe, 2014

DECLARATION FORM

I **AUDREY MUGIYA** do hereby declare that this dissertation is the result of my own original work, investigations and research, except to the extent indicated in the acknowledgements and references and it has not been submitted in part or full for any degree at any other University.

.....

AUDREY MUGIYA

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DATE

APPROVAL FORM

The undersigned certify that they have supervised the student Audrey Mugiya dissertation entitled: An analysis into the implications of information technology on the internal audit function: Bulawayo City Council, submitted in partial fulfilment of the requirements of Bachelor of Commerce in Accounting Honours Degree at Midlands State University

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DEDICATIONS

This research is dedicated to my mother Ms. P Mhetu. I love you. My success story today is a result of excellent guidance and effective motivation that you gave me.

ACKNOWLEDGEMENTS

1 have fought the good fight, I have finished the course and I have kept the faith. 2Timothy 4:7

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ABSTRACT

This research study was triggered by the researcher's experiences during Work Related Learning at Bulawayo City Council. The researcher observed that although information technology was making business easier for Bulawayo City Council, the impact of information technology on Bulawayo City Council's audit department was not being addressed.

The research made an in-depth review of the literature related to the impact of information technology on internal audit. This review aimed at obtaining information on what other authors who carried the same study said in order to get the required information conversant with current studies. The researcher made use of the descriptive research methods in gathering the information relevant to the study. The techniques employed included the conducting of interviews and the administering of questionnaires. The population utilized in the research was made up of BCC's Members of the Audit Committee, Chief Internal Auditor, Senior Accountants and Senior IT Technicians.

From the findings obtained, the researcher concluded that the internal audit staffs at Bulawayo City Council were failing to keep abreast to the continuous changes in information technology implemented by the organisation hence recommendations were made.

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LIST OF ACRONYMS

IIA	Institute of Internal Auditors
BCC	Bulawayo City Council
IT	Information Technology
CoK	City of Kings Business Ventures
ISA	International Standards on Auditing
CAATs	Computer Aided Auditing Techniques

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CHAPTER ONE

INTRODUCTION OF THE STUDY

1.0 Introduction

This research chapter covers: background of the study, the problem statement, study objectives, research questions, significance of the study, assumptions of the study, limitations of the study and the definition of terms.

1.1 Background of Study

For Auditors, Information Technology is a double edged sword. On one hand information systems have become tools to assist auditors. The current information systems have the capability to meet users' needs and help both internal and external auditors in dealing with new challenges. (Puttick 2011) On the other hand, rapid changes in information technology have resulted in the adoption of complex information systems by companies which often leaves no audit trail for auditors. (BahramSoltani 2011) This has a direct effect on the auditor's scope of work. According to Marx (2011) an Information Technology environment will influence the nature, scope and timing of auditing procedures.

Bulawayo City Council has heavily invested in information technology. The Company's Information Technology department's vision is, "to be operating in a paperless environment by the year 2018." It intends on imposing of most of its manual operations where necessary and make use of information technology. (Bulawayo City Council's Information Technology department's profile)

Bulawayo City Council's accounting department has already shifted from the use of manual accounting to the use of AS400 and BIQ accounting software in 1999. Its privatized arm City of Kings Business Ventures has also made to shift from the manual system to the use of the

PASTEL Accounting Package in 2009. (Bulawayo City Council's Financial Reports 1999 and City of Kings Financial Reports 2009)

In 2013 the Chief Internal Auditor reported that the Internal Audit Function at the organization was failing to keep abreast with the new information technologies and systems that were being employed by Bulawayo City Council. The introduction by the organization of the payment of bills through the Eco cash service resulted in the nature of transactions which leaves no audit trail since the transactions are done via mobile technology and systems. (Chief Internal Auditor Report 2013)

In a board meeting of July 2011, the Town Clerk expressed his concern over the ability of the Internal Auditors to audit both the accounts of Bulawayo City Council and that of its privatized arm City of Kings Business Ventures. It was concluded that external auditors were to be called to make an evaluation and test the work of the internal auditors. (Board minutes of July 2011). The external auditors' report indicated that there was underutilization of technology in performing audits by the Internal Audit. (Audit Report June 2012)

The computers in the audit function at Bulawayo City Council are underutilized as the Internal Audit only uses them to do regular tasks such as typing, data storage, sending emails etc. (Internal Audit Report 2012)

1.2 Problem Statement

The role of the Internal Auditor in local authorities is to safeguard public assets in the organization by continuously reviewing the performance of the internal control systems and assessing the organization's risk environment. This study aims at analyzing how the use of Information Technology at Bulawayo City Council has affected internal auditors in performing their duties at the organization.

1.3 Main Research Question

To what extent has the introduction of Information Technology impacted on the Internal Audits at Bulawayo City Council.

1.4 Research Objectives

- ❖ To determine the changes in the auditing procedures at Bulawayo City Council as a result of the introduction of Information Technology.
- ❖ To investigate the technological expertise required of the Internal Audit department at Bulawayo City Council (BCC).
- ❖ To determine the extent to which the computerization of Bulawayo City Council have influenced the audit approach used by the Internal Auditors at Bulawayo City Council (BCC).
- ❖ To determine the audit risks associated with the use of information technology in an organization.
- ❖ To determine how the Internal Audit Function at Bulawayo City Council can address the various limitations imposed by Information Technology (IT).

1.5 Sub Research Questions

- ❖ How have the auditing procedures at Bulawayo City Council change as a result of the introduction of Information Technology?
- ❖ What are the necessary skills that the Internal Auditors at Bulawayo City Council supposed to be equipped with?
- ❖ To what extent has the computerization of Bulawayo City Council influenced the auditing approach used by the Internal Auditors at Bulawayo City Council?
- ❖ What audit risks are associated with the use of information technology in an organization?
- ❖ How can the Internal Audit Function at Bulawayo City Council address the challenges being faced as a result of Information Technology?

1.6 Significance of the Study

To the Researcher

- It is a requirement in partial fulfillment of Bachelor of Commerce Accounting Honors Degree.
- The research helps in developing the researchers' research skills.

To Local Authorities

By considering the recommendation made by the researcher, Bulawayo City Council will be able to improve its Internal Audit function.

1.7 Assumptions of the Study

1. Bulawayo City Council will grant the researcher the permission to carry out the research.
2. Time to carry out the research is sufficient in order to complete the investigation.
3. The financial resources and other resources of gathering information will be sufficient.
4. Both local authority respondents and other respondents will be willing to share their views and give unbiased information.
5. Respondents will be easily available and ready to share the information they carry.

1.8 Limitations and solutions to the limitations of the study

Time Constraints

The research will be carried out during a limited time period which will mean that the student may not be able to gather all the necessary facts in order for the research to give all required information. The researcher will also need to interview the Internal Audit employees at Bulawayo City Council and other staff members at Bulawayo City Council; this may be difficult since most of them might not have time to attend to the researcher due to the nature of their work.

The Researcher intends to choose a sample from the Internal Audit staff which will represent the whole population. The researcher also intends to issue out questionnaires to the Internal Audit staff so that they will complete them out at their own free time.

Geographical Constraints

The researcher is based in Gweru and will have to travel between Gweru to Bulawayo to gather the required information. Time constraints and financial constraints will make it difficult for the researcher to make enough trips so as to gather enough data needed for the research.

The researcher intends to minimize the trips between Gweru and Bulawayo by communicating with the respondents through emails where possible and only traveling when it is inevitable.

Financial Constraints

Financial constraints will be the major setback for the research. Financial resources will be needed for travelling between towns, stationery, internet surfing, buying resources for secondary data gathering.

The researcher will try to minimize costs by using university resources for internet surfing and by using email to make contact where necessary with Bulawayo City Council staff.

1.9 Definition of Terms

Local Authorities

It is an administrative institution that governs a specified geographical area such as a town, city or state. The institution only exercise control over their specified area. The exercise their duties within powers delegated by legislation to them. (<http://www.businessdictionary.com> 28 February 2014 12:45pm)

Internal Auditing

Davies and Aston (2011:5) define Internal Auditing as, “an independent appraisal function established by management of an organization for the review of the internal control system as a

service to the organization. Its main objectives are to examine, evaluate and report on the adequacy of internal controls as a contribution to the proper, economic, efficient and effective use of resources.”

Information Technology

Ram (2011) defines information technology as “the science of collecting, storing, processing and transmitting information and connotes an assemble of technologies. It entails the ability of a computer to store and process information and communication technology.”

Information Systems

Ram (2010) defines information as, ‘a set of integrated components used for collecting, storing and processing information.’

1.11 Summary

This chapter looked at the introduction; background of study; problem statement; study objectives; research questions; significance of the study; assumptions of the study; limitations of the study; definition of terms and the chapter summary. The following chapter will cover the literature review.

CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

This chapter reviews the relevant related literature to enhance the research study. It involves the documentation of a comprehensive review of published and non-published work from secondary sources of data in the areas of specific interest to the research. It covers an analysis of evidence from other researchers on the impact of information technology on internal audits. The chapter's outline is guided by the research objectives.

2.1 Overview

According to Taylor (2009) information technology is the, acquisition, processing, storage and dissemination of vocal, pictorial, textual and numeric information by a micro-electronics based combination of computing and telecommunications. Planning for IT needs enables organizations to better achieve their organizational goals and objectives. The past decade has seen most organizations adapt to the use of Information Technologies in their operations, this has greatly affected auditing as a profession as they have to change the way they plan and execute their audits to suit the IT changes in most organizations Marx et al (2011). This chapter seeks to show how Information Technology has impacted on the manner in which internal auditors carry out their duties.

2.2 Use of computers to the auditing profession

Abudul (2009) outlined that the benefits of personal computers to the auditing profession can be in two fold i.e. in relation to documentation and audit executions. With documentation the Internal Auditor can use personal computers for drafting memos and reports, systems documentation, audit planning, risk analysis and audit program preparation (Various software packages are now available to the Internal Auditors)

Basu (2011) highlighted that computers have been of great assistance in the execution of audits as they can be used for sample selection and random number generation, control accounts preparation, testing calculations e.g. performance of interest computations and interrogating data files.

2.3 The benefits of Information Technology to the auditing Profession.

Court (2009) gave the view that as the use of personal computers spreads throughout the business community they should also become instrumental in the performance of audit work on the records and accounts which arise as a product on those machines. Auditors who thus have access to personal computers can relate to the organization more efficiently as they will be able to meet the needs of specific circumstances resulting in immediate benefits of cost minimization.

When auditors are auditing in computer environments they can either use their own machines to aid in the performance of the audit. When the auditors are using the machines they can perform test packs and similar test runs on the organization's system using its software and files. According to Jenkins (2010) When auditing using test runs on the system the auditor benefits in that the system will be susceptible to investigation by interrogation software, the benefit resultant from this is that the features of the organization's files i.e. under depreciated assets, overdue debtors, obsolete stock, unmatched suppliers invoices can be extracted for audit purposes by means of specific questions put to the computer when loaded with the relevant data files.

Court (2011) added that another benefit that has accrued to the auditing profession through the use of computers can be viewed in the context of analytical review procedures which by their very nature involve calculations, comparisons and analyses for which computers are ideally suited to be used.

