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**In partial fulfilment of the requirements of Bachelor of
Commerce Honours Degree in Accounting.**

**BASED ON RESEARCH DATA GATHERED AT
UNITED COLLEGE OF EDUCATION.**

RESEARCH TOPIC:An investigation on the risks of a partially computerised Accounting Information Systems: The case of United College of Education.

DECLARATION FORM

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DEDICATION

This work is dedicated to my daughter, Cheyna Claire.

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I would like to sincerely thank the Lord for granting me this opportunity to undertake this study. I would also like to express my appreciation to Mr Kazembe for his expert guidance and supervision of this study. May the good Lord richly bless you for your patience.

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ABSTRACT

United College of Education has been using a partially computerised Accounting Information System since its inception in 1968. The risks as well as the weaknesses of this system have prompted this investigation. This research investigated the risks of partially computerised AIS, identified the strengths and weaknesses of the system, effects of the partially computerised AIS on data quality and quality of decisions made at United College of Education. A census was conducted to all respondents who were directly involved to the Accounts and Finance Department. In data gathering, the researcher administered questionnaires, conducted documentary reviews and also conducted interviews. Research findings were presented using tables, graphs and charts. Research findings revealed that the partially computerised Accounting information system as used by the College was of high risk to the organisation with a lot of weaknesses as it negatively affected data quality decision making. Recommendations to the company were made on the best options the College could adopt in order to attain quality accounting information and these were drawn from reviewed literature and research findings. These included, among others, full computerisation, consideration by the College to acquire user friendly accounting package as well as use of web technologies.

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CHAPTER 1

INTRODUCTION

1.0 Introduction

This research seeks to investigate risks in a partially computerised Accounting Information system, at the same time attempt to uncover ways of managing and mitigating such risks. This chapter will give a background to the problem, statement of the problem, objectives, research questions, scope of the study, justification of the study, assumption as well as delimitations and limitations of the study and summary of the chapter.

1.1 Background to the study

Accounting Information System (AIS) is one of the most critical systems in any organization. The functions of the AIS be it manual or computerised includes data collection, data storage, data processing, data control, security and information generation that helps stakeholders to take their decisions and ensure sufficient control to guarantee accurate processing and recording of accounting information, Qasem (2010).

United College of Education, like any other teachers' college uses a partially computerised information system. This research seeks to investigate the risks associated with a partially computerised Accounting Information System. There are several factors which have led to this study. These include, among others, inefficiencies in the accounting information system such that it has contributed to the increased volumes of inaccurate information in the financial reports. For example, some figures are usually estimates and approximates, as in the case where the Ministry of Higher and Tertiary Education Science and Technology Development required all Teachers' colleges to submit financial reports including information on debtors from 2009 – 2011 financial years. To retrieve accurate information was a challenge since the college was using a partially computerised accounting information system, in which no records/separate ledgers were kept for each student/debtor. Students were cleared on producing their receipts. Table 1.1 below is showing the statistics of students and their fees payment records for the period 2010 -2013.

Table 1.1: Pre-service programme students payment statistics per year (2010-2014)

INTAKE	YEAR	NO OF STUDENTS	GAZETTED FEES PER YEAR(USD)	EXPECTED REVENUES (USD\$)	AMOUNT ACTUALLY RECEIVED	VARIANCE (OUTSTANDING DEBT)
11	2010	287	720	206 640	86 100	120 540
12	2011	428	720	308 160	86 100	222 060
13	2012	463	720	333 360	86 100	247 260
14	2013	497	720	357 840	86 100	271 740
TOTAL				1 206 000	344 400	861 600

Source: UCE financial reports 2010 – 13.

As noted in table 1.1 above, the increase in the number of students per intake, from 2010 to 2013, has seen the college having a minimum population of 2140 students in each academic year. It is therefore not easy to capture accurate information since fees records are kept on Microsoft Excel Spreadsheets, which are manually designed by the accounting assistants. The college is a primary teacher training institution which offers a three-year Diploma in Education course following 2-5-2 model of training and a one year four months Diploma in Special needs Education course. The gazetted fees for each course are \$240 per term. The college accounting system includes manual receipting and manual data capture. Besides capturing students' records, the college has also a number of debtors which include resident staff who pay rentals to the college, lease contractors, debtors in the KwaNongoma workshop which produces musical instruments, and hire of college facilities by ZIMSEC and other government institution.

The second factor is lack of segregation of duties which has been necessitated by the Government of Zimbabwe recruitment freeze. Since 2010 the college has experienced staff shortages resulting in staff performing incompatible duties. In 2009 the Accounts Department was manned by two people instead of an authorised establishment of five qualified personnel. This led to the secondment of under-qualified personnel within the college structures into the accounting section. Cases of fraud and errors in some instances may go undetected leading to material misstatements in the financial statements since the

last external audit by the Auditor General was performed in 2012 for the 2011 financial year. The Auditor General department is responsible for the audit of all Government departments each year.

Another factor which has led to this study is students' queries on their outstanding balances. The accounts department sometimes relies upon students receipts when clearing students. As such, some students lose their receipts before they collect their results. Retrieving such information becomes very difficult for the Accounts department because of the volume of receipt books.

The failure to submit internal and external financial reports on time which had been necessitated by the inefficiencies of the system has also contributed to this investigation. The external Auditors from KPMG who audited the College in June 2014 with the objective of performing a micro assessment report to establish the status of the financial management of the internal control systems used by the College in managing project funds which are sponsored by United Nations International Children's Education Fund (UNICEF), also noted that quarterly reports, which are required to be at the Ministry head office by the eleventh of the subsequent month, were not submitted timely since the calculations are done manually using the computer excel spreadsheet. The KPMG external auditors concluded that there is a risk that the Ministry may not be in a position to know the financial status of the College and therefore make incorrect decisions.

1.2 Statement of the problem

The college currently uses a partially computerised accounting information system which is more manual, with a hard copy cash book. The monthly, quarterly and annual reports are prepared on Excel spreadsheets. Given that most of the accounting work is done manually, this may give rise to a high risk of error and manipulation of data. In view of the failure by College to produce reliable, timely, accurate and understandable information, this research seeks to investigate the risks of a partially computerised Accounting Information System.

1.3 Objectives of the study

The objectives of this study are:

- to identify the risks of a partially computerised Accounting Information System used by the College;
- to discuss the strengths and weaknesses of a partially computerised Accounting Information System used by the College;
- to assess the quality of data produced by partially computerised Accounting Information System;
- to describe the quality of decisions-making based on the output of a partially computerised Accounting Information System;
- to proffer solutions towards the attainment of quality information output at the College.

1.4 Research questions

- i) What are the risks of the partially computerised Accounting Information System used by the College?
- ii) What are the strengths and weaknesses of a partially computerised Accounting Information System as used by the College?
- iii) What are the effects of a partially computerised Accounting Information System on data quality?
- iv) To what extent does a partially computerised accounting information system affect the quality of decisions at the college?

- v) What options does the college have towards the attainment of quality accounting information?

1.5 Scope of the study

This study seeks to investigate on the risks of a partially Computerised AIS, the case study being United College of Education.

1.6 Justification of the study

To the student, this research is in partial fulfilment of the requirements for the Bachelor of Commerce in Accounting Honours Degree.

To Midlands State University, this research hopes to add value to the MSU library and Faculty of Commerce in terms of research and data options for students in subsequent years. Further studies in this area would therefore be proffered towards validating or arguing against the results obtained.

To the organisation, this study aims at bringing valuable insights on the risks of partially computerised Accounting Information Systems in view of the quality decision making as well as quality accounting information.

1.7 Definition of terms

- **Partially Computerized Accounting Information system**

Partially Computerized Accounting Information system is the system that is being automated partly leaving some of the steps in the process to be done manually.

- **Accounting**

Accounting is the measurement, processing and communication of financial information about economic sources.

- **Information**

Information is data that is accurate and timely and specific and organised for a purpose, presented within a context that gives it meaning and relevance, and can lead to an increase in understanding and decrease in uncertainty.

- **Accounting Information System**

Accounting Information System is a system of collection, storage and processing of financial and accounting data that is used by decision makers.

- **Risk**

A risk is a probability of a threat or damage, injury, liability, loss or any other negative occurrence that is caused by internal or external vulnerabilities.

- **System**

A system is a set of detailed methods, procedures and routines created to carry out a specific activity, perform a duty or solve a problem.

1.8 Limitations of the study

The study will be limited by the following factors;

- Time – given that the project has to be conducted between July and September of 2014, it is therefore not feasible for the researcher to go beyond the selected college, as she spends most of her time at work.

- Finance - Due to financial limitations, the researcher will make use of hand posted questionnaires to cut on travelling costs.
- Access to confidential information – given that some of the information is confidential, the researcher might not be able to access some of the required information.

1.9 Assumptions

The following assumptions are made concerning this research:

- Respondents will be fully supportive;
- Resources will not be a hindrance to the completion of this study;

1.10 Summary

In this Chapter, the researcher gave an overview of the current situation relating to Accounting Information systems. The Chapter also captures background of the problem, research questions, assumptions, delimitations and limitations of the study among other things. The following chapter reviews literature that is going to be used in this study.

CHAPTER 2

LITERATURE REVIEW

2.0 Introduction

This chapter reviews literature on partially Computerised Accounting Information System (CAIS). It contains empirical studies on the risks associated with a partially CAIS, strengths and weaknesses of using a partially CAIS, effects of using a partially CAIS on data quality, effectiveness of decision making based on the output generated by a partially CAIS as well as the options recommended for attaining quality accounting information. The chapter will conclude with a summary.

2.1 Empirical literature

2.1.1 Strengths of a partially Computerised AIS

A number of strengths of the computerized AIS have been identified in previous studies. Important studies in this area include that of Adjei (2013) who highlighted the following benefits. Introduction of this system in the Amanamo Bank led to quick generation of financial statements, accounting reports as well as reconciliations. Data processing, retrieval and analysis became faster, accurate and timely which met management need for decision making.

He also found out that auditing procedures became easier and more efficient as a result of better access to the required information and accounting functions such as ledger posting and double entry were accurately and easily done.

Saleh (2011) asserts that computerized accounting helps financial accountants to make their record keeping tasks easier with accuracy and time efficiency, which can lead to cost efficiency. Amidu et al (2011) also concur with the above studies and they added that computerization led to timely management decisions as a result of the efficient storage and processing of accounting information.

The manual part of the system also brings some advantages. Johnston (2014) notes that with manual accounting, work is free from computers thus accounting work can be done anywhere and anytime without the need for power. Also, there is no risk of computer glitches and software crashes. Manual accounting also has the advantage of cost savings since accounting software can be expensive.

2.1.2 Weaknesses of partially computerized AIS

Since the system is both manual and computerized, it means it has both the limitations of a manual AIS and computerized AIS. Balasubramanian (2011) contends that partial computerization systems are inefficient and carry along many of the problems and weaknesses associated with manual systems.

Adjei (2013) and Magdalene (2011) identified the problems associated with the use of the manual AIS, and these include the longer processing time of customer information resulting in longer queues, huge labour costs in terms of salaries and wages for employees and also high risk of human error of omission, commission as well as miscalculations.

Adjei (2013) also identified weaknesses and limitations of the Computerized Accounting System. According to Adjei (2013) the accessibility of high powered computers may be limited to organizations who can afford it. He also noted the existence of a limited number of technological expertise needed to repair and maintain the computers. He asserts that even where these experts are available, the cost of hiring is still high. There is also a high cost of retaining staff for adaptation to computerization and high prices for basic accounting packages or software.

2.1.3 The risks of partially computerized AIS

The risks of partially computerized AIS include the inherent risks of using manual AIS as well as risks of using computerized AIS.

One of the most important studies in this area was carried out by Abu-Musa (2005) who discovered that accidental and intentional entry of bad data by employees, accidental destruction of data by employees, introduction of computer viruses to the system, employees' sharing of passwords, suppression and destruction of output, unauthorized document visibility, and misdirecting prints and distributing information to people not entitled to receive them are the most perceived significant security threats to CAIS in the Saudi organizations.

Loch et al (1992) cited in Abu-Musa (2005) classified security threats from three dimensions, namely, the source, the perpetrator and the intend, where the threat could be internal to the organization as the result of an employee's action or external, or threat could be human related or non-human related. Moreover, threats were also classified as accidental or intentional, irrespective of the source. Loch et al. employed this model to develop security checklist, where the three dimensions were specified into each threat.

Muhrtala and Ogundeji (2013:9) found out that developments in technology have in the process created significant risk implications on accounting information systems. They also discovered that IT poses threats to individual, organization and society as a whole, when used for malicious reasons and such threats include viruses, worms and spyware. As a result, financial accounting information is exposed to the risks of computing facility, equipment software and password failure, workstation access penetration, theft of data services, program changes, unauthorized access to data, information modification, denial of service, and traffic analysis.

Hanini (2012) cited in Muhrtala and Ogundenji (2013:11) examined the risks identified with CAIS's in Jordanian banks, and discovered that, threats to information systems result from employees' lack of experience in securing organization's information systems mainly due to absence of training on how to protect accounting systems prior to resuming their jobs and lack effective recruitment processes for accounts executives. As a result of these, employees were discovered to engage in intentional entry of inappropriate data during input, unauthorized access to output and man-made disasters. Zweifl (2009) cited in Hanini (2012:55) also concurs with the above studies and he discovered that security threats to electronic accounting systems included the unintentional entry of wrong data by employees, stealing of the computer's time and using it for personal purposes, unintentional damage of the data by the employees, man-made disasters and unauthorized access to accounting information.