Computers thus provide speedy processing of relevant data in a more advanced manner by using arrays extending over several years and screen displays, adjustments based on knowledge of specific conditions can be keyed in giving an instant adjustment to the screen display thus facilitating the auditor to compare and reference to anticipated results. (Millichamp 2012)

T.F Ruud (2009) stipulates that the projection and extrapolation facilities of computers allow for efficient cash flow and profit forecasts to be prepared by the auditor when considering the validity of the going concern assumption for the organization. Most small entities use their personal computers to prepare accounts which are subject to audit; the auditor can therefore efficiently check the post audit journal entries by using the organization's system though there is a risk that the journal entry will not automatically update the nominal ledger and thus not creating any actual adjustments to the accounts.

2.4 Audit Risks in an Information Technology Environment

‘Audit risk is the risk that the auditor may unknowingly fail to appropriately modify the opinion on financial statements that are materially misstated.’ (Marx et al 2011) The evaluation of audit risk in an IT environment follows the same procedures as those in a non-computerized environment. However there are some several aspects of audit risk which have to be considered specifically in connection with a computerized system. (Millichamp 2012) According to Jenkins (2012) the auditor should be aware of these risks and should identify these risks and their impact on the nature, scope and timing of the audit procedures.

Millichamp (2012) outlines that in an IT environment there is risk of uncontrolled access to data. Unauthorized personnel can hack into the system and access the data which may lead to unauthorized processing of data, data corruption and data manipulation. The internal auditor must therefore reasonably assure himself that the organization's internal controls over unauthorized access are efficient and functioning properly to prevent this.

James Hunton (2011) illustrated that segregation of duties in an IT environment is usually weak since the system requires fewer staff in comparison to the manual system. There is also usually weak supervision in the case of a decentralized processing environment. This may lead to staff overriding internal controls and manipulating data to suit their needs.

The authorization of transactions processing is difficult to trace where routines are automated, e.g. in an automatic re-ordering system the re-ordering level may be authorized once and never revisited. The computer will not know if an order level has been amended without authorization. (Millichamp 2012)

Weasels et al (2013) outlined that since multiple processing functions are processed by single programs, where the systems are integrated, individual errors may affect different systems and may go undetected owing to the high speed of processing and the volumes involved.

Puttick (2011) highlighted that an IT environment usually lacks input and output documentation which results in the lack of a visible audit trail providing the evidence of authorization of the transactions.

Marx et al (2011) states that, 'as the IT systems affect the financial information, these risks impacts on the audit approach.' The organization's risk profile also affects the auditor's decision concerning the use of CAATs.

2.5 Audit Approach in a Computerized Environment

According to <http://www.floorit.info.com>, (30 March 2014 at 2300hrs) Computerization brought about changes in the organizations, procedures, manner of storing information and information processing. This resulted in auditors having to audit in an environment with little or no audit trail, no primary records and non-visible output. Jackson and Stent (2011) stipulate that audit approaches in a computerized environment involve:

2.5.1 Auditing Around the Computer

In this approach the auditor regards the computer as a processing medium and audits the outputs i.e. printouts produced by the computer whilst making reference to source documents which forms the basis for the inputs to the computer. The auditor obtains reasonable satisfaction in regards of the accuracy of the data by making comparison between the output (computer produced printouts) with the source document data and vice versa. (Turney 2011)

Puttick (2009) states that the Auditor must consider whether the data for the transaction has been captured on source documents and that a proper audit trail is visible of the inputs before deciding to audit around the computer. Consideration needs also to be made on whether the documents are kept and filled in a manner that makes it possible for the Auditor to check selected transactions for the audit purpose. Simpson (2009) also states that the printouts that are produced by the

computers must be in sufficient detail to enable the Auditor to trace a sample of transactions from or to source documents.

When auditing around the computer a combined (control based) or substantive approach could be followed where applicable. (Gupta 2012)

2.5.2 Auditing with the Computer

This is when the auditor uses the computer as a tool in performing audit tasks and procedures for example printing, calculating variances, and examining files. The auditor also uses the computer to produce audit programs and financial statements. (Jackson and Stent 2012)

2.5.3 Auditing through the Computer

According to Turney et al (2009) in this approach the auditor has to obtain reasonable assurance that the computer program for numerous checks has not undergone any unauthorized changes during the period of review before reviewing and testing processing controls. The auditor has to ensure that only authorized transactions are accurately processed and recorded. This approach provides the auditor with evidence concerning the effective functioning of the system and the level of reliance of the internal controls. (Puttick 2011)

Marx et al (2011) outlines that the audit approach to be used in computerized information systems should be in line with the approach set out by regulatory framework i.e. the International Standards of Auditing specifically ISA 420

2.6 The Impact of Information Technology on the Audit Approach

Frias (2010) highlights that the computer can generate information quickly for example complex reports can be quickly and easily generated when using the computer as opposed to when using a manual system. As a result the auditors can cut down on time and enables them to expand substantive procedures for the collection of more audit evidence in support of their judgment.

Frias (2010) further stipulates that a computerized environment allows for concentration of duties. He outlines that in a manual system the auditor has to appoint separate personnel for carrying out the verification process. In a computerized environment the computer programs are able to perform more than one set of activities at any given time thereby concentrating the duties of several individuals involved in the audit.

Basu (2011) highlighted that the use of information technology in organization shifted the internal control base. It has resulted in Application Systems development Controls and Systems Software Controls; these shifts had resultantly impacted on the audit approach used by the Auditors. The auditors have to obtain reasonable assurance that the Systems have been developed in an authorized and efficient manner to perform their intended duties.

2.7 Auditing Procedures in an IT Environment

According to Puncel (2010) the use of Information technology affects the generation of transactions, the processing of these transactions, the storage and communication of information and the accounting and internal control system. The computerization will affect the nature and timing of audit procedures.

2.7.1 When planning the nature, timing and extent of Audit Procedures

Gupta (2012) outlines that when planning for the audit the auditor must obtain an understanding on the complexity and significance and the structure of the computer information systems activities and analyses to see if the structure facilitates segregation of duties. The auditor needs also to analyze the availability of data for the audit.

Jackson and Stent (2011) outline that when planning the nature of procedures the auditor has to obtain an understanding of the internal control system and the accounting system of the organization. The auditor has to analyze the extent to which the organization is dependent on the computer system as this has an impact on going concern. The auditor also has to decide whether to use Computer Aided Techniques or not.

Basu (2011) stipulates that an audit trail in an IT environment may exist for a short period of time and this affects the timing and the nature of the audit procedures. Penny (2012) outlines that on the timing of the audit procedures the auditor can use embedded techniques or simulation which will identify any odd transactions that will occur or that are passed through the system at any time during the accounting system as they are in built in the organization's system. Depending on the evaluation that the auditor has done on the organization's computer system to assess how it operates and its capabilities to identify the material misstatements the auditor will be able to plan the extent to which he should carry out audit procedures.

When planning for the audit the auditors need also to consider the effect of the computer environment and processing on the control and inherent risks. (Millichamp 2012)

2.7.2 When performing Audit Procedures

Basu (2011) outlines that the basics audit procedures in an IT environment are the same as those in a manual system however in an IT system the auditor need to evaluate the system from which the information being audited is generated and the Internal Controls in place. The auditing procedures in an IT environment however have to be carried out using the computer as opposed to manual.

Coopers (2012) highlighted that audit procedures basically involve planning, compliance testing, substantive tests, sampling, interviews, observation, computation etc. the manner in which these are carried out in computer environments requires that the Internal auditor uses computers for example selecting samples from a long list of debtors the auditor can use specific software that will assist him in selecting a sample that has no bias to enable him to draw a conclusion on the whole population.

Wessel et al (2013) hinted that when performing observations in computer environments the internal auditor has to have expertise skill to enable him to understand the operations being executed by the computer.

2.7.3 Timing of Audit Tests

The timing of audit tests in a computer environment is different from that in a non-computerized environment. Pany (2012) suggests that the auditor requires a totally revised approach to the timing of audit tests. Under circumstances where a complete and permanent record of all transactions, assets and liabilities is available at all times, audit tests on the records can therefore be carried out at any convenient stage. Gul et al (2009) indicated that when auditing in computer environments contemporary testing is appropriate rather than historical as contemporary is up to date with any changes occurring to the system at any point in time. Contemporary testing in computerized environments by auditors can be done through many ways and may include requests for special printouts for audit purposes. (Serrift et al 2013)

According to Bigg(2010) test packs can also be conducted intermittently throughout the period under audit; otherwise it may be challenging for the auditor to draw valid conclusions concerning the functioning of programs and programmed controls during the period as a whole. Test packs can be used to perform compliance tests on the programmed procedures. They are used to obtain evidence on whether the programmed procedures are achieving their set objectives.

According to an NSB special publication (2013) the loss of audit trail due to creation of say batch totals, gives no breakdowns for checking purposes or for cross referencing to original documentation. The original documentation may have been re-sorted for another purpose as a result of which the locating of specific items is rendered impracticable, it is therefore essential for the auditor to be present while processing is taking place if he wishes to effectively audit the procedures in question.

2.7.4 The incidence of audit tests

Elyashberg et al (2013) outlined that in a non-computerized environment the records may be audited by vouching and checking the visible entries made at the very interface between the authorized and valid originating documents on the one hand and the books of account on the other. In computerized environments the recording counterpart takes place within the machine and no equivalent record is left for subsequent individual verification. For this reason the auditor is forced to shift the target of his tests and to concentrate his efforts on the following:

Quality control over every stage in the creation of the input and the systems development controls responsible for ensuring that the programs function correctly. Millichamp(2012)

The administrative controls which are designed to ensure that the correct programs are always used that staff observe designated job divisions that hardware and files are physically secure and adequately supported by reconstruction and standby facilities. (NSB Special publication paper 2012)

The use made by management of output reports particularly exception reports and control procedures governing rejection of invalid data. Serift et al (2013)

Jackson and Stent (2012) outlined that the auditing profession came to the realization that all audit tests that are done through the machine can at best provide indirect affirmation on program functioning though auditors view them as inferior to tests in which the accounting entries may be scrutinized in their totality.

2.8 Audit Documentation

Ian Grey et al (2012) outlined that in all audit situations whether manual or computerized environment, the auditor needs to maintain proper documentation. The documentation on the audit files must reflect the nature of the audit. Standard Questionnaires and checklists must be accordingly redrafted and the current files redrafted and the current files contain a record of all the organization's data processing documentation, details of major controls included in the programs, flow diagrams of systems, the auditor should therefore ensure that all the necessary data and evidence that has been gathered from the audit process is properly documented in a manner that will allow future internal auditors or external auditors i.e. those who are not part of the audit team to understand the documented information <http://www.accaglobal.com> (30 March 2014 at 1900hrs).

Gupta (2012:212) outlined that in an IT environment most audit evidence may be on electronic format. The Auditor must therefore satisfy himself that the audit evidence is adequate and is safely stored and is easily retrievable in its entirety as and when it is required.

ISA 230 (Audit Documentation) states that ‘audit documentation must provide evidence of the auditor’s basis for a conclusion about the achievement of the overall objectives of the auditor.’ Evidence must show that the audit was planned and performed in accordance with the applicable legal regulatory requirements and in accordance with the ISAs.

2.9 The use of Computer Assisted Auditing Techniques (CAATs)

In an IT system, tests of controls and substantive tests can be performed using audit software referred to as CAATs. The software can access a computerized system at a high speed. CAATs generally refer to an auditor’s use of the computer to assist in the performance of audit procedures and the acquisition of audit evidence Marx et al (2011).

2.9.1 Considerations to be made in the application of CAATs

According to Marx et al (2011), for Auditors to use CAATs they should have sufficient knowledge to both plan the audit and to make a sound evaluation of the CAATs results. The Auditors may decide to use a specialist to run the CAATs for them if the computer system is too complex for the auditors.

According to Puttick (2011) before using CAATs the auditor should consider whether proper audit software and suitable computer facilities are available. The Auditor has to evaluate whether the organization’s system is compatible with the audit software they intend to use.

Cobler (2012) outlines that the Internal Auditors need to decide whether the computer system of the organization allows for the use of manual testing. In the case were the system leaves no trail of visible input documents, output and there is absence of a visible audit trail, it becomes impracticable for the internal auditors to use manual or human testing and must therefore make use of the necessary CAATs.

Jackson and Stent (2012) highlighted that when auditors are operating in an IT environment in order for the auditors to improve the effectiveness and the efficiency of their audit procedures they need to consider the time taken during the planning, designing, executing and evaluating a CAAT including the technical review and assistance hours.

Puttick (2011) indicated that the Internal Auditors need also to make other considerations such as the cost of the CAAT in relation to the benefits achieved the risk that the CAATs can corrupt the organization's data so it will be necessary to back up the data.

According to Jackson and Stent (2012) data oriented CAATs can be used for extracting audit samples, file comparison, making castings and recalculations, for making analytical reviews, for examining records for inconsistencies and inaccuracies, sorting and file re-organization etc.

2.9.2 Advantages of using CAATs

CAATs can be used for testing the programmed controls of an organization. Since in a computerized environment there are large volumes of transactions which need to be audited, the auditor will need to check whether the programmed controls are functioning effectively as designed. The use of CAATs proves to be the most efficient way of testing these controls <http://www.opentuition.com> (26 March 2014:14:35).

Saddler (2013) outlined that the use of CAATs enhances the economy and efficiency of the audit. He argues that since the CAATs can perform tests on large volumes of transaction quickly and accurately, the audit sample is increased and the CAATs can even do a 100% test on all the transactions. This can increase the confidence of an audit opinion.

Singleton (2011) highlighted that the use of CAATs helps in improving the overall quality of the audit since a large sample of data can be tested, they allow for more extensive re-performance, more precision and more conclusive results which in turn improves the quality of the audit.

A paper by ISACA(2014) highlighted that the use of CAATs help in improving the auditors' knowledge of the computerized information systems. This thereby improves their expertise.

Cobler(2011) added that CAATs allows for the Internal Auditors to compare results produced by the CAATs with those produced by the use of traditional testing. If the results match then this increases the confidence of the Auditors in expressing an opinion on the Financial Statements.

2.9.3 Disadvantages of using CAATs

The use of CAATs in audits also comes with its limitations. Puttick (2011) outlined that CAATs may corrupt the data under audit. The auditors need therefore to ensure that data is sufficiently backed up in case data is lost and corrupted during the audit.

Marx et al (2011) stipulates that in the case where CAATs are used once a year, they may not provide evidence that the system is functioning effectively throughout the period of the audit. CAATs therefore need to be run more than once a year.

The set up cost of CAATs is high and the Internal Auditors will need to be trained on how to operate the CAATs effectively. If any change occurs on the organization's systems, it is very costly to make the necessary alterations to the CAATs according to Cobler 2011.

2.10 Management Information Systems Audit

According to Sausa (2014) the introduction of IT has resulted in the evolution of Management Information Systems Audit (MIS Audit). The auditing profession has now developed a Management Information System Audit which has the task of verifying that the system being used by an organization was developed according to specifications and that the input, processing and output procedures are operating accordingly. The MIS audit is designed to check all the controls that have been implemented by those charged with the governance of the entity. Champlain (2013) suggests that a good way to audit the Information System is to trace a typical transaction through the entire system. The auditor might enter erroneous data in the system and test the safeguards used to alert the staff about the error.

Hingrah (2013) suggested that an auditor might attempt an unauthorized access to the system or certain areas of the system to examine the validity of the company's firewalls and other access barriers. The auditor's approach when auditing the organizations information system should be targeted at assessing whether the designed controls are being effectively implemented and also whether they are attaining the set objectives.

Chambers (2012) outlines how the auditor changes the planning stage of the whole audit approach when performing the audit of a computerized entity. It determines a methodical way of determining which IT activities should be audited and the audit resources that should be allocated to the audit of each of these activities.

Sausa (2014) outlines that when performing audits in IT environments the auditor needs to split the organization's environment into auditable units these refer to Information Technology activities that may be the subject of an audit, the method prescribes the identification of audit risk for each unit. The auditor needs to identify various considerations that should be included within their plan for the audit so as to minimize audit risk in computerized environments. The factors that will affect the audit plan are many and the auditor should give considerations to the important ones which are highly influential in the determination of audit risk these are mainly based on the professional judgment of the auditor of the main factors that affect the entity.

2.11 Auditor Competencies

The International Auditing Standards together with the code of professional conduct outline "professional competence" as one of the prerequisites that any individual should possess before undertaking an audit. According to the first general standard of the ten generally accepted auditing standards (GAAS) issued by the AICPA *"the examination is to be performed by a person or persons having adequate technical training and proficiency as an auditor"*. In order to perform audits in an efficient and effective manner the auditors need to be equipped with the necessary skills to enable them to express a true opinion on the financial statements presented.

Russel (2013) outlined seven postulates that are the base to the Auditing profession these include that the audit is to be performed by a competent individual who is fully equipped to carry out the job.

Kotb(2009) suggests that auditors should possess skills and knowledge acquired from training, education and experience in the field of audit however owing to the general trend in the increase of use of Information Technology they also require special skill to cope with the changes in Information Technology. The auditors need to be equipped with skills that will enable them to analyze and evaluate information provided by computer appropriately during the audit process.

The scope of audits has increased and this has resulted in a greater need for auditors to obtain more skills to fit with the changes in the audit.

Kaller (2011) also suggest that auditors should stick to ethical and social rules that guide their conduct. The code of ethics outlines three principles which are independency, competency and due care

According to <http://www.caalley.com> (16 March 2014 at 1400hrs) internal auditor may need specialized skills in order to audit in a computerized environment. These skills may be needed by the auditor to obtain an understanding on the effects of information technology on the accounting and internal control systems, to determine the effect of information technology on the assessment of the overall audit risk and the risk at the account balance and class of transaction level and to design and perform appropriate tests of controls and substantive procedures.

The international Standards of Auditing allows for the auditors to seek assistance of an expert. However if an expert is used the auditor must comply with ISA 620 ‘Using the Work of an Auditor’s Expert’ and obtain sufficient evidence that the work done by the expert is adequate for the purposes of the audit.

2.11.1 Audit Skills Dilemma

According to Turney et al (2012), the audit skills dilemma is whether the auditor should rely on the skills of an information technology technician as a specialist, just as it is permissible under audit standards as is the case with engineers, geologists etc. or should the computer auditor be trained in the computer concepts or should a team approach be adopted.

2.11.2 Resolution to the audit skills dilemma

Turney et al (2012) illustrates that the auditor should acquire the necessary skills to discharge duty and must not rely on the IT technician as a specialist. The auditor has to access the controls from the two ends that are user controls and Electronic Data Processing controls. The auditor must understand the systems concepts i.e. the types of hardware, software, data organization and

storage, file structure and documentation procedures including organizational concepts. The resolution therefore to the dilemma is to train the auditor in the computer concepts.

2.12 Auditing Standards and their relation to Auditing in computerized environments

The International Audit and Assurance Board was established in 2002 so as to provide guidelines to auditors globally on performing audits. It was required that auditors in countries which did not have auditing guidelines or standards had to adopt to the standards set by the international ones and conduct their audits in accordance with such standards. As Zimbabwe had not developed standards at the time the board was established the auditors in the country follow the guidelines set out by the board.

In the Twentieth century there was a huge increase in the advent of Information Technology by most organizations resulting in the computerization of most organizations accounting systems the International Audit and Assurance Board (IAAB) saw the necessity of issuing a standard to guide auditors carrying out audits in organizations that have computerized systems. The board issued ISA 420 (Auditing in a Computer Information System environment).

ISA 420 provides a guideline on the necessary procedures that are to be followed when an audit is conducted in a computerized environment. The auditor needs to consider how the environment will affect the whole audit.

The standard as outlined by SAICA, South African Institute of Chartered Accountants (2012) sets out that the audit has to be conducted by an auditor who is competent i.e. who has the necessary skills to operate in computer environments, the standard also outlines that the auditor has to gain an understanding of how the computer system operates as this will assist the auditor in identifying how the computer system influences the reporting framework of the organization. The standard issued also assists auditors to identify situations in which they should use Computer Aided Audit Techniques (CAATS).

It is therefore mandatory for all internal auditors within Zimbabwe to follow the guidelines set out by the Board when performing audits in computerized environments so as to aid them in

carrying out the audit in a manner that will enable them to express an audit opinion that is not biased.

2.13 Summary

This chapter covered the relevant literature review related to the study. The following chapter will look at the research methodology

CHAPTER THREE

RESEARCH METHODOLOGY

3.0 Introduction

The Chapter looks at the activities and procedures used in researching during the course of the research. It also focuses on the research design, research instruments used and the data collection procedures and data analysis and presentation plans.

3.1 Research Design

Research design is a detailed blue print used to guide a research study towards its objectives. It specifies the methods and procedures for collecting and analyzing relevant data. Research design ensures that the data collected meets the informational needs of the decision maker. (Saunders 2008).

3.2 Descriptive Research

Descriptive research embraces a large portion of the research problem, the main purpose being to provide an accurate snapshot of some aspect of the problem area. Descriptive research design comprises of interviews, questionnaires and observations which gives information directed towards determining the nature of a situation as it existed at the time of research.

3.2.1 Justification

The choice of the above research design was done so as to enhance the whole research process as descriptive research required the researcher to get in contact with the respondents to collect relevant data. Descriptive research also provided guidance by introducing more detail to the research questions; it gave a detailed, highly accurate picture of the problem on hand.

3.3 Case Study

According to www.shorelineedu.com(15 April 2014 at 14.15pm)a case study is an intensive description and analysis of a single individual item for the purposes of investigation, theory development and testing or simply as a learning tool. The researcher used a case study in the research as the researcher was seeking to discover the key phenomena and traces of sequence of interpersonal events related to the study over time at BCC.

3.3.1 Advantages of Case Studies

The case study provided the researcher with a great amount of description and details about the research area. The use of the case study also provided the researcher with raw material data for advancing the researchers' theoretical ideas. It also provided the researcher with the relevant practical knowledge in the field of research.

3.3.2 Disadvantages

The main disadvantage faced by the researcher was that, the results from the case study could not generalize to others. The researcher could not make a conclusion on other local authorities basing on the findings from BCC only.