Malami, Zainol and Nelson (2012) cited in Muhrtala and Ogundeji(2013:11) examined the security threats to CAIS 's in the banking industry in Malaysia, while Tarmidi, Rashidi, Sakarnor bin Deris and Abdul Roni (2013) investigated the security threats issues in Malaysian public services and both studies agree that most of the CAIS security threats originate from internal sources by employees. These include human unintentional threats, human intentional threats, technological threats, environmental threats and natural threats.

Hayale and Khadra (2008) developed a list of twenty four security threats, based primarily on the previous mentioned studies. This list also included some suggested security threats which were examined in this article for the first time and these

are accidental fault approval by seniors; intentional fault approval by seniors and unauthorized document visibility through displaying it.

Wang and He (2011) also discovered risks which affect data storage equipment, such as, computer hard disk and external memory. These include environmental humidity, overpowered electromagnetic interference and dust all which can damage computer hard disk. This can therefore result in great confusion in the accounting system and permanent loss or potential damage of the accounting information. They also added that accounting computerization applications relying on the internet or intranet system may be affected by power cut offs, fake identity and network failures.

Magdalene (2011) also identified risks associated with the manual part of the accounting systems. These risks include natural disasters such as heavy floods, fire outbreaks and in some cases landslides. These can cause massive destruction especially when most of the information is on paper.

2.1.4 Financial Data Quality

The quality of financial statements indicates the need of administration to communicate with shareholders to understand their needs and serve them fast and in the best possible way. Financial data quality also defines the characteristics as useful accounting information must be characterized, Abdallah (2013). Quality data is also defined by ISO 8000 as a data that meets the requirements and that is portable.

According to Ahmad (2006) cited in Abdallah (2013) the characteristics of quality accounting information include appropriateness, credibility, accuracy, timeliness, understandability and absorption, importance and fulfilment.

Financial Accounting Standards Board (2008) also outlines the following qualitative characteristics of accounting information;

- **Relevance**-Relevant accounting information is capable of making a difference in a decision by helping users to form predictions about the outcomes of past, present and future events or to correct prior expectations.
- **Timeliness**-Timeliness means having information available to decision makers before it loses its capacity to influence decisions. If information is not available when it is needed or becomes available so long after the reported events that it has no value for future action, it lacks relevance and is of little or no use.
- **Reliability**-The reliability of a measure rests on the faithfulness with which it represents what it purports to represent, coupled with an assurance for the user that it has that representational quality. To be useful, information must be reliable as well as relevant. Reliability rests upon the extent to which the accounting description or measurement is verifiable and represented faithfully. Neutrality of information also interacts with those two components of reliability to affect the usefulness of the information.
- **Verifiability** - is a quality that may be demonstrated by securing a high degree of consensus among independent measures using the same measurement methods. Quality accounting information must be verifiable.
- **Neutrality**-Accounting information must be neutral, that is, it must be objective and free from bias.
- **Comparability and Consistency**-Information about a particular enterprise gains greatly in usefulness if it can be compared with similar information about other enterprises and with similar information about the same enterprise for some other period or some other point in time.Comparability between enterprises and consistency in the application of methods over time increases the informational value of comparisons of relative economic opportunities or performance.

Hall (2012) also concurs with the above literature and he describes useful accounting information as information that is relevant,timely,accurate,and complete and summarized. He describes these as follows;

- **Relevance** – Accounting information must serve a purpose;

- **Timeliness.** Useful accounting information must be timely;
- **Accuracy** – Accounting information must be free from material errors;
- **Completeness** – quality accounting information must be complete and must be presented clearly and unambiguously.
- **Summarization.** Information should be aggregated in accordance with generally accepted accounting standards and principles.

The Conceptual Framework for Financial Reporting (2010) also contends that if financial information is to be useful, it must be relevant and faithfully represents that it purports to represent. The usefulness of financial information is enhanced if it is comparable, verifiable, timely and understandable. The Conceptual Framework for Financial Reporting (2010) defines the fundamental and enhancing qualitative characteristics as follows;

- **Relevance**-Relevant financial information is capable of making a difference in the decisions made by users. Information may be capable of making a difference in a decision if it has a predictive or confirmatory value or both. Financial information has predictive value if it can be used as an input to processes employed by users to predict future outcomes. Financial information has confirmatory value if it provides feedback about (confirms or changes) previous evaluations.
- **Faithful representation** - To be useful, financial information must not only represent relevant phenomena, but it must also faithfully represent the phenomena that it purports to represent. To be a perfectly faithful representation, a depiction would have three characteristics. It would be complete, neutral and free from error. A complete depiction includes all information necessary for a user to understand the phenomenon being depicted, including all necessary descriptions and explanations. A

neutral depiction is without bias in the selection or presentation of financial information. A neutral depiction is not slanted, weighted, emphasised, de-emphasised or otherwise manipulated to increase the probability that financial information will be received favourably or unfavourably by users. Free from error means there are no errors or omissions in the description of the phenomenon, and the process used to produce the reported information has been selected and applied with no errors in the process ,for example, a representation of that estimate can be faithful if the amount is described clearly and accurately as being an estimate, the nature and limitations of the estimating process are explained, and no errors have been made in selecting and applying an appropriate process for developing the estimate.

- **Comparability** - Comparability is the qualitative characteristic that enables users to identify and understand similarities in, and differences among, items.
- **Verifiability** - Verifiability means that different knowledgeable and independent observers could reach consensus, although not necessarily complete agreement, that a particular depiction is a faithful representation.
- **Timeliness** - Timeliness means having information available to decision-makers in time to be capable of influencing their decisions. Generally, the older the information is the less useful it is.
- **Understandability** - Classifying, characterising and presenting information clearly and concisely makes it understandable.

Zare et al (2013) concurred with the above studies that qualitative features of usable accounting information include relevance, reliability and comparability. The information generated from the use of AIS should be well timed thereby being helpful to users in better decision-making.

2.1.5 Effects of partially CAIS on the Quality of Decision Making

The general goal of the financial reports is to provide information for decision-making, Abdallah (2013). There is a clear relationship between the entrance to the decision-making and quality standards of financial statements. The increase of the

accounting information quality promotes optimum decision making that achieves the desired goal. When there is no understanding between the decision-maker and the information there is an increase in the case of the decision maker's hesitation, Rifai (2008).

One of the most important studies in this area was carried by Amviko (2011) who revealed that computerized accounting system actually have an influence on the quality of financial reports for publication purposes. Amviko (2011) noted that computerization of the accounting system help organizations to generate quick, accurate and error free financial reports. The financial reports generated conform to the quality attributes of useful and quality accounting information. Okoli (2012) also noted that accounting information is needed for decision-making not only by management in directing the affairs of the organization but also by shareholders, who require periodic financial statement in order to appraise management performance.

Mudashiru et al (2013) indicated that implementation of accounting information systems could lead to better decision –making by managers, more effective internal control systems, enhancement of the quality of financial reports and facilitating financial transaction processes. Siyanbola (2012) also asserts that accounting information performs a crucial role on management decisions and organizations performances, which have been shown to be major force in decision making.

Chung (2011) also, found out that the accounting information always play an essential role in decision making of the managers related to the financial and economic issues. It also affects to the survival of an organization. The commercial organizations which include private companies, joint venture, and limited companies rely on the accounting information to determine the production and business efficiency. Chung (2011) is of the view that non-commercial organizations such as clubs, associations with the main objective is social activity, charitable activities need accounting information to determine the level of service while state institutions such as tertiary colleges and universities, hospitals and government departments need accounting information to assess the provision of

security and social services. In conclusion, accounting information is a key factor which plays an important role over the activities of any organization and impacts on decisions to achieve the level of the target set. Therefore, the reported and collected accounting information can influence on making management's decision and it will result in the management to make decisions that are consistent with the organization's goals. In support, Breuer (2013) suggested that the management accounting must produce and transmit information about activity costs, information needed by management, information that generates internal reports and analysis integral for decision –making and efficient management of the assets.

Onaolapo and Odetayo (2012) are of the view that Accounting Information Systems lead to good financial reports and better decision making.

2.1.6 Solutions towards the attainment of quality accounting information.

Idealware (2008) noted that every non profit making organization can benefit from acquiring an accounting package. Microsoft Excel may not be enough and may be dangerous if used as an accounting tool. There are no built- in safeguards to keep one from deleting transaction or accidentally duplicating a line on a report.

Groza(2013) also recommends that accounting software packages should be built to meet all the needs of all users of accounting information and their management, accountants, government agencies, suppliers, customers, employees, investors and shareholders.

He also adds that accounting systems could be revolutionized by introducing web technologies. Accounting Information systems based on web technology help to facilitate the improvement in access to financial and accounting information.

Onaolapo and Odetayo (2012) also noted that automated Accounting Information System (AAIS) provides a tool for finance department to enhance organizational effectiveness especially in this era global technological advancement. They

recommended that management should make use of automated Accounting Information System (AIS) .In addition management of the companies should employ those are computer literate and highly experienced and they should also be trained with latest information technology. Finally, government should create enabling environment which will allow workers to acquire training in computer usage.

Hanini (2012) also recommends that after the implementation of a computerized AIS the following measures should taken into account;

- the necessity to increase the interest in developing effective internal control systems of the computerized accounting systems;
- the necessity of the organizations in keeping up with the continuous technological development and getting benefit of all the areas of development regarding the maintenance of the security and safety of the information as possible;
- the organizations should hold continuous training courses to the old and new employees to show them the importance of their commitment to the control procedures regarding the safety and security of the computerized accounting systems and train them to use procedures;
- the organisation's adoption of a special system regarding the preventive procedures of the risks of the computerized accounting systems;
- the Government legislative increases the penalties regarding the electronic crimes.

2.2 Justification of gap

In this review it has emerged that a gap exists in the applicability of the partially CAIS used at United College of Education and the need for reliable, relevant, timely, complete and accurate accounting information. Thus the decision making process at United College of Education is affected as it relies on data that is untimely, unreliable and data that is prone to manipulation and errors.

2.3 Summary

The study examined the risks of partially computerised AIS. The research focused on risks, strengths and weaknesses of partially computerised AIS as well as options available for United College of Education to attain quality accounting information. The next chapter will focus on the research methodology that is going to be adopted.

CHAPTER THREE

RESEARCH METHODOLOGY

3.0 Introduction

This chapter outlines the research methods used to gather information and analyse the risks of a partially CAIS and how it may impact the data quality and decision-making process at United College Education. The chapter covers the stages the researcher will go through in coming up with research findings. It gives the research design, population, sample and sampling procedures, data presentation, data collection procedures and analysis. It will also give a summary of the chapter.

3.1 Research method

Rajasekar (2013) defines research methods as the various procedures, schemes and methods used by the researcher in carrying out a research. Quantitative and qualitative research methods were used in collecting and gathering data. According to Crossman (2014) data collection methods in qualitative research include direct observation, questionnaires, in-depth interviews, participation and immersion as well as focus group discussions. Edmonds and Kennedy (2010) defines quantitative research method as a type of research of research in which the researcher decides what to study, asks specific, narrow questions and collects quantifiable data from respondents and analyse these numbers using statistics. The researcher employed interviews, questionnaires and document review in gathering information on partially computerised AIS. These offered greater understanding and flexibility to the researcher. A case study was employed in providing an in-depth investigation to the problem.

3.1.1 Research Design

Creswell (2009) defines a research design as a research process that involves the overall assumptions of the research to the method of data collection and analysis. In achieving the objectives of the study, the researcher used qualitative and quantitative research design in carrying out the case study. Yin (2009) defines a case study as an empirical enquiry that investigates a contemporary phenomenon and within its real life context in order to make generalisations about a larger group or society as a whole. Chikutsa and Chigozha (2011) also contends that a case study involve an in-depth investigation of a single person, group or event. This enabled the researcher to conduct a detailed and holistic investigation using a different range of measurement techniques.

3.2 Target population

According to Cox (2008), the target population refers to the entire sets of units for which research data are to be used to make inferences. The study population constituted the management and members of staff from the departments of Accounts, Library, Information technology, Procurement and logistics as well as Human resources department.

Table 3.1: Target population

GROUP	Total
Human resources assistants	4
Accountant	1
Accounting Assistants	3
Administration assistants	3
Library	4
ICT Staff	6
Management	2
Total	23

3.2.1 Population sampling

The study used a census in order to yield a higher overall accuracy of results. According to Farooq (2013) the census method involves the complete enumeration of a universe. The census method was applicable to the study because the target population was small

and also conveniently accessed since the researcher is employed at United College of Education. This enabled the researcher to gather a lot of data and knowledge and this also gave the researcher an opportunity to carry out an intensive study about the problem. In this study the researcher chose those respondents who are related to the department of the Accounting and Finance department at the College. These specific respondents were willing and available to participate and this enabled the researcher to gather accurate information. The following table shows the sample that was selected from the targeted population of United College of Education;

Table 3.2: Total Population

GROUP	Total Population	Research Method
Human resources assistants	4	Questionnaire
Accountant	1	Interview
Accounting Assistants	3	Questionnaire
Administration assistants	3	Questionnaire
Library	4	Questionnaire
ICT Staff	6	Questionnaire
Management	2	Interview
Total	23	

3.3 Research instruments

According to Annum (2014) research instruments are any types of data collection tools or procedures designed to obtain data in a study of interest from research subjects. In this research, questionnaires, document reviews and interviews were used.