3.4 Population

Population can be defined as the total number of the inhabitants of a particular place. (www.businessdictionary.com accessed on 5 April 2014)

3.4.1 Target Population

A target population is defined as the part of the population or universe to which the study is based. Target population refers to any group of individuals that have one or more characteristics in common that are of interest to the research. (Salkind 2010)

The target population for this research is the Internal Audit Function at BCC and the following elements have been picked as the representative sample of BCC because of their involvement in the Internal Auditing at BCC.

Table 3.1 Target Population

Respondent group	Population	Sample	Percentage Representation (%)
BCC Internal Auditors	8	6	75
BCC Audit Committee	5	3	60
BCC Chief Internal Auditor	1	1	100
BCC Senior Accountants	8	6	75
BCC Senior IT Technicians	7	4	58
Total	30	20	67

3.5 Sampling

3.5.1 Judgmental non random sampling procedure

Participants who had been judged or are known to be the best source of information in the field were sought and selected for the sample. In this case the sample comprised of participants in the accounting, auditing and IT fields. This was done in order to improve the quality of the sample data.

3.6 Sources of Data

In order to obtain data on the impact of IT on the audit function, two sources of data were used that is primary and secondary sources.

3.6.1 Primary data

Primary data is data which is first-hand information that is collected during the study through observation, interviews and questionnaires. The primary data is original data specifically for solving the problem at hand and the data collected is ideal for the study. (Panneerselvan 2004) The researcher made use of interviews and questionnaires on employees in the Audit Department and other departments such as the IT department. The use of primary data enabled the researcher to have a complete set of information on the study.

3.6.2 Advantages

Primary data gave first-hand information, which was clear and straight forward. Primary data was also more reliable since it came from original sources and was collected specifically for the research.

3.6.3 Disadvantages

It was cumbersome for the researcher to sort out the primary data in order to come up with reasonable ideas and conclusions.

3.6.4 Secondary methods

This is data used for some purpose other than that for which they were originally collected. According to Thyer (2010) secondary methods can be referred to as data written by someone who did not actually do the research, develop the theories, or express the opinion that they have synthesized in their own research. The main sources of secondary data for this study were interim financial statements, annual reports and audit reports.

3.6.5 Advantages

It was an inexpensive method of gathering data because the data was already available and no cost was incurred by the researcher in gathering secondary data. Secondary data also permitted examination of past trends in the research area. Secondary data provided information that could not be obtained through interviews or questionnaires.

3.6.6 Disadvantages

Most of the information was outdated and limited due to stringent policies regarding privacy and confidentiality and some of the much needed information existed but was not suitable for the study. The researcher had to dig for the relevant information in the reports since the data in the reports was not collected for this study and as a result it took much of the researcher's time.

3.7 Research Instruments

These are tools that were used in the collection of data for the research. The following methods were used in respect of the target population.

3.7.1 Interviewing

This is a situation where there is oral questioning of respondents. This can be a face-to-face meeting or a telephone conversation. The researcher made use of both face-to-face interviews and telephone interviews which facilitated an in-depth discussion with the respondents in regards to the causes and limitations on auditors work.

Strengths of face –to face interviewing

There was interaction and simultaneous influence between the researcher and the interviewee. The researcher managed to obtain feedback on the spot. Another benefit was that the facts were presented as they are and no emphasis was placed on the researcher's interpretation. Face to face interviewing allowed for further probing by the researcher.

Weakness of face -to face interviewing

Interviewees knew that they can be identified and as such some of them were unwilling to give out sensitive information. It was difficult for the researcher to be allocated interview time during busy schedules. Fear of victimization may have led the interviewee to give only the theoretical aspects of the problem rather than the practical aspect since the theoretical aspects would be supported by written procedures.

3.7.2 Telephone Interviews

Some of the data was collected over the phone since other respondents were not always readily available thus they assured to call when they were available. Telephones facilitate dialogue between the parties involved and thus probing is facilitated, regardless of the geographical distance. One interview was conducted over the telephone.

Advantages of Telephone Interviews

It was a very quick method of contacting interviewee since this was done whilst the researcher was in Gweru and the interviewee in Bulawayo. It is a very flexible method that allowed both the interviewer and interviewee to clarify and explain matters if they arise. Telephone interviews were also cost efficient as the researcher did not incur any travelling cost in order to interview the respondent.

Disadvantages of Telephone Interviews

It did not allow for the researcher to observe the facial expressions of the respondents as they were answering the questions.

3.7.3 Questionnaires

A questionnaire can either be structured or unstructured. Questionnaires were distributed to the target respondents containing both structured and unstructured questions. The questions were made clear and unambiguous. A structured questionnaire consists of a set of questions, which

leaves several blank spaces for the respondent to fill in. A non-structured questionnaire is one which is not open ended.

A 5 point likert scale system was used in conjunction with the questionnaire. When responding to a likert questionnaire item, respondents specify their level of agreement or disagreement showing whether they, strongly agree, agree, unsure, strongly disagree, disagree. The likert scale proved to be handy as it did not accept a yes or no answer but rather the strength of feeling which helped in data analysis.

Benefits of questionnaires

Questioners allowed the researcher to guide the respondents along lines of thoughts. Responses obtained mostly from close-ended questions were easy to analyze. Self-administered questionnaire offered respondents the flexibility of filling in the questionnaires at their own convenient times and have enough time to think about their responses. The cost per questionnaire was also generally low.

Weaknesses of questionnaires

Some respondents were unwilling to provide information even though the researcher had made an assurance of confidentiality of results. A reason for non-response by some of the persons was never known. Most of the questionnaires were closed ended thus vital explanations was lost.

3.7.4 Validity and reliability

To make sure the questionnaires were completed the researcher hand delivered the questionnaires to the selected respondents. In order for the researcher to avoid misunderstanding from the respondents, clarifications on how to fill in the questionnaire was done. To avoid ambiguity the questions in the questionnaire were made relatively short.

However to reduce the loss of vital information due to the above mentioned limitations a limited number of questionnaires were sent well in time so as to allow respondents adequate time to respond, and follow ups were made to ensure they got to their desired destinations with most of them being hand delivered where possible.

3.7.5 Use of the Research Techniques

The questionnaires were sent to all the subjects that were defined from the sample of the target population. The following table shows how questionnaires were circulated and interview done.

Table 3.2 Population, Sample size and Data Collection Method

Respondent group	Sample size	Data collection method
BCC Internal Auditors	6	Questionnaire
BCC Audit Committee	3	Interview and questionnaire
BCC Chief Internal Auditor	1	Interview and questionnaire
BCC Senior Accounting Staff	6	Questionnaire
BCC Senior IT Technicians	4	Questionnaire
Total	20	

3.8 Data Presentation and Analysis

Data collected was analyzed thoroughly so as to check for completeness and accuracy of data responses obtained. The research organized and presented the data using tables, bar graphs, pie charts and percentages were calculated to show the various responses of the respondents for each question. These were used since they are fairly simple to interpret, accurate and rather more meaningful to the ordinary person.

3.9 Summary

This chapter contained methods of data collection, their merits and demerits, methods of sampling and the manner in which the questionnaire and interviews were administered. Data collected would be presented in the next chapter.

CHAPTER FOUR

DATA PRESENTATION AND ANALYSIS

4.0 Introduction

This chapter focuses on the analysis and presentation of data gathered from the field research. The researcher used information collected from questionnaires and interviews conducted as the source of data referred to in this analysis. The findings and analysis were directed towards addressing research objectives and answering research questions. The findings and data analysis sought to understand the Impact of IT on the Internal Audit function.

4.1 Response Rate

The questionnaire response rate is tabulated below

Table 4.1 Response Rate

RESPONDENT	QUESTIONNAIRE SENT	RETURNED	RESPONDENT RATE
Internal Auditors	6	6	100%
Audit Committee Members	3	2	67%
Chief Internal Auditor	1	1	100%
Senior Accountants	6	5	83.3%
Senior IT Technicians	4	4	100%
Overall	20	18	90%

The Table 4.1 above shows a response rate of 90% on all the questionnaires that were sent out, the response rate was therefore good. The researcher therefore considered it as absolute and reliable enough for making an analysis and interpretation of results from the questionnaires sent out.

4.2 Duration with the organization

The respondents were asked to state the number of years they have worked in the organization and the following responses are presented in the pie chart below.

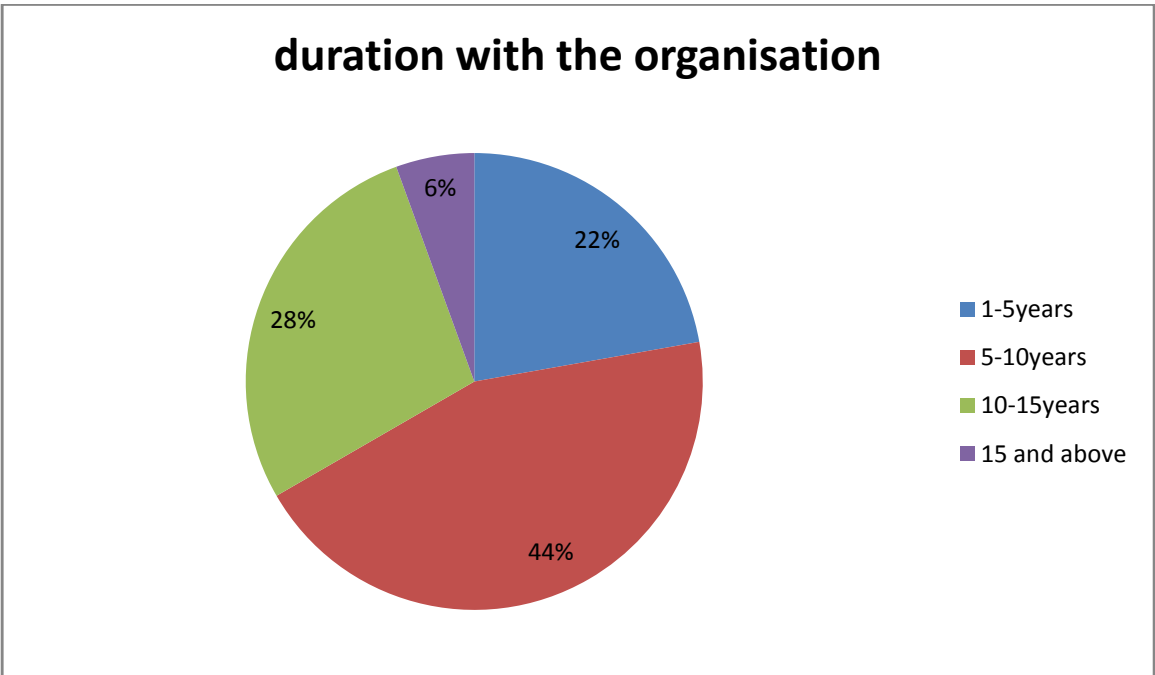


Figure 4.1 Duration with the organization

Fig 4.1 above shows that all the respondents to the questionnaires worked for the organization. Of the respondents 78% had worked for the organization for more than 5 years and 22% had worked for the organization for less than five years. The respondents were well experienced and therefore had the relevant knowledge of the organization’s systems.

4.3 Highest level of academic qualifications of respondents

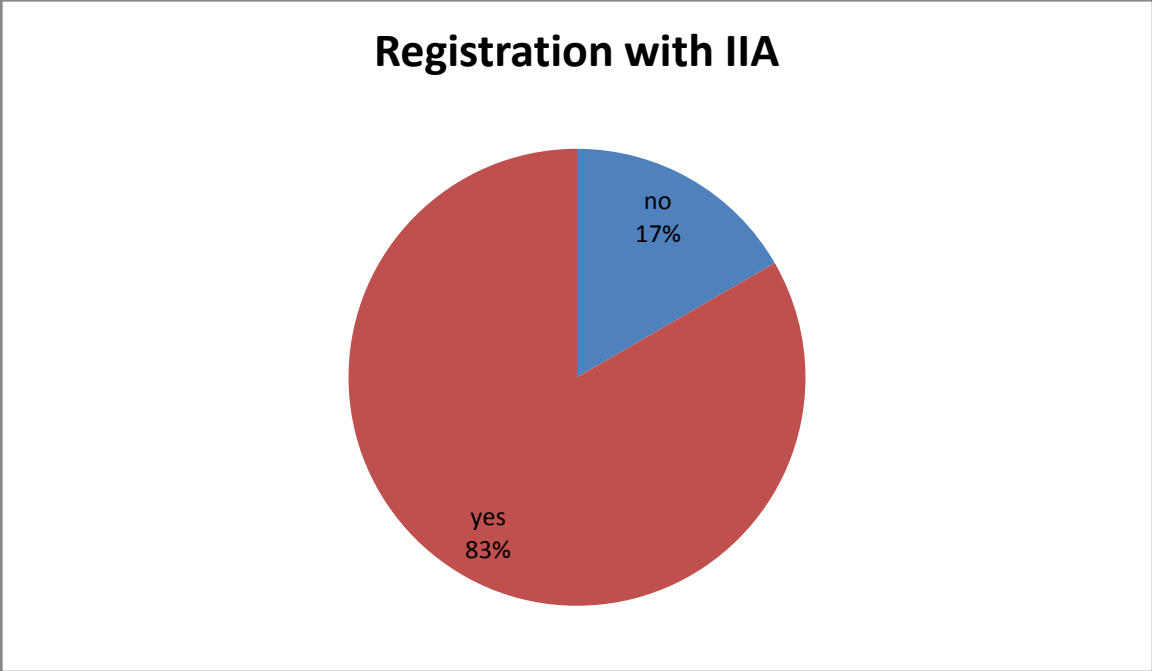
Table 4.2 Highest level of academic qualifications of respondents

Level of education	PHD	MASTERS	DEGREE	HND	TOTAL
Respondents	1	4	11	2	18
Percentages	6	22	61	11	100

Table 4.2 above shows that only 6% of the employees that responded holds a PHD, 22% holds a masters profession, 11% holds a Higher National Diploma and the majority i.e. 61% holds a degree. This shows that all the respondents are academically qualified and hence more reliable.

4.4 Registration with the Zimbabwe Institute of Internal Auditors

The respondents were asked whether they were registered with the Institute of Internal Auditors. This question sought to identify whether the organization complies with the requirements of the Internal Auditing Standards and whether the Internal Audit is adequately qualified to perform audits in the organization.



Figure

4.2 Registration with IIA

Figure 4.2 above shows that 83% of the organization’s Internal Auditors that responded to the questionnaire were registered with the Institute of Internal Auditors in Zimbabwe and 17% were not registered. This shows that the organization’s internal audit is academically qualified to act as internal auditors at the organization. According to www.iazim.co.zw (April 26 2014 at 1100hrs) registration with the IIA means that the board has approved that you are qualified to act as an internal auditor in any organization. All members of the IIAZ are bound with a code of ethics and standards which guide their profession, being a member therefore makes it mandatory for one to act in line with these codes of ethics and standards since breaches of the code of ethics leads to disciplinary action by the board.

4.5 Compliance with the International Standards on Auditing

The respondents were asked whether the internal audit at BCC complies with the ISAs when performing their duties. The objective of this question was to obtain information on the organization’s compliance with the International Standards on Auditing.

Table 4.3 Compliance with ISAs

Strength of feeling	Strongly Agree	Agree	Not sure	Disagree	Strongly Disagree	Total
Number of respondents	3	10	5	0	0	18
Percentage	16	56	28	0	0	100

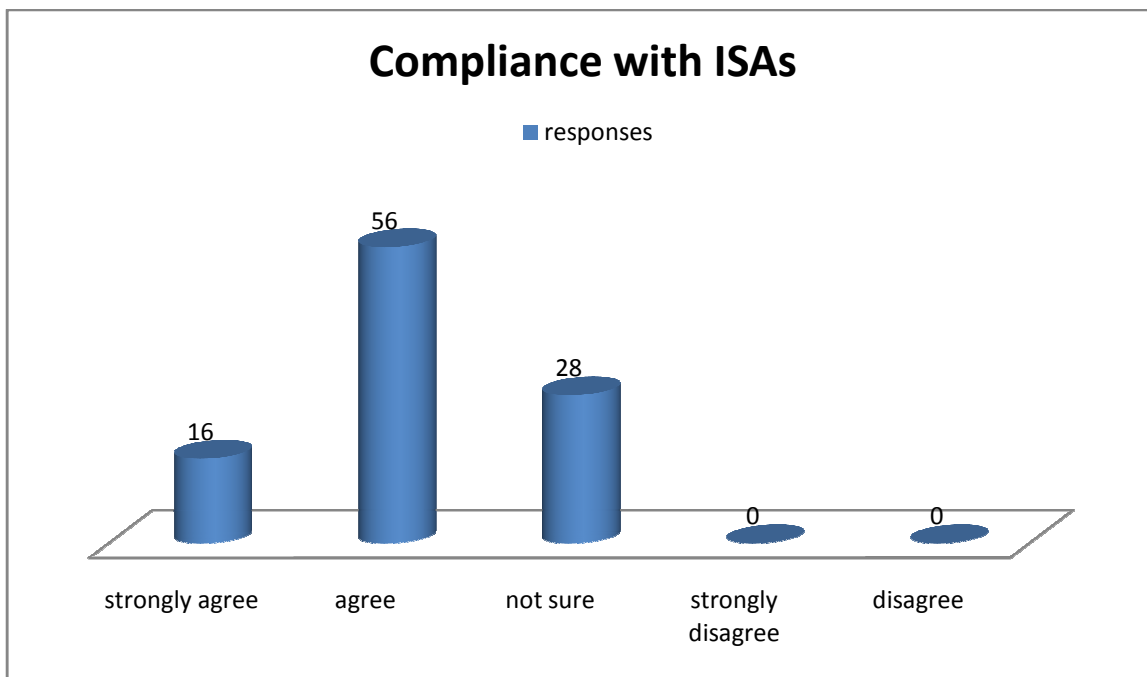


Figure 4.3 Compliance with ISAs

Figure 4.3 above shows that 16% of the respondents strongly agree and 56% agree that the internal audit at the organization complies with the International Standards on Auditing whilst 28% of the respondents are not sure whether they are in compliance or not.

This generally shows that the internal audit at the organization complies with the set standards in auditing. According to Cordija (2014), the IAS helps the auditors to review the operating processes, policies and the internal controls of the organizations. Compliance with ISAs ensures a high quality audit.

4.5. Performance of Information Technology Audits

Respondents were asked whether the internal audit performs information technology audits at the organization. The respondents were then asked to give reasons of why the internal audits do not perform information technology audits if their answer was no. The objective of this question was to identify reasons why BCC's internal audit does not perform information technology audits.

All the respondents showed that BCC's internal audit do not perform information technology audits. Champlain (2013) indicated that the performance of IT audits helps auditors to evaluate whether the organization's information systems are safeguarding the organization's assets, maintaining data integrity and operating effectively to achieve the goals and objectives of the organization.

Reasons for the non-performance of information technology audits

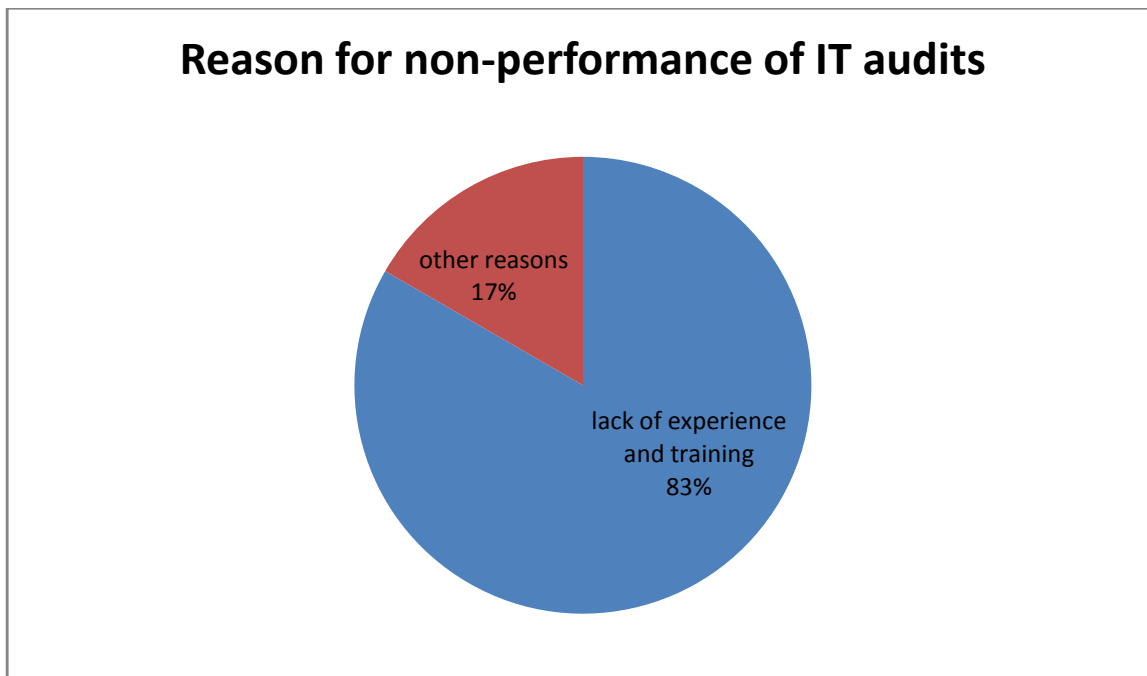


Figure 4.4 Reasons for non-performance of IT audits

Figure 4.4 above shows that 83% of the respondents suggested that lack of experience and training in part of the internal auditors was the reason why the organization does not perform information technology audits and 17% cited other reasons such as lack of funds on the council's side to perform the IT audits and lack of equipment for performing the audits.

The findings show that the internal audit does not have the experience and the necessary training required for them to perform information technology audits at the organization.