Gall and Borg (2004) as cited in Muchengetwa (2010) define questionnaires as a research instrument consisting a set of questions which the respondent has to fill in. Questionnaires are relevant for the study as they gather information directly by asking the respondents questions. Pilot and Hungler (2002) define an interview as a checklist which is used to draw data from interviewees. The interview is appropriate for the study as it provides opportunities for the researcher to ask probing questions. Interviews were also used to gain an understanding of key issues on the risks of partially computerised AIS since the researcher interacted with the respondents face to face. These tools represented the primary sources of data collection.

The researcher also used the secondary data sources which involved document reviews and this enabled the researcher to inspect organisation financial reports, audit reports and management reports and this also facilitated the researcher in answering the research questions. Mogalakwe (2006) defines documentary research method refers to the use of documentary methods refers to the analysis of documents that contain information about the phenomenon under study and these are commonly written documents whether internal or external. It also involved reviewing of a variety of existing sources (e.g., documents, reports, data files, and other written artefacts) with the intention of collecting independently verifiable data and information.

3.4 Data collection procedure

The researcher carried out the study at United College of Education. Interviews were conducted by the researcher with members of staff holding senior positions in the organisation. These include the Principal, the vice Principal, Accountant and the ICT. Questionnaires were redistributed by the researcher to the respondents since they are all working at United College of Education. The researcher also inspected and reviewed financial, audit and management reports during the research since she is employed at the college and this formed the secondary data.

3.5 Data analysis

According to Manyani (2014) data analysis is the translation and examination of collected data by the researcher to give meaningful results. The researcher used Likert scale to analyse data as respondents were asked to indicate their level of agreement with a given statement by way of an ordinal scale. Bertram (2014) defines a Likert scale as a psychometric response scale primarily used in questionnaires to obtain participant's preferences or degree of agreement with a statement or set of statements. Likert scales are a non-comparative scaling technique and are one-dimensional (only measure a single trait) in nature. The researcher used tables, frequencies and percentages so as to ensure an in-depth and clear analysis of the study.

3.6 Data presentation

The data collected will be presented using bar graphs, pie charts and tables using respective information collected from respondents. The data obtained will be in two forms, namely, quantitative data obtained from questionnaires and qualitative data obtained from interviews and document reviews.

3.7 Summary

This chapter outlined the research methodology which was used by the researcher throughout the research that was undertaken. It unfolded the research design that was used, the population of the study, sampling techniques which were used, data collection procedures and how data will be collected and analysed.

CHAPTER 4

DATA PRESENTATION, ANALYSIS AND INTERPRETATION

4.0 Introduction

This chapter represents findings which were obtained from questionnaires and interviews and the findings were presented and analysed using the frequency tables and percentages thus enabling the researcher in answering the research questions. This also analyses the results collected from the research in order to establish the relationship between the variables and ends with a summary.

4.1 Findings of the results on demographic data

4.1.1: Findings on gender

Table 4.1 below shows that there are more females than males employed in the administration and management of the college. It indicates that 65% of the target population is manned with females while the 35 % represents males. Twenty questionnaires were administered and answered. Questionnaire response rate was 100% since all the targeted respondents responded to the questionnaires. Three interviews were planned and conducted with the Management and the Accountant. Interview response rate was 100% since all the targeted respondents were interviewed.

Table 4.1: Findings on gender

Response rate	Frequency(out of 20)	Percentage (100%)
Males	8	35
Females	15	65

Total	23	100
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4.1.2: Findings on the Departments at United College of Education

A question was asked to ascertain departments which are found at United College of Education. The results of the responses were tabulated below.

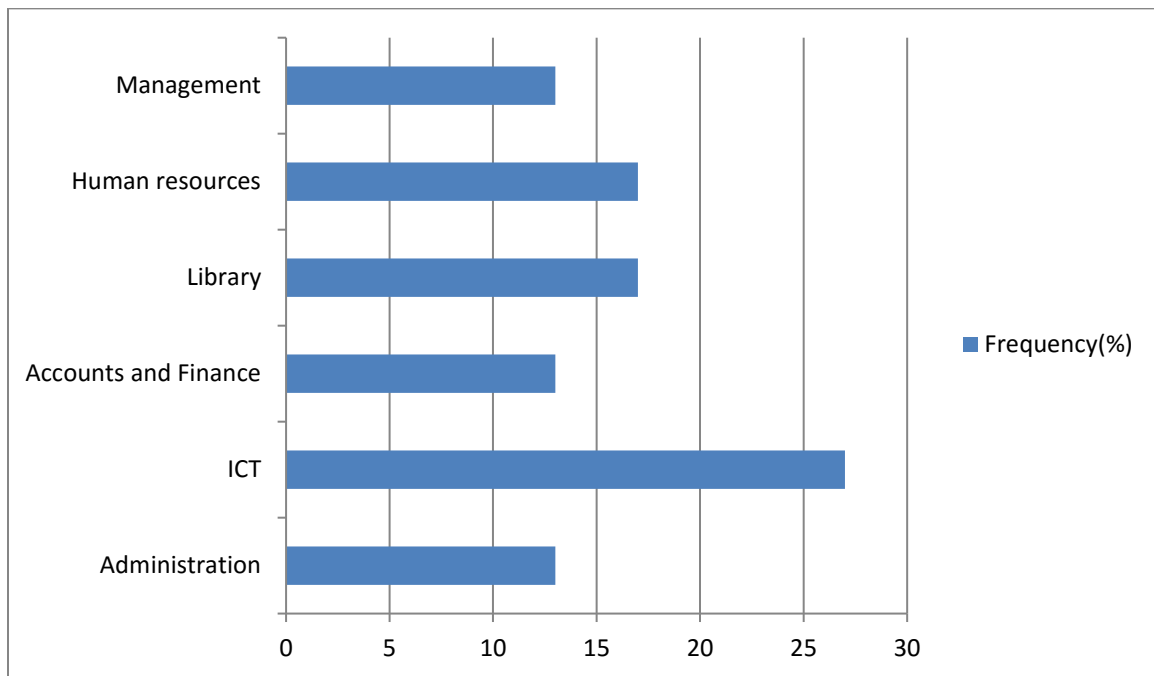
Table 4.2: Results on the Departments at United College of Education

Department	Frequency(out of 23)	Percentage (100%)
Human Resources	4	17
Library	4	17
Accounts and Finance	3	13
ICT	6	27
Administration	3	13
Management	3	13
TOTAL	23	100

Out of twenty three respondents, 13% of the respondents represented the Administration staff, 27% from ICT, 13% from Accounts and Finance, 17% from Library, 17 % from

Human Resources department and 13 % from the Management. The respondents represented the target population.

Figure 4.1: Illustration on the findings on Departments at United College of Education.



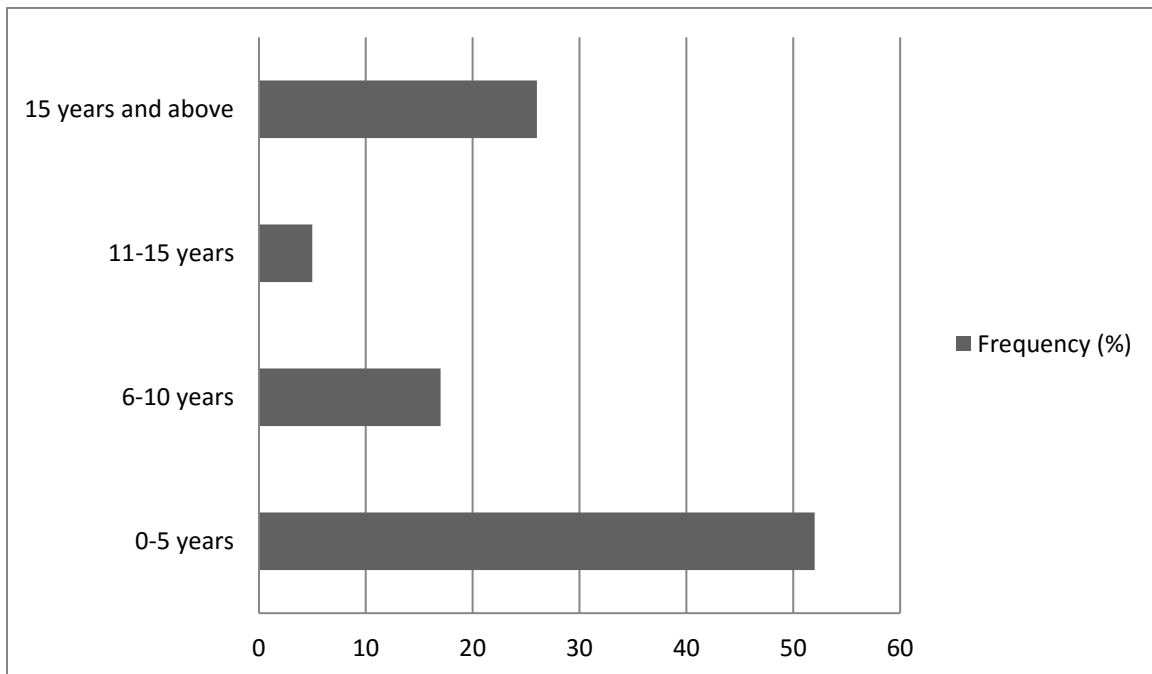
4.1.3 Findings on working experience of staff at United College of education

Table 4.3 and Figure 4.2 below shows that the working experience of most of the staff at United College of Education range from 0 -5 years and this is represented by 52% (12/23) of the respondents. 17% (4/23) of the respondents acknowledged that their working experience ranged from 6-10 years, 5% (1/23) had experience ranging from 11-15 years and lastly 26 % (6/23) had 15 years and above working experience.

Table 4.2: Results on working experience of staff at United College of Education

Experience	Frequency(out of 23)	Percentage (100%)
0-5years	12	52
6-10 years	4	17
11-15 years	1	5
15 years and above	6	26
TOTAL	23	100

Figure 4.2: A frequency graph indicating working experience at United College of Education.



4.2 Findings of the research with reference to the research questions.

The data obtained from the empirical findings in a way to answer the research questions were analysed and presented using frequency tables, graphs and charts.

4.2.1: Responses on the risks of partially computerised Accounting Information System.

The researcher used Abu-Musa (2005) as cited in Hayale and Khadra (2008) risks checklist to identify the risks of partially computerised AIS. Statistical findings related to the risks of partially computerised AIS as experienced at United College of Education are shown below.

a) Accidental entry of bad data by employees

Table 4.4: Findings of accidental entry of bad data by employees

Response rate	Frequency(out of 20)	Percentage (%)
Strongly agree	4	20
Agree	12	60
Not sure	0	0
Disagree	3	15
Strongly disagree	1	5
Total	20	100

The results in Table 4.2 above indicate that the majority of the respondents believed that there was high risk of accidental entry of bad data by the employees in partially computerised AIS as used by the College. This is shown by 20 % (4/20) who strongly agreed and 60% (12/20) who agreed totalling 80% of the respondents in favour of this risk and this is the mode.15% (3/20) disagree and only a minority of 5 % (1/20) strongly disagreed. As a result the researcher concluded that such a risk frequently occurred at United College of Education since the system is more manual with the employees involved in data capturing and data

input. The researcher also concluded that such a risk was prevalent at United College of Education because most of the staff are inexperienced as shown by the findings in Figure 4.1 in which 60 % (12/20) of the respondents have 0 to 5 years working experience. This is supported by Abu-Musa (2005) as cited in Hayale and Khadra (2008) whose results indicated that accidental entry of bad data by employees was one of the most perceived risks in computer environments.

b) Intentional entry of bad data by employees.

Table 4.5: Findings of intentional entry of bad data by employees

Response rate	Frequency(out of 20)	Percentage (%)
Strongly agree	3	15
Agree	3	15
Not sure	3	15
Disagree	10	50
Strongly disagree	1	5
Total	20	100

The results in Table 4.3 above indicate that 15% (3/20) strongly agreed, 15 % (3/20) agreed, 15% (3/20) were not sure, 50% disagreed (10/20) and 5% (1/20) strongly disagreed that intentional entry of bad data by employees was a threat at United College of Education. The researcher concluded that such a risk rarely occurred at United College of Education.

c) Accidental destruction of data by employees

The results in Table 4.4 below indicate that 20% (4/20) strongly agreed, 65% (13/20) agreed, 10% (2/20) were not sure, 5% (1/20) disagreed and none strongly disagreed with the fact that accidental destruction of data by employees occurred at the college. The researcher therefore, concluded that this risk was prevalent at the college as is evidenced by a total of 85 % (17/25) respondents in favour with this fact and this is the mode. This is supported by Abu-Musa (2005) as cited in Hayale and Khadra (2008) whose results also indicated that accidental destruction of data by employees was one of the most perceived risks in computer environments.