4.6 Continuous training in the rapid changes in IT at the organization

The objective of the question was to identify whether the internal audit at the organization is being continuously trained for the rapid changes in IT that are being introduced at the organization. The responses obtained are tabulated on Table 4.4

Table 4.4 Continuous training in changes in IT

Strength of feeling	Stronglyagree	agree	Not sure	disagree	StronglyDisagree	Total
Number of respondents	0	2	0	10	6	18
percentage	0	11	0	56	33	100

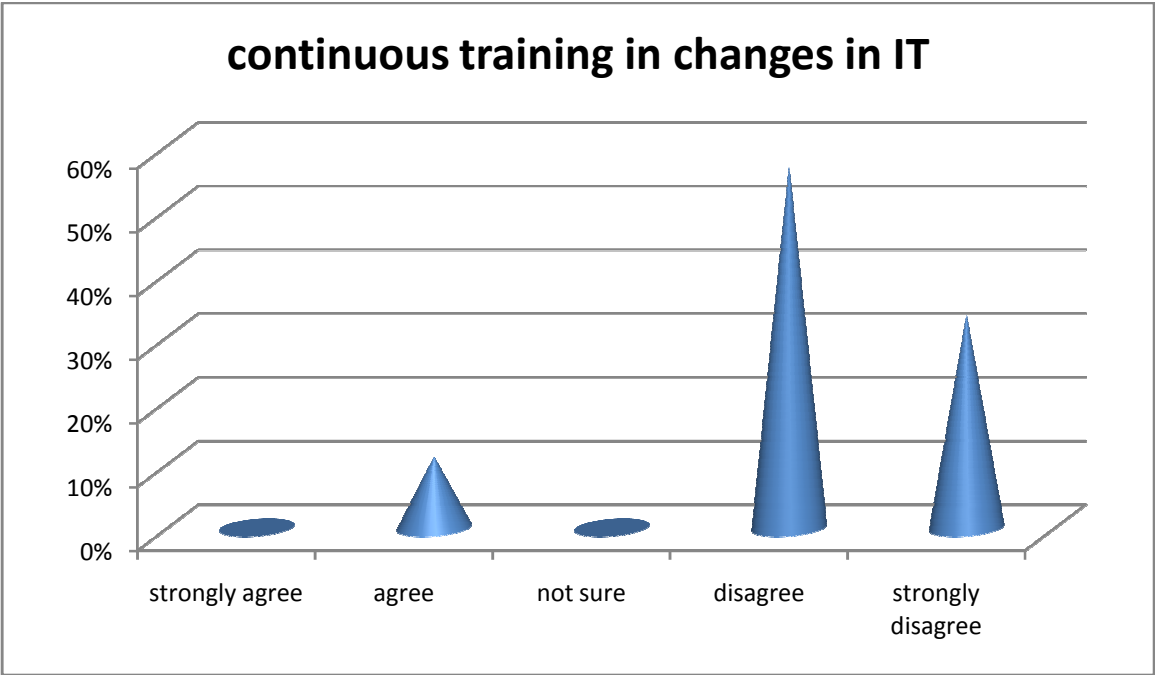


Figure 4.5 Continuous training in changes in IT

The research findings illustrated in table 4.4 and figure 4.5 above shows that 56% strongly disagree and 33% disagree that the internal audit is being continuously trained for the rapid changes in IT at the organization whilst 11% are in agreement.

The research findings show that the internal audit at the organization was not keeping abreast with the rapid changes in IT at the organization since they were not being continuously trained on how to deal with these changes. The first general standard of the ten generally accepted auditing standards (GAAS) issued by the AICPA “*the examination is to be performed by a person or persons having adequate technical training and proficiency as an auditor*”. Lack of technical training of the auditor on the changes in IT at the organization makes the audit results unreliable since the audit would have been performed by a person who is not professionally competent.

4.7. Changes in auditing procedures

The respondents were asked whether the internal audit had to change their auditing procedures as a result of the use of information technology by the council. The objective of this question was to identify whether the auditing procedures in an IT environment differed from those in a manual environment. The researcher obtained the following responses.

Table 4.5 Changes in auditing procedures

Strength of feeling	Strongly agree	agree	Not sure	disagree	Strongly Disagree	Total
Number of respondents	12	6	0	0	0	18
percentage	67	33	0	0	0	100

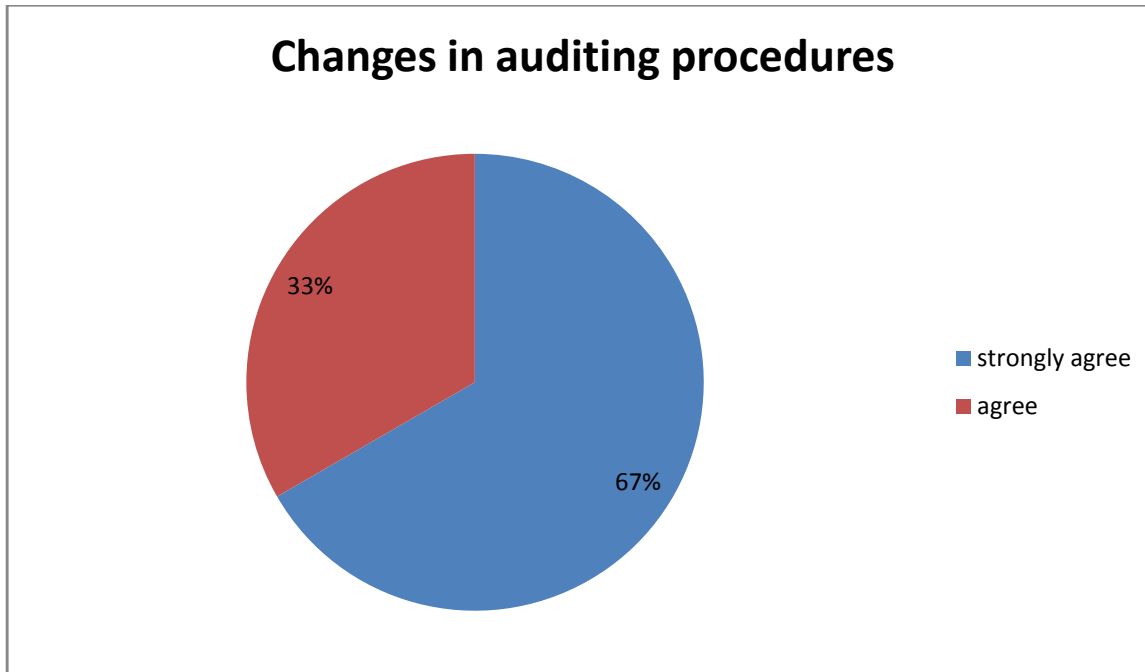


Figure 4.6 Changes in auditing procedures

The respondents all agreed with 33% strongly agreeing and 67% agreeing that the internal auditors at BCC changed their auditing procedures as a result of the use of IT by BCC. The research findings therefore suggest that the auditing procedures employed by BCC's internal audit in an IT environment differed from those employed in a manual environment. This is however in contradiction to Basu (2011) who argues that the basics audit procedures in an IT environment are the same as those in a manual system however in an IT system the auditor need to evaluate the system from which the information being audited is generated and the internal controls in place.

4.8 The contribution of CAATs improving audits procedures

Respondents were asked whether CAATs generally improved the effectiveness and efficiency of the auditing procedures in an IT environment. The following responses were obtained

Table 4.6 Contribution of CAATs in improving auditing procedures

Strength of feeling	Strongly agree	Agree	Not sure	disagree	Strongly Disagree	Total
Number of respondents	5	8	1	3	1	18
Percentage	28	44	5	18	5	100

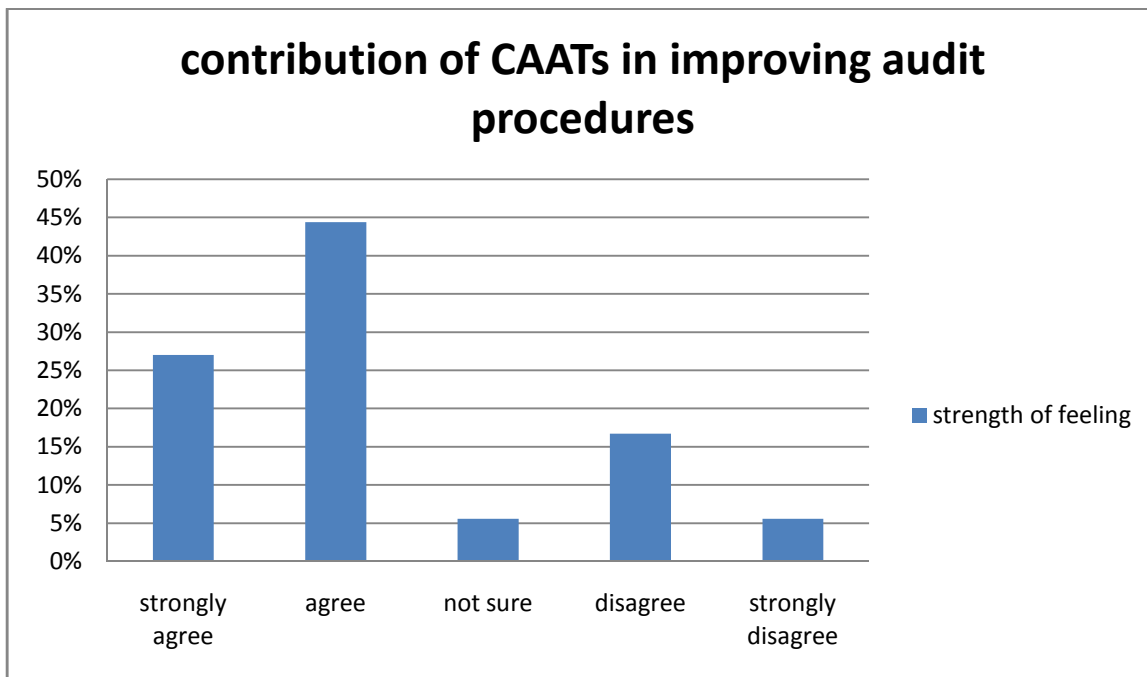


Figure 4.7 Contribution of CAATs in improving auditing procedures

The findings indicated that 28% of the respondents strongly agree, 44% agree that CAATs improves the effectiveness and efficiency of the auditing procedures in an IT environment, 5% were not sure, 18% disagree whilst 5% strongly disagree.

The findings show that the use of CAATs generally improves the auditing procedures in an IT environment. This argument is supported by Jackson and Stent (2012) who highlighted that when auditors are operating in an IT environment in order for the auditors to improve the effectiveness and the efficiency of their audit procedures they need to consider the use of CAATs in their auditing procedures.

4.9 Reduction in Audit Risk

Respondents were asked whether audit risk has generally been reduced by the use of computers in performing audits. The objective of this question was to determine the impact of information technology on audit risk at the organization. The researcher obtained the following responses.

Table 4.7 Reduction in audit risk

Strength of feeling	Strongly agree	agree	Not sure	disagree	Strongly Disagree	Total
Number of respondents	8	7	0	3	0	18
Percentage	44	39	0	17	0	100

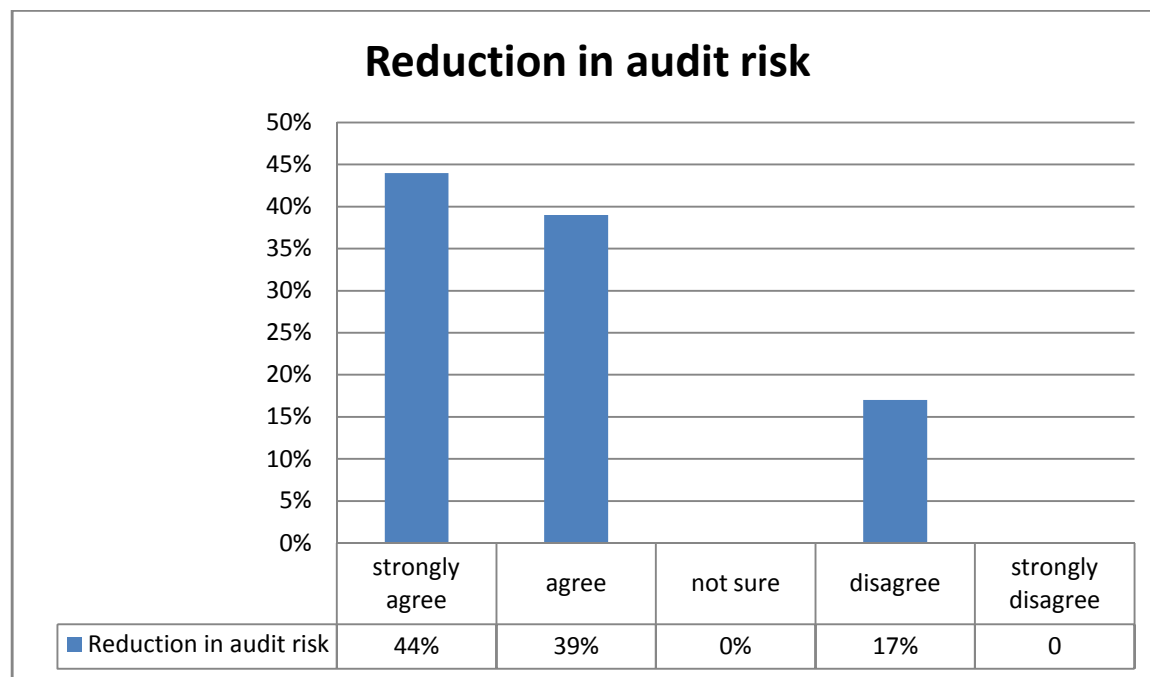


Figure 4.8 Reduction in Audit Risk

Figure 4.8 above shows that 44% of the respondents strongly agree and 39% agree that audit risk was reduced as a result of using computers during audits at the organization. Of the respondents 17% were in disagreement as they felt that audit risk has generally increased. The respondents

view therefore shows that the audit risk at the organization has generally been reduced since computerization.

4.10 Reduction in Audit Cost

Respondents were asked whether the audit cost had been reduced by the use of computers for performing audits. The following responses were given.

Table 4.8 Reduction in audit cost

Strength of feeling	Strongly agree	agree	Not sure	disagree	Strongly Disagree	Total
Number of respondents	4	10	1	3	0	18
Percentage	22	55	6	17	0	100

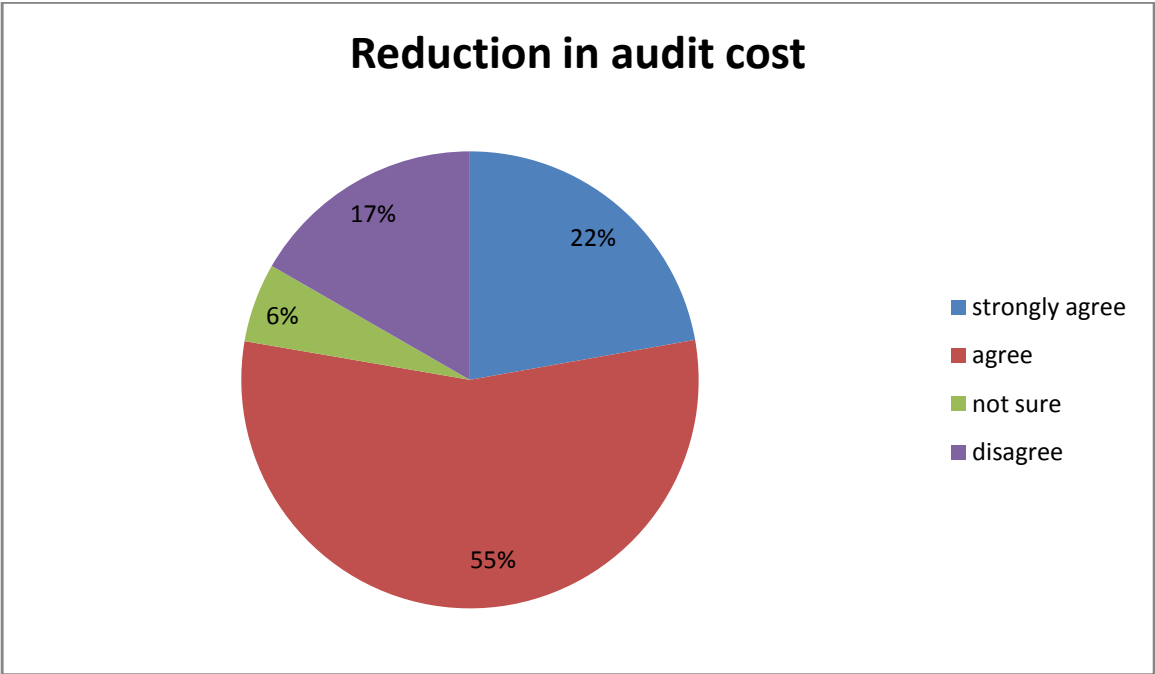


Figure 4.9 Reduction in auditing cost

As shown in table 4.8 and figure 4.9 above 22% of the respondents strongly agree, 55% agree that audit cost have been reduced as a result of the use of computers in the organization whilst 6% are not sure and 17% disagree as they feel that the use of computers did not reduce the organization's audit cost.

The findings show that information technology led to a reduction in audit cost at the organization.

4.11 Benefits of computerization to the audit profession

Respondents were asked whether the benefits that accrued to the internal audit at the organization as a result of computerization outweighs the disadvantages. The following responses were obtained.

Table 4.9 Benefits of Computerization to internal audit

Strength of feeling	Strongly agree	agree	Not sure	disagree	Strongly Disagree	Total
Number of respondents	6	12	0	0	0	18
Percentage	33	67	0	0	0	100

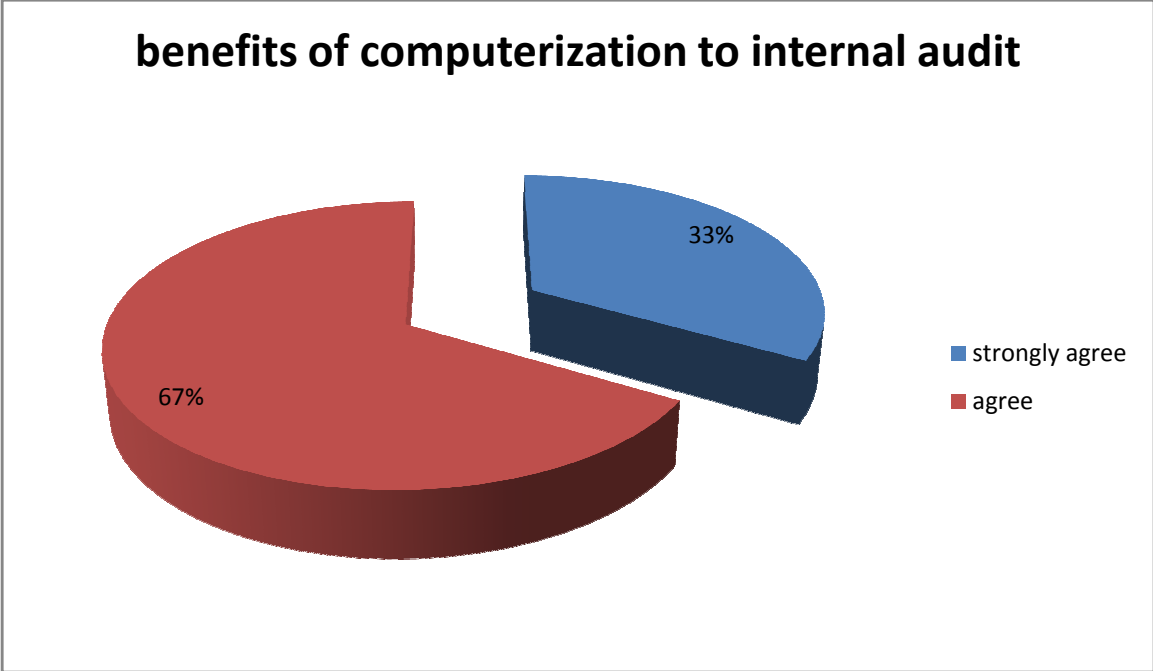


Figure 4.10 Benefits of Computerization to internal audit

All the respondents agreed with 33 % strongly agreeing and 67% agreeing that the benefits that accrued to the internal audit as a result of information technology outweigh the losses thereof. The findings show that the internal audit at the organization benefited from information technology to a larger extent. This is supported by J.M Court (2009) who highlighted that the auditing profession at large has heavily benefited from the introduction of IT in organizations.

4.12 Analysis of Interview Responses

Table 4.10 Interview response rate

Respondent group	Arranged interviews	Conducted interviews	Interview not conducted	Response rate
Chief Internal Auditor	1	1	0	100%
Audi Committee	3	2	1	67%
Overall	4	3	1	75%

The researcher managed to conduct 75% of the arranged interviews, 25% of the interviews were not conducted since the interviewees were said to be out of town though the researcher had made appointments with the interviews, these were canceled at the last moment.

4.12.1 What are some of the audit risks which have been experienced by the internal audit function at the organization as a result of auditing in a computerized environment?

The objective of the question was to determine the audit risks associated with the use of IT at the organization. All respondents indicated that fraud cases generally increased in the organization since computerization, cases of data corruption and unauthorized access to data increased at the organization. They also cited that the lack of a visible audit trail made it difficult to properly trace some of the transactions that would have occurred for authorization.

As opposed to the respondents of the questionnaires the interviewees were of the opinion that audit risk has generally increased since computerization by the organization whilst the respondents of the questionnaires felt that audit risk has generally been reduced. Allan Millichamp (2012) says that the evaluation of audit risk in an IT environment follows the same procedures as those in a non-computerised environment. However there are some several aspects of audit risk which have to be considered specifically in connection with a computerized system.

According to Jenkins (2012) the auditor should be aware of these risks and should identify these risks and their impact on the nature, scope and timing of the audit procedures.

4.12.2 How best can these audit risks be addressed?

The objective of this question was to determine how the organization can address the various limitations imposed by IT at the organization. Their responses were that these risks can be reduced by the continual reviewing of internal controls at the organization. The respondents were of the view that employment of highly skilled and qualified Internal Audit personnel act as a control in itself as they will be able to monitor and continually review the internal controls and make suggestions on areas of improvements on the internal control.

4.12.3 What benefits has the internal audit enjoyed as a result of computerization by BCC?

The objective of this question was to determine whether BCC's internal audit has benefited from the use of IT in the organization. The interviewees suggested that the internal audit at the organization benefited in that the computer saves time as it can perform multiple calculations and can process large quantities of data at high speed. They also pointed that the internal audit cost had been reduced due to use of IT in that in the IT environment fewer auditing staff are employed as opposed to those employed in a manual environment. This is in line with the respondents of question 11 of the questionnaire who also felt that the internal audit greatly benefited from the use of IT in performing their audits.