Table 4.6: Findings on accidental destruction of data by employees

Response rate	Frequency(out of 20)	Percentage (%)
Strongly agree	4	20
Agree	13	65
Not sure	2	10
Disagree	1	5
Strongly disagree	0	0
Total	20	100

d) Intentional destruction of data by employees.

Table 4.7: Findings on intentional destruction of data by employees

Response rate	Frequency(out of 20)	Percentage (%)
Strongly agree	5	25
Agree	2	10
Not sure	3	15
Disagree	8	40
Strongly disagree	2	10
Total	20	100

It was observed that 25% (5/20) strongly agreed, 10% (2/20) agreed, 15% (3/20) were not sure, 40% (8/20) and 10% (2/20) strongly disagreed that intentional destruction of data by employees occurred at United College of Education as shown in Table 4.5. The researcher concluded that this risk rarely occurred at the college since 50% disagreed and 15% were not sure.

e) Unauthorised access to the data or system by employees

Table 4.8: Findings on unauthorised access to the data or system by employees

Response rate	Frequency(out of 20)	Percentage (%)
Strongly agree	7	35
Agree	8	40
Not sure	5	25

Disagree	0	0
Strongly disagree	0	0
Total	20	100

The results in Table 4.6 indicate that 35% (7/20) strongly agreed, 40% (8/20) agreed, 25% (5/20) were not sure and none disagreed nor strongly disagreed .It can be concluded that the majority of the respondents believed that the risk of unauthorised access to the data or system by employees was a risk in partially computerised AIS as used by the College even though only 25% (5/20) were not sure. The mode is 75 % respondents who confirmed that such risk is prevalent at the College.

f) Unauthorised access to the data or system by outsiders

Table 4.9: Findings on unauthorised access to the data or systemby outsiders

Response rate	Frequency(out of 20)	Percentage (%)
Strongly agree	3	15
Agree	6	30
Not sure	3	15
Disagree	7	35
Strongly disagree	1	5

Total	20	100
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The results in Table 4.7 above indicate that 15% (3/20) strongly agreed, 30% (6/20) agreed, 15% (5/20) were not sure, 35% (7/20) and 5% (1/20) strongly disagreed with the fact that unauthorised access to the data or system by outsiders occurred at the college. It can be noted that 45% of the respondents confirmed that such a risk was a threat at the college, 15% were not sure and 40% disagreed that there was unauthorised access to data or systems by outsiders.

g) Employees sharing of passwords

Results indicated that 20 % (4/20) strongly agreed, 60% (12/20), 5% (1/20) were not sure, 15% (3/20) disagreed and none strongly disagreed as shown in Table 4.8. The mode of 16 respondents (80%) who confirmed that employees sharing of passwords was a risk at the college indicated that employees frequently shared their passwords. This is supported by Abu-Musa (2005) as cited in Hayale and Khadra (2008) whose results also indicated that employees sharing passwords was also one of the most perceived risks in computer environments.

Table 4.10: Findings on employees sharing of passwords

Response rate	Frequency(out of 20)	Percentage (%)
Strongly agree	4	20
Agree	12	60
Not sure	1	5
Disagree	3	15

Strongly disagree	0	0
Total	20	100

h) Natural disasters

Table 4.11: Findings on natural disasters

Response rate	Frequency(out of 20)	Percentage (%)
Strongly agree	6	30
Agree	8	40
Not sure	1	5
Disagree	4	20
Strongly disagree	1	5
Total	20	100

To investigate the respondents' views regarding the risk of natural disasters such as flood, loss of power and fire ,findings in Table 4.9 revealed that 30%(6/20) strongly agreed, 40% (8/20), 5% (1/20) were not sure, 20% (4/20) disagreed and 5% (1/20) strongly disagreed. Since 70% of the respondents confirmed the occurrence of these natural disasters, it can be concluded that such risks once occurred at the college.

i) Disasters of human origin

Table 4.12: Findings on human origin

Response rate	Frequency(out of 20)	Percentage (%)
Strongly agree	4	20

Agree	2	10
Not sure	10	50
Disagree	4	20
Strongly disagree	0	0
Total	20	100

Results indicated that 20 % (4/20) strongly agreed, 10% (2/20), 50% (10/20) were not sure, 20% (4/20) disagreed and none strongly disagreed as shown in Table 4.10. Since 14 respondents which is the mode (70%) did not believe that such risks occurred at the college, it can be concluded that such risks rarely occurred at the college.

j) Entry of computer viruses to the system

In order to explore the likelihood entry of computer viruses into the system the respondents were asked whether such risks occurred. Results in Table 4.11 below indicate that 55 % (11/20) strongly agreed, 20% (4/20), 10% (2/20) were not sure, 10% (2/20) disagreed and 5% (1/20) strongly disagreed. Since 75% of the respondents confirmed that entry of computer viruses to the system was a threat to the system, it can be concluded that it occurred frequently at the college.

Table 4.13: Findings on entry of computer viruses to the system

Response rate	Frequency(out of 20)	Percentage (%)
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Strongly agree	11	55
Agree	4	20
Not sure	2	10
Disagree	2	10
Strongly disagree	1	5
Total	20	100

k) Destruction of output

Table 4.14: Findings on destruction of output

Response rate	Frequency(out of 20)	Percentage (%)
Strongly agree	4	20
Agree	11	55
Not sure	4	20
Disagree	1	5
Strongly disagree	0	0
Total	20	100

Results in Table 4.12 indicate that 20 % (4/20) strongly agreed, 55% (11/20), 20% (4/20) were not sure, 5% (1/20) disagreed and none strongly disagreed. The mode of the distribution lies at 15 respondents (75%) in support of the fact that destruction of output occurred at the college.

l) Creation of incorrect/fictitious output

Table 4.15: Findings on creation of incorrect/fictitious output

Response rate	Frequency(out of 20)	Percentage (%)
Strongly agree	3	15
Agree	6	30
Not sure	4	20
Disagree	7	35
Strongly disagree	0	0
Total	20	100

Results in Table in Table 4.13 indicate that 15 % (3/20) strongly agreed, 30% (6/20), 20% (4/20) were not sure, 35% (7/20) disagreed and none strongly disagreed. Since only 45% confirmed the occurrence of such risk at the college with 20% not sure and 35% disagreed, it can be concluded that such risks rarely occurred at the college.

m) Theft of data or information

Table 4.16: Findings on theft of data or information

Response rate	Frequency(out of 20)	Percentage (%)
Strongly agree	6	30
Agree	12	60
Not sure	1	5
Disagree	1	5

Strongly disagree	0	0
Total	20	100

Findings on Table 4.14 indicate that the majority of the respondents confirmed that theft of data or information occurred at the college as this is shown by the results in which 30 % (6/20) strongly agreed, 60% (12/20), 5% (1/20) were not sure, 5% (1/20) disagreed and none strongly disagreed. 90% of the respondents believed that the threat occurred frequently at the college.

n) Unauthorised copying of output

Table 4.17: Findings on unauthorised copying of output

Response rate	Frequency(out of 20)	Percentage (%)
Strongly agree	3	15
Agree	12	60
Not sure	3	15
Disagree	2	10
Strongly disagree	0	0
Total	20	100

In reviewing the frequencies of the risk of unauthorised copying of output, the results in Table 4.15 above reveal that 15 % (3/20) strongly agreed, 60% (12/20), 15% (3/20) were not sure, 10% (2/20) disagreed and none strongly disagreed. It can be noted that almost 75 % which is the modal frequency of respondents confirmed the occurrence of the above mentioned risk.

o) Unauthorised document visibility

In reviewing the frequencies of the risk of unauthorised document visibility, the results in Table 4.16 below reveal that 25 % (5/20) strongly agreed, 50% (10/20), 20% (4/20) were not sure, 5%

(1/20) disagreed and none strongly disagreed. It can be noted that almost 75 % confirmed the occurrence of the above mentioned threat.

Table 4.18: Findings on unauthorised document visibility

Response rate	Frequency(out of 20)	Percentage (%)
Strongly agree	5	25
Agree	10	50
Not sure	4	20
Disagree	1	5
Strongly disagree	0	0
Total	20	100

p) Unauthorised printing and distribution of information

Table 4.19: Findings on unauthorised printing and distribution of information

Response rate	Frequency(out of 20)	Percentage (%)
Strongly agree	8	40
Agree	8	40
Not sure	3	15
Disagree	1	5
Strongly disagree	0	0
Total	20	100

Results in Table 4.17 above reveal that 80% (16/20), which is the mode, believed that there was the occurrence of unauthorised printing and distribution of information since only 5% (1/20) disagreed with this fact. Findings reveal that 40 % (8/20) strongly agreed, 40% (8/20), 15% (3/20) were not sure, 5% (1/20) disagreed and none strongly disagreed.

q) Directing prints and distributed information to people not entitled to receive

Table 4.20: Findings on directing prints and distributed information to people not entitled to receive

Response rate	Frequency(out of 20)	Percentage (%)
Strongly agree	3	15
Agree	11	55
Not sure	2	10
Disagree	2	10
Strongly disagree	2	10
Total	20	100

In reviewing the frequencies of the risk of directing prints and distributed information to people not entitled to receive, the results in Table 4.18 above reveal that 15 % (3/20) strongly agreed, 55% (11/20), 10% (2/20) were not sure, 10% (2/20) disagreed and 10% (2/20) strongly disagreed. It can be noted that almost 70 % confirmed the occurrence of the above mentioned risk.

r) Sensitive documents are handed to non security cleared personnel for shredding

In reviewing the frequencies of this above mentioned threat , the results in Table 4.19 below reveal that 20 %(4/20) strongly agreed, 40% (8/20), 20% (4/20) were not sure, 10% (2/20) disagreed and 10% (2/20) strongly disagreed. It can be noted that almost 60 % confirmed the occurrence of the above mentioned risk.

Table 4.21: Findings on sensitive documents handed to non-security cleared personnel for shredding

Response rate	Frequency(out of 20)	Percentage (%)
Strongly agree	4	20
Agree	8	40
Not sure	4	20
Disagree	2	10
Strongly disagree	2	10
Total	20	100

s) **Interception of data transmissions**

Table 4.22: Findings on interception of data transmissions

Response rate	Frequency(out of 20)	Percentage (%)
Strongly agree	2	10

Agree	7	35
Not sure	8	40
Disagree	2	10
Strongly disagree	1	5
Total	20	100

In reviewing the frequencies of this above mentioned threat , the results in Table 4.20 above reveal that 10 %(2/20) strongly agreed, 35% (7/20), 40% (8/20) were not sure, 10% (2/20) disagreed and 5% (1/20) strongly disagreed. It can be noted that almost 55 % did not confirm the occurrence of the above mentioned threat.

In conclusion findings reveal that accidental entry of bad data by employees, accidental destruction of data by employees, unauthorised access to data or system by employees, employees sharing passwords, natural disasters, entry of computer viruses into the system, destruction of output, theft of data or information, unauthorised copying of output, unauthorised document visibility, unauthorised printing and distribution of information and directing prints and distributed information to people not entitled to receive were the most perceived risks of partially computerised AIS at United College of Education. Study results were in line with (Davis, 1997), (Ryan&Bordoloi, 1997) and (Abu Musa, 2005) as cited in Hayale and Khadra (2008), as well as the results in Hayale and Khadra (2008)who discovered that most of security threats faced by the Jordanian domestic banks are internally generated (employees), and such threats are mainlyaccidental.

4.2.2Findings on the strengths of partially computerised AIS

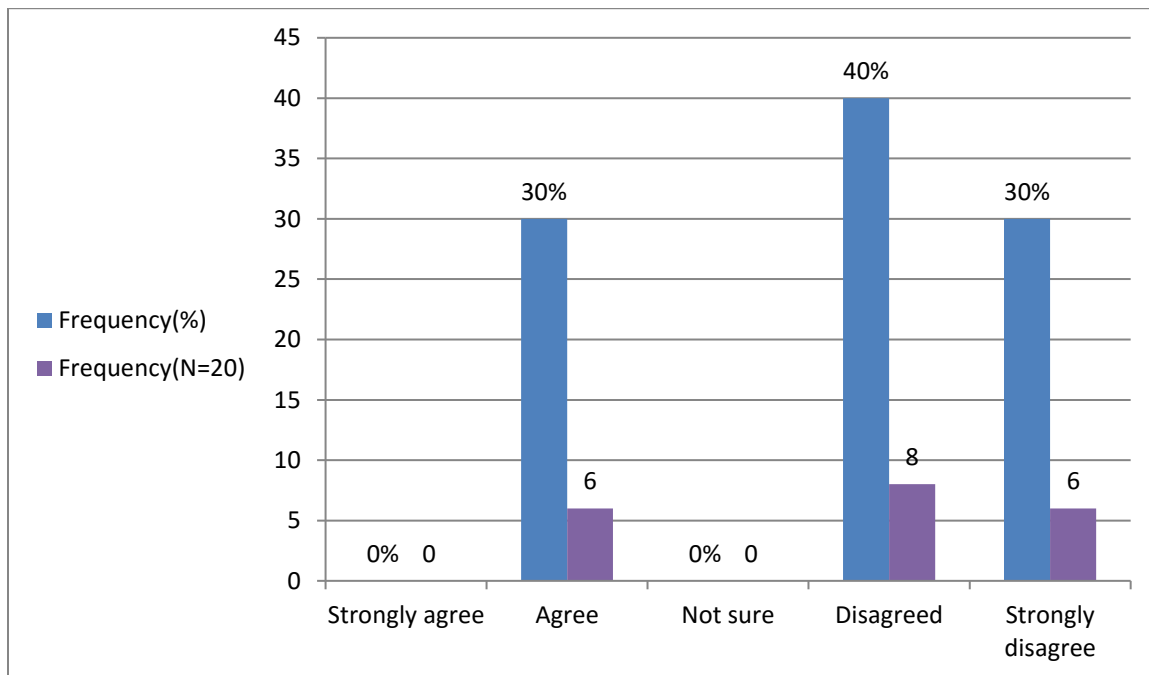
a) Quick generation of financial reports

A question was asked to establish whether the partially computerised Accounting information system quickly generated financial reports and the results are shown in a table below.

Table 4.23: Quick generation of financial reports

Response	Strongly agree	Agree	Not sure	Disagree	Strongly Disagree
Frequency (out of 20)	0	6	0	8	6
% Frequency	0	30	0	40	30

Figure 4.3: Findings on the responses on quick generation of financial reports



Out of twenty respondents none strongly agreed, 30% (6/20) agreed, none were not sure, 40% (8/20) disagreed and 30% (6/20) respondents strongly disagreed. The modal frequency is 70% (14/20) being respondents who disagreed that the partially computerised AIS quickly generates

financial information. Interview responses from the Management also concurred with these findings from the questionnaires since most of the accounting work is manually done. Adjei (2013) also supports this fact as he discovered that the manual system took longer processing time of accounting information.

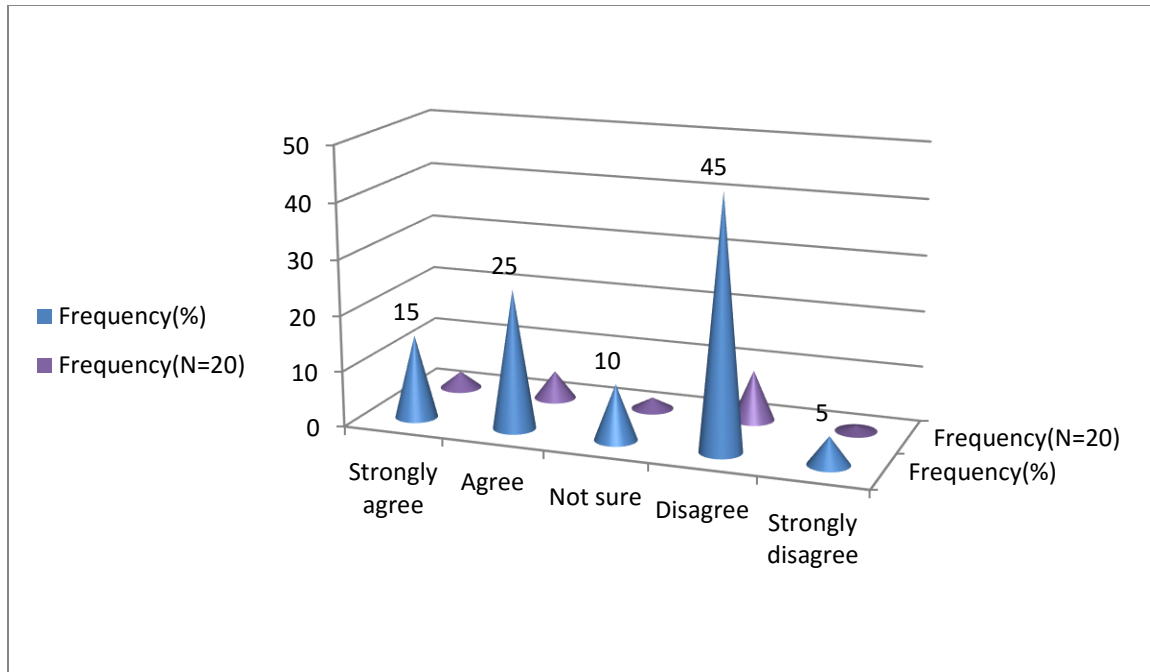
b) Findings on the responses on whether the partially computerised AIS at UCE produce accurate data processing, retrieval and analysis.

In reviewing the responses on whether the partially computerised AIS at the College produces accurate data processing, retrieval and analysis, Figure 4.4 and Table 4.24 below indicates that 15 % (3/20) strongly agreed that the accounting system at United College produces accurate data processing, retrieval and analysis. 25% (5/20) agreed, 10% (2/20) were not sure, 45% (9/20) disagreed and 5% (1/20) disagreed. Interview responses indicated that even though data capturing was accurate, data processing, retrieval and analysis was difficult since most of the accounting work was done manually using the Microsoft Excel spreadsheets. Adjei (2013) also supports this notion as he discovered that manual accounting systems are prone to errors of commission and omission thus compromising accuracy of data processing, analysis and retrieval.

Table 4.24: Production of accurate data processing, retrieval and analysis by the partially computerised AIS

Response	Strongly agree	Agree	Not sure	Disagree	Strongly Disagree
Frequency (out of 20)	3	5	2	9	1
% Frequency	15	25	10	45	5

Figure 4.4: Findings on the responses on whether the partially computerised AIS at UCE produce accurate data processing, retrieval and analysis.



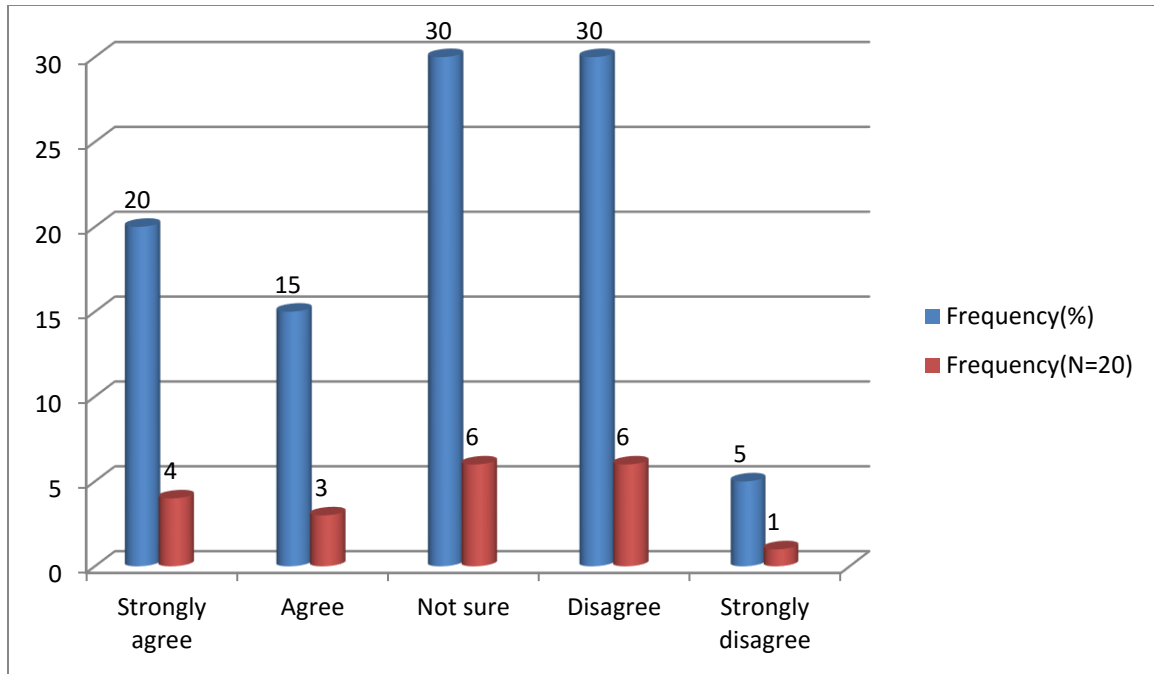
c) Findings on the responses on whether the system produces timely financial reports.

The results in Figure 4.5 and Table 4.25 below indicate that 20%(4/20) strongly agreed, 15%(3/20) agreed, 30%(6/20) were not sure, 30%(6/20) disagreed and only 5%(1/20) strongly disagreed that the partially computerised AIS used by the College produced timely financial reports. It can be observed that 65%(13/20) did not believe that financial reports were timely produced at the College. This notion is also supported by the KPMG Audit report (2014) who noted that due to the system inefficiency currently in place, the Accountant oftenly failed to submit quarterly financial reports to Head Office on time. Audit observations noted that the financial reports were being submitted two months later after due date which is the 11th day of the subsequent month. Interview responses from the Accountant confirmed this fact as calculations are done manually using the computer Microsoft Excel spreadsheets.

Table 4.25: Findings on the responses on whether the partially computerised AIS at United College of Education produce timely financial reports.

Response	Strongly agree	Agree	Not sure	Disagree	Strongly Disagree
Frequency (out of 20)	4	3	6	6	1
% Frequency	20	15	30	30	5

Figure 4.5: Findings on the responses on whether the partially computerised AIS at United College of Education produce timely financial reports.



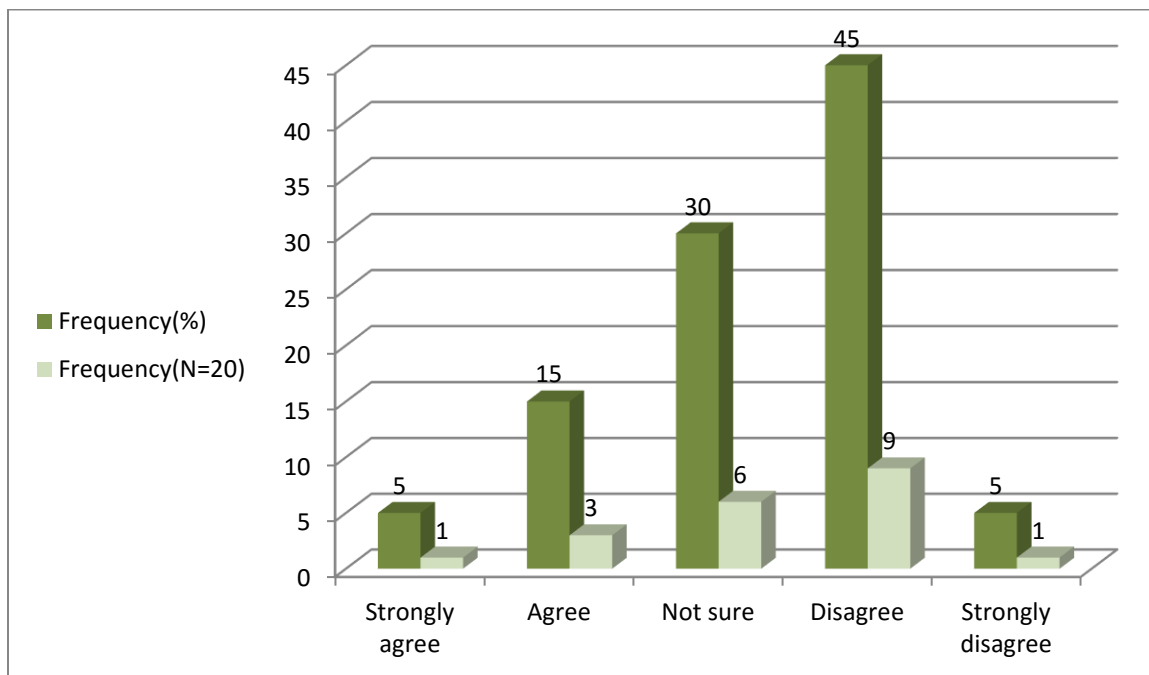
d) Findings on whether the partially computerised AIS ease the auditing procedure due to presence of source documents.

In reviewing the responses on whether the accounting system used by the College had the strength of easing the auditing procedure due to the presence of source documents, Figure 4.6 and Table 4.26 below indicate that 5%(1/20) strongly agreed, 15%(3/20) agreed, 30%(6/20) were not sure, 45%(9/20) disagreed and 5%(1/20) strongly disagreed. Since 80 % (16/20) did not confirm that the system eased the auditing procedure. The researcher, therefore, concluded that the partially computerised information system made the auditing procedure to be difficult. Interview responses from the Management concur with these responses as they indicated that the auditing procedure was cumbersome, time consuming as well as costly due to large volumes of source documents, for example, receipt books as well as payment vouchers.

Table 4.26: Resultson the responses on whether the partially computerised AIS at United College of Education ease the auditing procedure due to presence of source documents.

Response	Strongly agree	Agree	Not sure	Disagree	Strongly Disagree
Frequency (out of 20)	1	3	6	9	1
% Frequency	5	15	30	45	5

Figure 4.6:Findings on the responses on whether the partially computerised AIS at United College of Education ease the auditing procedure due to presence of source documents.