4.12.4 Do you make use of Computer Aided Auditing Tools in your auditing procedures?

All respondents said they did not use CAATs at BCC. Singleton (2011) highlighted that the use of CAATs helps in improving the overall quality of the audit since a large sample of data can be tested, they allow for more extensive re-performance, more precision and more conclusive results which in turn improves the quality of the audit. The non-use of CAATs by BCC therefore generally reduces the overall quality of the audit as compared to other organizations that uses CAATs.

4.12.5 If the answer is no above may your please explain why?

The objective of this question was to determine why the internal audit department of BCC did not use CAATs in their internal audits. The interviewees suggested reasons which included lack of knowledge by the staff on how the CAATs are used, the organization structure being bureaucratic and therefore resistant to changes. They also indicated that the startup cost was generally high and it was difficult for them to have council approve their budget for the implementation of CAATs.

4.12.6 To what extent has the computerization of Bulawayo City Council influenced the audit approach used by the Internal Auditors at Bulawayo City Council (BCC).

The objective of this question was to determine the extent to which the computerization of Bulawayo City Council influenced the auditing approach used by the Internal Auditors at Bulawayo City Council. The interviewees suggested that the internal audit had to change their auditing approach due to computerization. The interviewees said that the internal auditors audit through the computer when they are performing audits as they argued that if audit procedures are performed within the computer the auditor will gain a better understanding of how the computer is operating i.e. the manner in which it records, processes and executes transactions, this thus allows the auditor to determine the level of reliance that is should place on the computer system in identifying misstatements.

This is in line with Puttick (2011) who argues that in recent times most auditors have resorted to auditing through the computer since it provides the auditor with evidence concerning the effective functioning of the system and the level of reliance of the internal controls.

Analysis of Secondary Data

The Researcher managed to look at the external audit report of June 2013. The audit report showed that in the external auditors did not place their reliance on work done by the internal audit after having tested the work done by the internal auditors. The report indicated that reliance would not be placed on work done by the internal auditors due to issues to do with the technical

competence of the internal auditors at the organization. These finding suggests that the internal auditors at the organization are not technically competent to perform audits.

Marx et al (2011) outlined that the external auditor has to test the work of the internal auditor and decide whether reliance can be placed on the work done by the internal auditors. He further outlined that the external auditor has to look at the technical competence of the internal auditor in relation to training, qualification, proficiency, employment policy, experience and expertise.If the external auditor is not satisfied with the technical competency of the internal auditors then reliance may not be placed on the work done by the internal auditors.

4.13 SUMMARY

In this chapter the researcher evaluated and analyzed responses to interviews and questionnaires. The results arising from the data collection techniques adopted were analyzed and presented in text form and some of the explanations to the results were aided by the use of tables, graphs and charts. The next chapter will summarize the research findings and outline the recommendations suggested by the researcher.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.0 Introduction

This chapter sought to attach meaning to the data presented in chapter four. Thus having discussed the findings *vis-à-vis* the research questions, outlined in chapter one, it will draw conclusions from the study. Having drawn conclusions from the study the chapter will make recommendations based on the impact of information technology on the internal audit function at BCC.

5.1 Summary of the Research

The objective of the research was to carry out an analysis on the impact of information technology on the function. Chapter one focused on the background of the study, the problem statement, study objectives, research questions, significance of the study, assumptions of the study, and limitations of the study and the definition of terms. The underlying motive of the research was to identify how auditors are keeping abreast with the constant changes in Information Technology at the organization.

Chapter two reviewed the relevant related literature to enhance the research study. It involved the documentation of a comprehensive review of published and non-published work from secondary sources of data in the areas of specific interest to the research. It covered an analysis of evidence from other researchers on the impact of information technology on internal audits. It also covered areas on auditor competency, audit risk in a IT environment, audit approach and audit procedures in an IT environment among other sub topics. The chapter's outline was guided by the research objectives.

Chapter three looked at the activities and procedures used in researching during the course of the research. The population utilized in the research was made up of BCC's Internal Auditors,

Members of the Audit Committee, Chief Internal Auditor, Senior Accountants and Senior IT Technicians. It also focused on the research design, research instruments used, the data collection procedures, data analysis and data presentation plans.

Chapter four focused on the analysis and presentation of data gathered from the field research. The researcher used information collected from questionnaires and interviews conducted as the source of data referred to in the analysis. The findings and analysis were directed towards addressing research objectives and answering research questions. The findings and data analysis sought to understand the Impact of IT on the Internal Audit function. Hence the basis of the summary, conclusion and recommendations of the research was established.

5.2 Major Findings

The research was prompted by the need to investigate on the impact of information technology on the internal audit function, and Bulawayo City Council was used as a case study. The researcher acknowledges that the research findings cannot supply all the information relating on the impact of IT on the internal audit function. However the researcher assumes that the research findings provide a valuable insight about the impact of IT on the internal Audit. Below are the research findings in regard to the research objectives

5.2.1 Changes in auditing procedures

The researcher found out that the basic auditing procedures changed as a result of computerization however the internal audit do not use CAATs in their auditing procedures. By not using CAATs the internal audit reduces the efficiency of the audit and thereby affecting the audit opinion.

5.2.2 Technological expertise required

The researcher found that the internal auditors are registered with the institute of internal auditors but are however not continuously trained for the rapid changes in IT at the organization this is as a result of management ignorance to the importance of training and lack of funds to continuously

train the internal auditors. By not continuously training the auditors there is risk that they won't be able to detect data manipulation and material misstatements which might exist in the financial statements which will therefore affect their audit opinion.

5.2.3 Extent to which computerization has influenced audit approach

The researcher established that IT has to a greater extent influenced the type of audit approach used in a computerized organization. The organization however does not perform information technology audits. The researcher found that non-performance of IT audits makes it difficult for internal auditors to verify that the system being used by the organization was implemented according to specifications and that the input, processing and output procedures are operating accordingly and that the Internal Controls are adequately safeguarding the assets of the organization.

5.2.4 Audit Risk associated with the use of IT

Audit risk increased drastically since computerization; fraud cases specifically increased and the loss of audit trail were the major risks faced by Internal Audit. This is mainly as a result of the employees getting a thorough understanding of how the system operates and identifying methods of manipulating the system for their own benefit.

5.2.5 Ways of addressing limitations imposed by IT

The researcher found that the employment of a well experienced, trained and competent internal audit staff with high integrity will aid in overcoming the limitation imposed by IT.

5.3 Conclusion

The main objective of the research was to analyze the impact of IT on the internal audit function with BCC as a case study. The researcher gathered literature review on the subject, distributed questionnaires and conducted interviews on the subject. The objective of the study was successful since it managed to address the research objectives.

5.4 Recommendations

The internal audit should use CAATs and other audit software to aid in their auditing procedures thereby improving the quality of their audit opinion. This is in line with Saddler (2013) who outlined that the use of CAATs enhances the economy and efficiency of the audit. He argues that since the CAATs can perform tests on large volumes of transaction quickly and accurately, the audit sample is increased and the CAATs can even do a 100% test on all the transactions. This can increase the confidence of an audit opinion.

The internal audit should be continuously informed and trained on all the systems used by the organization and for any changes in IT that occurs in the organization. According to Gowell (2012) ongoing training of internal auditors enable them to keep up with the current IT changes and acquire the necessary skills to enhance the overall quality and execution of audit engagements.

The Internal audit should consider performing IT audits at the organization. Champlain (2013) argues that the performance of IT audits will help the internal auditors to evaluate whether the organization's information systems are safeguarding the organization's assets, maintaining data integrity and operating effectively to achieve the goals and objectives of the organization.

Council may also consider co-sourcing the internal audit function which will perform the IT audits at the organization and work hand in hand with the in-house internal auditors imparting their knowledge and skills to them. This is in line with a paper written by KPMG in 2008 which says that co-sourcing arrangements gives the organization access to professionals who can provide additional value in the audit process through their technological expertise in various areas including IT.

The organization should ensure that fraud and control risk assessment is continuously performed and action plans are prepared to implement and monitor the needed controls. They should also enhance anti-fraud policies in-order to curb the rising of fraud cases at the organization. (Mahzan2010)

5.6 Suggested areas for further research

The research study can be explored further by reviewing other areas that the researcher did not cover which can be of greater importance to the organisation such as carrying out a study on cost-benefit analysis of the introduction of CAATs on the auditing procedures at the organization. CAATs will help improve the audit procedures of the organisation it is however important that a cost benefit analysis be done first before they are implemented.

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APPENDIX A

COVER LETTER



Midlands State University
Established 2000

Our Hands, Our Minds, Our Destiny

Midlands State University
Department of Accounting
P. Bag. 9055
Gweru
March 2014

Dear Sir/Madam

RE: REQUEST FOR PERMISSION TO CARRY OUT A STUDY

I am a student at Midlands State University and I am carrying out a research on **the impact of Information Technology on the Internal Audit Function: Case Study of Bulawayo City Council**. I want to confirm that the information gathered from this study shall be kept confidential and would be used for academic purposes only. For verification you can contact the Chairperson of the Department of Accounting Mr. P Mvura

Your participation and your answers are very important to this research and you are kindly asked to respond honestly.

Thank you very much for your help and consideration.

Yours Sincerely

Audrey Mugiya

Researcher (Registration number R103072G)

APPENDIX B

QUESTIONNAIRE

Instructions

- Do not write your name on the questionnaire.
- Show response by ticking the respective answer box where applicable and or filling in the spaces provided.
- If you are not certain about how to respond to any given question please skip the question and go to the next one.

1. For how many years have you been employed at Bulawayo City Council?

.....

2. What is your highest level of education?

.....

3. Are you registered with the Zimbabwe Institute of Internal Audit?

YES

NO

4. The internal audit department at the organization complies with the International Auditing Standards when performing their duties?

Strongly agree

Agree

not sure

Disagree

Strongly disagree

5. Does BCC's internal audit department perform information technology audits?

Yes

No

If your answer above is no can you please explain why.

.....
.....
.....
.....

6. Is the internal audit continuously trained for the changes in IT in this organization?

Strongly agree Agree not sure

Disagree Strongly disagree

7. The Internal Auditors at BCC have to change their auditing procedures as a result of the use of IT by BCC.

Strongly agree Agree not sure

Disagree Strongly disagree

8. The effectiveness and efficiency of auditing procedures in an IT environment is generally improved by the use of Computer Aided Auditing Techniques.

Strongly agree Agree not sure

Disagree Strongly disagree

9. Audit Risk has generally been reduced by the use of computers for performing audits.

Strongly agree Agree not sure

Disagree Strongly disagree

10. Audit cost has generally been reduced by the use of computers for performing audits.

Strongly agree Agree not sure

Disagree Strongly disagree

11. The benefits that accrued to the internal audit department as a result of information technology outweigh the disadvantages.

Strongly agree Agree not sure

Disagree Strongly disagree

APPENDIX C

INTERVIEW GUIDE

INTERVIEW QUESTIONS

1. What are some of the audit risks which have been experienced by the internal audit function as a result of auditing in a computerized environment?
2. How best can these audit risks be addressed
3. What benefits has the internal audit enjoyed as a result of computerization by BCC
4. Do you make use of Computer Aided Auditing Tools in your auditing procedures?
5. If the answer is no above may your please explain why?
6. To what extent has the computerization of Bulawayo City Council influenced the audit approach used by the Internal Auditors at Bulawayo City Council (BCC).