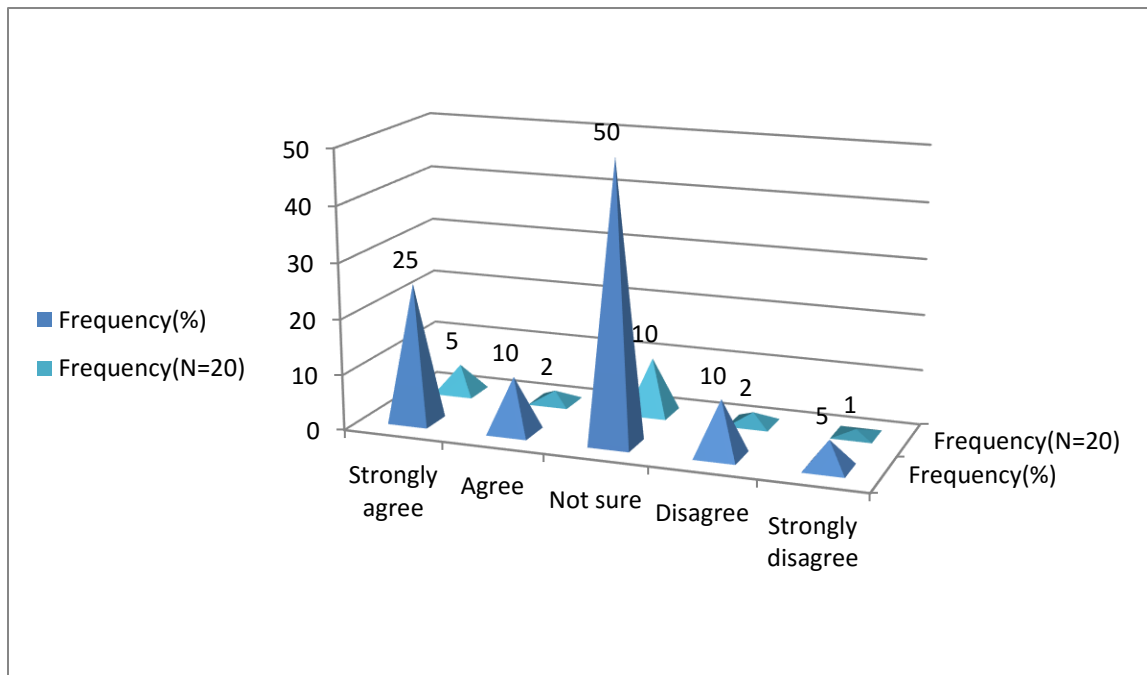


e) Findings on the responses on whether the system produces timely management decisions

Table 4.27: Results on the responses on whether the partially computerised AIS at United College of Education produce timely management decisions.

Response	Strongly agree	Agree	Not sure	Disagree	Strongly Disagree
Frequency (out of 20)	5	2	10	2	1
% Frequency	25	10	50	10	5

Figure 4.7: Findings on the responses on whether the partially computerised AIS at United College of Education produce timely management decisions.



Results in Figure 4.7 and Table 4.27 above indicate that 25%(5/20) strongly agreed, 10%(2/20) agreed, 50% (10/20) were not sure, 10% (2/20) disagreed and 5%(1/20) strongly disagreed that the partially computerised AIS as used by the College produces timely management decisions. 65%(13/20) believed that the system produced untimely decisions due to long

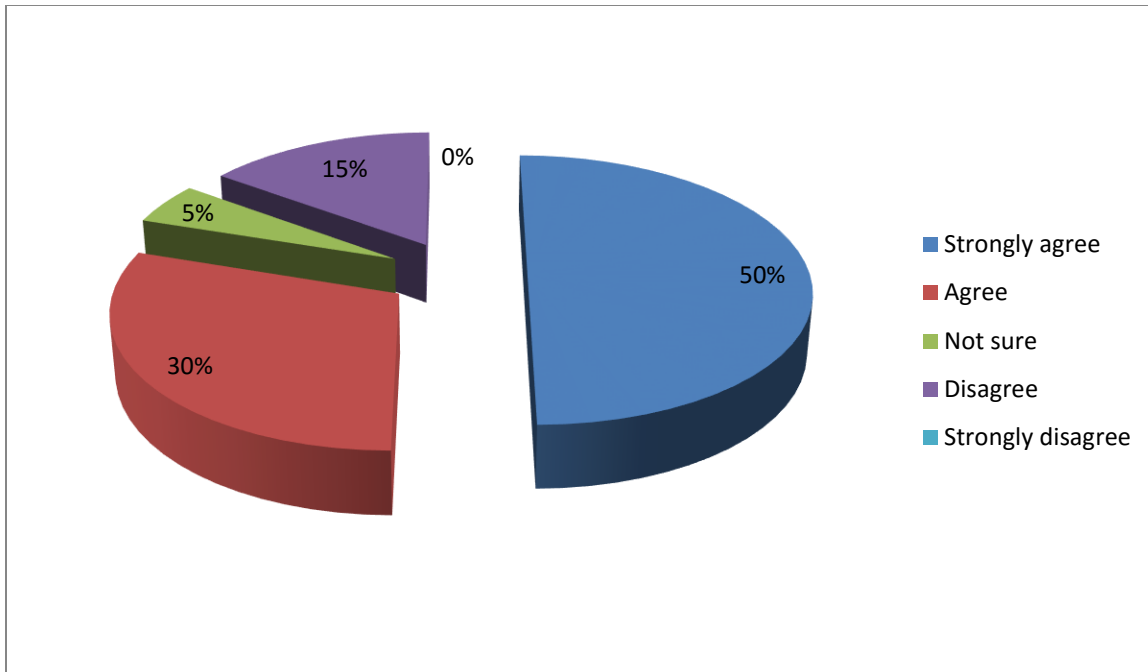
processing time of the accounting information. The researcher concluded that the system produced untimely management decisions as it generated untimely financial reports on which the Management based their decision making.

- f) **Findings on the responses on non dependence of the system on power cuts since the system is both manual and computerised.**

Table 4.28: Results on the responses on non dependence of the system on power cuts since the system is both manual and computerised.

Response	Strongly agree	Agree	Not sure	Disagree	Strongly Disagree
Frequency (out of 20)	10	6	1	3	0
% Frequency	50	30	5	15	0

Figure 4.8: Findings on the responses on non dependence of the system on power cuts since the system is both manual and computerised.



Results in Figure 4.8 and Table 4.28 above indicate that 50 % (10/20) strongly agree that the system does not depend on power cuts since the system is both manual and computerised, 30%(6/20) agreed, 5%(1/20) were not sure, 15%(3/20) disagreed and none strongly disagreed. The researcher therefore, concluded that the system had an advantage of non dependence on power cuts since the system is both manual and computerised. This is evidenced by 80 % (16/20) of the respondents who confirmed non dependence of the system on power cuts. Interview responses also concurred with this fact.

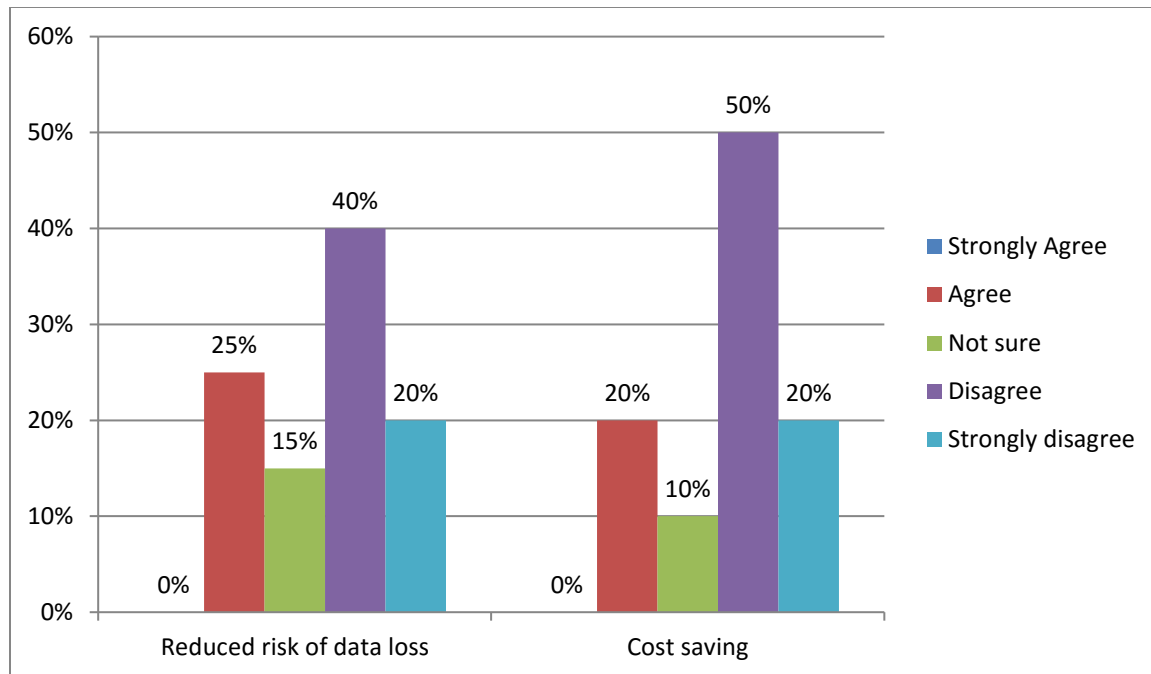
g) Findings on the responses on reduced risk of data loss and cost saving as one of the strengths of the partially computerised system as used by the College.

Table 4.29: Results on the responses on reduced risk of data loss and cost saving as one of the strengths of the partially computerised system as used by the College.

Response (Strength)	Frequency (out of 20)	Percentage (%)

Reduced risk of cost saving	5	25
Cost Saving	4	20

Figure 4.9: Findings on the responses on reduced risk of data loss and cost saving as one of the strengths of the partially computerised system as used by the College.



In reviewing the results on whether the partially computerised system used by the College reduced the risk of data loss and also cost effective, Figure 4.9 and Table 4.29 above shows that 75 % (15/20) believed that the system increased the risk of data loss and 80% (16/20) believed that the system in place was cost ineffective. The researcher discovered that this was due to high risks of destruction of data by employees, entry of computer viruses to the system, destruction of output, theft of data or information, unauthorised document visibility and sensitive documents being handed to non security cleared personnel for shredding as shown in the above findings on risks. The system has also proved to be cost ineffective as indicated by increased risks of data loss, long processing time of customer information and untimely generation of financial reports and management decisions, Adjei (2013).

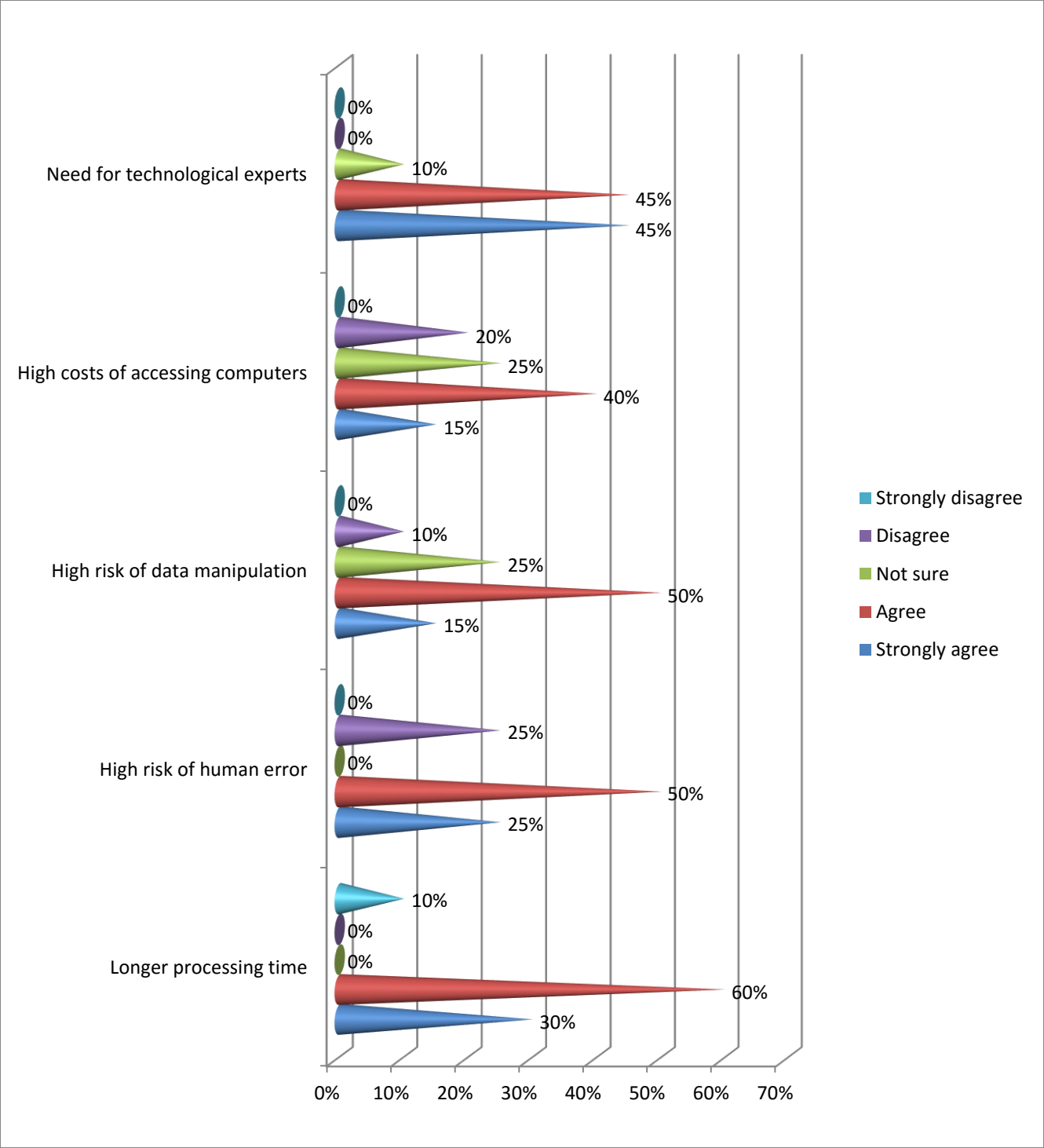
4.2.3 Findings on the weaknesses of partially computerised AIS

Table 4.30: Responses on the weaknesses of partially computerised AIS.

Response (Weakness)	Frequency (out of 20)	Percentage (%)
Longer processing time	18	90
High risk of human error	15	75
High risk of data manipulation	13	75
High costs of accessing computers	11	55
Need for technological experts to repair and maintain the computers	18	90

Figure 4.10 below as well as Table 4.30 above indicates responses on the weaknesses of partially computerised AIS according to the study carried out. The results of the study indicate that among the several weaknesses pointed out, those illustrated above are the most prominent as the respondents confirmed the existence of these in the operation of the system. This shows that the system is of higher disadvantage to the college since the system is prone to high risk of error and data manipulation, need for technological experts to maintain and repair the computers as well as longer processing time which consequently have affected data quality as well as quality of decision made at the college. Responses obtained from interviews also confirm these weaknesses. KPMG report (2014) also confirmed this as they observed that the partially computerised AIS as used by the College had a high risk of human error and data manipulation. Adjei (2014) also concurs with these findings as he discovered that in manual accounting systems, there was longer processing time of customer information, long customer queues, high costs of accessing computers as well as huge labour costs and also high risks of human error and data manipulation.

Figure 4.10: Responses on the weaknesses of partially computerised AIS.



4.2.4: Findings on the effects of partially computerised AIS on data quality at United College of Education.

Table 4.31: Results on the responses the effects of partially computerised AIS on data quality at United College of Education.

Response (Effects on data quality)	Frequency (out of 20)	Percentage (%)
Accuracy	9	45
Timeliness	10	50
Reliability and relevance	8	40
Verifiability	16	80
Consistency and Comparability	10	50

Figure 4.11: Responses on the effects of partially computerised AIS on data quality.

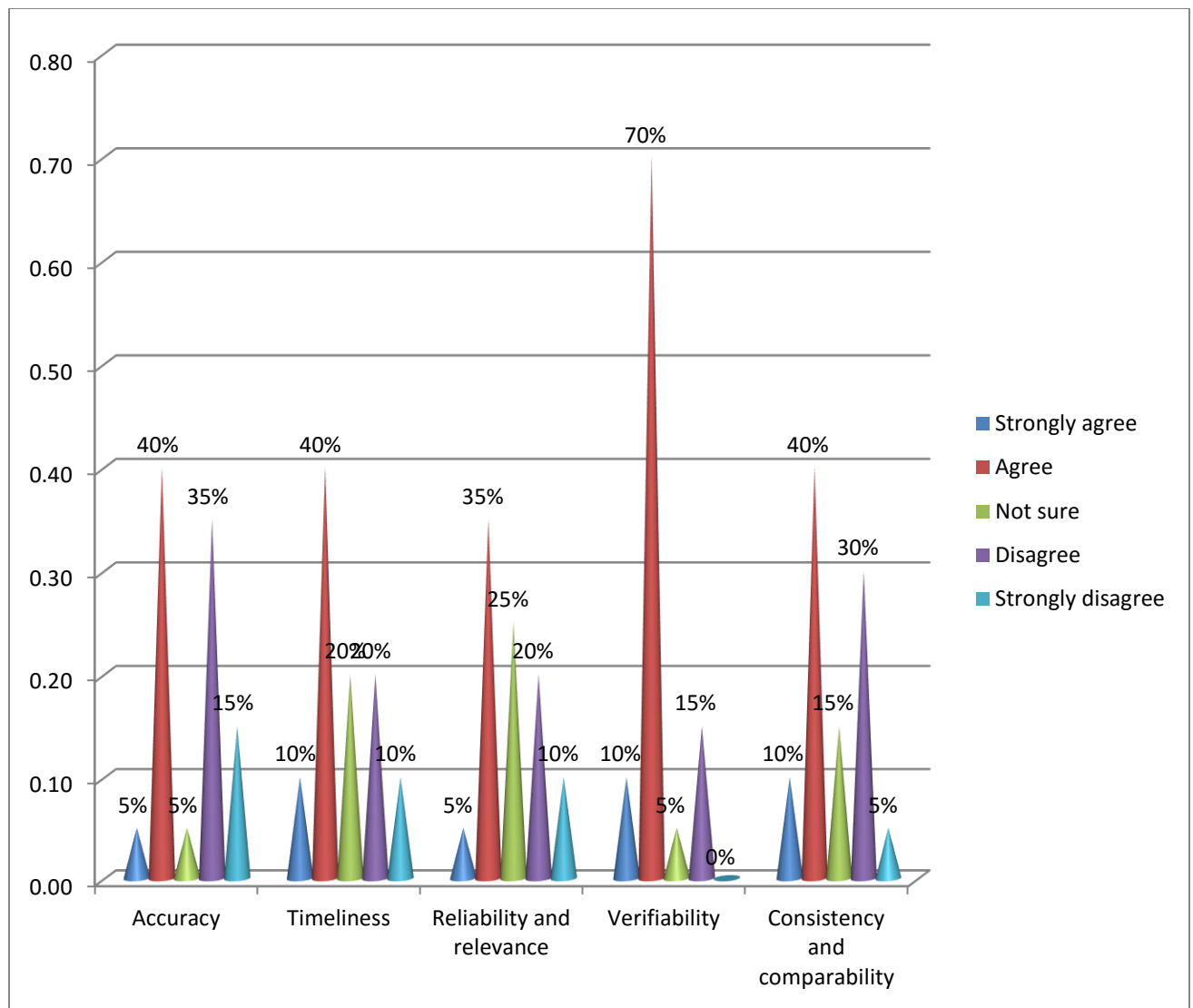


Figure 4.11 and Table 4.31 above indicates the responses on the effects of partially computerised AIS on data quality. Abdallah (2013) and Hall (2012) describe data quality attributes as accuracy, timeliness of financial reports, reliability and relevance, verifiability, consistency and comparability. Results of the findings indicate that 50% of the respondents believed that the system produced inaccurate accounting information, 5% were not sure and only 45% confirmed that accounting information produced by the system was accurate. In timeliness of financial reports, 50% confirmed that the system generated timely financial reports, 20% were not sure, 20% disagreed and 10% strongly disagreed. Timeliness of accounting information affects reliability and relevance of accounting information. Only 45% confirmed that accounting

information was reliable and relevant, 25 % were not sure, 20% disagreed and 10% strongly disagreed.80% confirmed that financial reports generated by the system can be verified, 5% were not sure and only 15% disagreed and none strongly disagreed.50% believed that accounting information generated by the system is consistent and comparable, 15% were not sure, 30% disagreed and 5% strongly disagreed. The researcher concluded that the accounting information produced by the system was useless since it failed to meet data quality attributes as well as characteristics of useful accounting information. The accounting information produced by the system proved to be inaccurate, untimely, unreliable and irrelevant.

4.2.5 Findings on the effects of partially computerised AIS on quality of decision making at United College of Education.

Table 4.32:Findings on the effects of partially computerised AIS on quality of decision making at United College of Education.

Response (Effects on the quality of decision making)	Frequency (out of 20)	Percentage (%)
Negative effect	17	85
Positive effect	4	20

Figure 4.12: Responses on the effects of partially computerised AIS on the quality of decision making at the College.

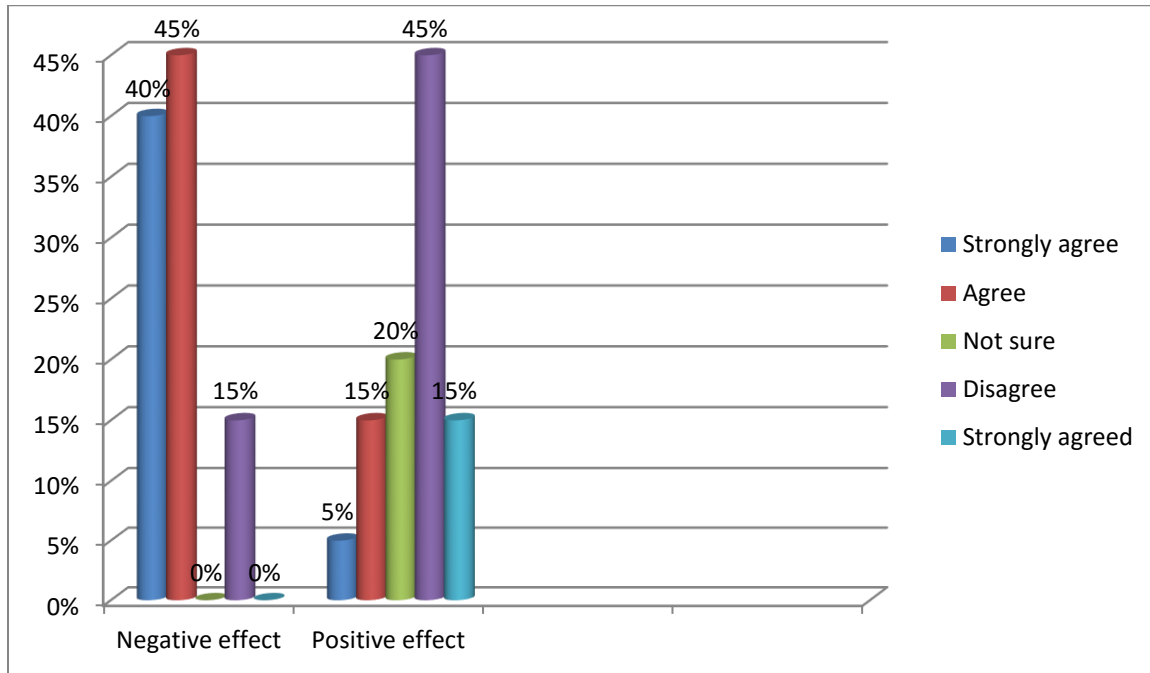


Figure 4.12 and Table 4.32 above shows the results of the research on the effects of partially computerised AIS on quality of decision-making at the college. 85% (17/20) believed that the system negatively affected the quality of decision making, none were not sure, 15% (3/20) disagreed and none strongly disagreed. 20% (4/20) confirmed that the system positively affected the quality of decision making at the college, 20% (4/20) were not sure, 45% (9/20) disagreed and 15% (3/20) strongly disagreed. The researcher therefore concluded that the system was ineffective and inefficient as it negatively affected the organisational performance as well as the quality of decision made at the College.

4.2.6 Findings on the options that the College have towards the attainment of quality accounting information.

Table 4.33: Results on the options that the College have towards the attainment of quality accounting information.

Responses(Options)	Frequency(out of 20)	Frequency (%)
Acquisition of user friendly Accounting package	20	100
Complete computerisation	17	85
Recruitment of skilled staff	18	90
Training of staff	20	100

Figure 4.13: Responses on the options that the College have towards the attainment of quality accounting information.

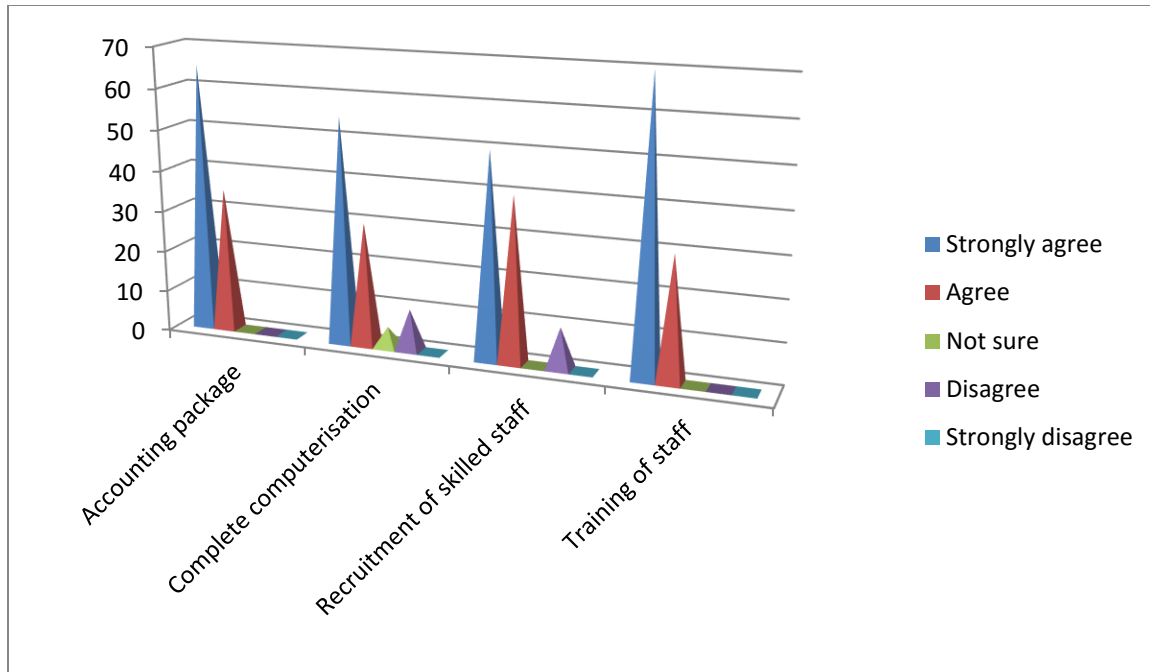


Figure 4.13 and Table 4.33 above illustrates the results obtained from the research in order to determine the best options that the college have towards the attainment of quality accounting information. The options shown below are the most prominent ones as indicated by high percentage responses. 100% agreed that the college should acquire user friendly accounting package/software, 85% supported complete computerisation, 90 % also supported recruitment of skilled staff and 100% favoured the training of both old and new employees.

Interview responses

The interviewees were three and these constituted the management at United College of Education namely the Principal, the Vice Principal and the Accountant. The interview questions were seven and the interview response rate was 100% since all the targeted respondents were interviewed. Most of the responses they gave were similar.

1. What are the risks of partially computerised AIS?

The research question aimed at identifying the risks of the partially computerised AIS as perceived by the Management. The first respondent which was the Principal of the college, and who had thirty years working experience on this institution, indicated that there was a high risk that system could be abused by the user department to their own advantage. He also indicated that the college will fail to adapt to new technological advancements, and thus it would be left behind. The second interviewee was the accountant who had thirteen years working experience at this institution also added that the system was vulnerable to fraud, errors as well as data manipulation which compromised the accuracy of the accounting information. She also added that the college had experienced genuine accounting errors due to duplication of work leading to undermining important accounting records .for example, the college has failed to prepare accounting ledgers for the past ten years. She also added that the computerised part of the system also brought risks of viruses as well as sharing of pass words since computer terminals are shared within the department. The respondents also acknowledged power cut offs as well as theft of computer equipment and hardware has been a challenge to the college. The respondent, the vice principal gave similar views and added that the system was cumbersome and inefficient as students were sometimes short-changed especially when they have lost their receipts. It can be noted that the responses obtained from the interviews were the same as those which were obtained from the questionnaires as well as documentary reviews.

2. What are the strengths of partially computerised AIS?

All the interviewees they gave similar responses that the system was easy to use and understand since the employees were used to the system. They also admitted that the system was accurate even though it was very slow. Another strength was that the system does not depend on power and presence of hard copy source documents like receipt books and payments vouchers proved handy for verification and audit purposes.

3. What are weaknesses of a partially AIS?

All the three respondents cited out that the major weakness of the system was inefficiency since accounting information cannot be accessed at any given point in time, for example, accounting ledgers for debtors took a long period of time to compile thus the Accountant failed to submit annual financial reports on time. They also indicated that the system proved to be very slow and time consuming as evidenced by long processing time as well as long queues .They also pointed out that the system the system was very risky considering the outbreak of fire or floods since it heavily relies on the hard copy source documents which can be destroyed any time.

4. What are the effects of partially computerised data quality?

All the three respondents highlighted that data quality was compromised as the system produced inaccurate as well as incomplete accounting information. Thus producing financial reports became a challenge. This was reinforced by the Accountant who confirmed that there was untimely generation of accounting information as well as untimely submission of financial reports at head office.

5. To what extent do partial computerised AIS affect the quality of decision at the college?

The Principal of the college pointed out that the institution always made wrong decisions since the information generated by the system was misleading as this may result in underpayment or overpayment of the supplies as well as affiliates, for example, payment of University of Zimbabwe registration fees for students. The second respondent, the Accountant also added that the system negatively affected decision making since the financial reports were untimely generated. The last respondent, the Vice Principal was not sure about the effects of the system on decision making

6. What options does the college have towards the attainment of quality accounting information?

All the three respondents opted for accounting software that is compatible with the college needs for example, SAP or Pastel, full computerisation as well as recruitment of enough manpower for adequate segregation of duties to improve the partially computerised AIS.

7. Other information which assist this research?

Only one interviewee, the Principal responded to this question and pointed out that the college should seek funds and make use of the college ICT department fully in order to take advantage of advancements in technology. The college also must seek authority from head office to train the employees for advancement in technology as being advice by the ICT. The college should also seek partnership with other institutions such as NUST and MSU to fully computerise.

Documentary reviews

The researcher also carried out documentary reviews as a research method. According to Mogalakwe (2006) documentary reviews refers to the analysis of documents that contain information about the phenomenon under study and it normally includes written documents whether in the private or public domain. The researcher reviewed and analysed financial reports, internal and external audit reports. These represented the secondary sources of data to the researcher. The researcher established that the financial reports submitted to Head Office during the years 2009 -2011 were incomplete since there were no depreciation charges concerning the College assets since the College owns assets like buildings, equipment, furniture and fittings, motor vans as well as other assets. This therefore contravenes with IAS 16 (Property, Plant and Equipment) which requires that all assets must be depreciated.

The internal Audit report (2013) also raised issues on untimely recording of hard cash books which are manually maintained by the Accounting Assistants. Thus the partially computerised system had a risk of failing to produce timely accounting information concerning ledger balances.

KPMG International Audit Report (2014:6) observed that the College in its use of the partially computerised system which is more manual had a high inherent risk of human error and data

manipulation. The KPMG Auditors also noted that due to the system inefficiency, the Accountant often failed to submit quarterly financial reports to Head Office on time. Audit observations noted that the financial reports were being submitted two months later after due date which is the 11th day of the subsequent month.

4.2 Summary

This chapter presented and analysed data on the risks of partially computerised AIS, strengths and weaknesses, effects on data quality as well as quality of decision making as well as solutions opted for the attainment of quality accounting information at United College of Education. Demographic factors such as gender, departments involved as well as working experience were also analysed. Data was obtained from respondents through the administration of questionnaires and interviews conducted as well as document reviews.

CHAPTER 5

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5 Introduction

This section of the research summarises the findings of the study, drawing conclusions and recommendations with reference to the research objectives. The research investigated the risks of partially computerised AIS.

5.1 Summarising the content

The first chapter of the study highlighted the background to the problem pointing out the factors which have contributed to this investigation. The chapter also included statement

of the problem, objectives of the research, research questions, scope of the study, justification of the study, research assumptions, and delimitations, limitations as well as summary of the chapter.

The second chapter covered literature review concerning the research problem under study. It reviewed literature on the risks of partially computerised AIS. Loche et al (1992) as cited in Abu-Musa (2005), Hayale and Khadra (2008), Muhrtala and Ogundeji (2013), Hanini (2012) as well as Tarmidi (2013) discovered that most of the security risks originated from internal sources (employees). These include human intentional threats, human unintentional threats, technological threats, environmental threats and natural threats in that order. Saleh (2011) and Amidu et al (2011), among others, identified easy and accurate record keeping as one of the strengths of partially computerised AIS while Balasubramanian (2011) as well as Adjei (2013) identified high risk of human error, data manipulation as well as longer processing time as the prominent weaknesses of the system. Amhad (2006) as cited in Abdallah (2013) described useful accounting information as information which is relevant, accurate, reliable, neutral, verifiable as well as complete. Literature on the effects of the system on data quality and decision making as well as solutions for the better attainment of quality accounting information was also reviewed. Okoli (2012), Mudashiru et al (2013), Siyanbola (2012) and Chung (2011) also postulated that accounting information is useful for decision making. Groza (2013) Onaolapo and Odetayo (2012) and Hanini (2012) recommended full automation, purchasing of user friendly accounting software as well as training of staff as the most suitable options that the College have for the attainment of quality accounting information.

Chapter three covered the research methodology in which the researcher used a case study approach using both qualitative and quantitative data research methods. The researcher conducted a census. Data gathering and collection was done with the aid of questionnaires, interviews, and documentary reviews.

In chapter four data was presented and analysed. The researcher used frequency tables, graphs and charts to present the data collected. Data was analysed with reference to the degree of response collected during the research.

5.2 Research Findings

In this investigation, the main objectives of research were to;

- identify the risks of partially computerised AIS as used by the College;
- discuss the strengths and weaknesses of partially computerised AIS as used by the College;
- to assess the quality of data produced by the partially computerised AIS;
- to describe the quality of decision made based on the output generated by a partially computerised AIS;
- to proffer solutions towards the attainment of quality accounting information at the College;

The major findings of the research were;

- The research found out that the most prevalent risks of partially computerised AIS at the College were accidental entry of bad data by employees, accidental destruction of data by employees, unauthorised access to data or system by employees, employees sharing passwords, natural disasters, entry of computer viruses into the system, destruction of output, theft of data or information, unauthorised copying of output, unauthorised document visibility, unauthorised printing and distribution of information and directing prints and distributed information to people not entitled to receive. These mainly emanated from employees, outsiders as well as natural disasters.
- The researcher highlighted the strengths and weaknesses of the system and found that the system had many weaknesses which seriously affected the effectiveness of the organisation. These included untimely generation of financial reports, inaccurate data processing, retrieval and analysis, untimely management decisions, high risk of data loss, cost ineffective, longer processing time, high risk

of human error, high risk of data manipulation, high costs of accessing computers as well as the need of technological experts to repair and maintain the computers.

- The partially computerised AIS negatively affected the accounting information since data quality attributes such as accuracy, timeliness, reliability and relevance were compromised.
- The researcher also discovered that decision making at the college was also negatively affected as it relied on unreliable, untimely, inaccurate and irrelevant accounting information.
- Full computerisation, acquisition of user friendly accounting package or software as well as training of employees on technological advancement were the options highlighted towards the attainment of quality accounting information.

5.3 Conclusion

The research was successful since the researcher managed to identify the risks of partially computerised AIS, strengths and weaknesses of the system, effects of the system on data quality as well as decision making as it is used by United College of Education. The research further highlighted the best solutions towards the attainment of quality accounting information. Based on the findings of the research, it was concluded that the partially computerised AIS used by the College negatively affected the organisation.

5.4 Recommendations

The researcher recommends the following towards the attainment of quality accounting information;

- The College should consider acquiring a user friendly accounting package that will meet the College needs and requirements. This is supported by Ideal ware (2008) and Groza(2013) who recommended that accounting packages should be built to meet the needs of all users of accounting information;
- Use of web technologies to allow users of accounting information to have access of information anywhere and anytime, for example, students must be able to

access information on their fees anywhere and anytime. This recommendation is supported by Groza (2013) as he asserted that web technologies facilitate access to financial and accounting information;

- Full computerisation especially on data capturing, data entry as well as updating master files. Onaolapo and Odetayi (2012) recommended automated Accounting information systems as these enhanced organisational effectiveness;
- Effective internal controls must be put in place especially segregation of duties so as to reduce the incidences of error and fraud. This is also supported by Hanini (2012) who recommended implementation of effective internal controls in computerised AIS as well as the carrying out of training courses to both old and new employees ;
- The College should hold training courses for both old and new employees regarding the safety and security of computerised accounting systems and also train them to use the procedures;
- The College should adopt a special system towards preventing the risks of computerised Accounting Information Systems. Hanini(2012) pointed out that organisations should adopt a special system regarding the preventive procedures of the risks in a computerised AIS and;
- The government should consider providing funding towards the implementation of full computerised AIS.

5.6 Recommendations for further research

The researcher recommends further study on the implementation of a fully computerised Accounting Information System in line with Zimbabwe agenda for Sustainable Socio-Economic Transformation (ZIMASSET) social service delivery cluster key result area.

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Appendix i
COVER LETTER



Midlands State University

Faculty of commerce

Department of accounting

P. Bag 9055

Gweru

31 August 2014

The Principal

United College of Education

P.O.Box 1156

Bulawayo

I am a third year student at the above mentioned institution undertaking a Bachelor of Commerce Accounting Honours Degree. In partial fulfilment of the department of accountings' requirements, I am required to carry out an investigation on the risks of partially computerised Accounting Information Systems.

In compliance with this requirement, I am kindly seeking your authority to carry out my research through administration of questionnaires, interviews and document reviews. All the information will be held confidential and used for academic purposes only.

Your assistance will be greatly appreciated.

Yours faithfully

NobukhosiMabhena (R13515F)

Appendix ii

COVER LETTER



Midlands State University

Faculty of commerce

Department of accounting

P. Bag 9055

Gweru

31 August 2014

To the Respondent

United College of Education

P.O.Box 1156

Bulawayo

I am a third year student at the above mentioned institution undertaking a Bachelor of Commerce Accounting Honours Degree. In partial fulfilment of the department of accountings'

requirements, I am required to carry out an investigation on the risks of partially computerised Accounting Information Systems.

In compliance with this requirement, I am kindly seeking your co-operation in carrying out my research through administration of questionnaires and interviews. All the information will be held confidential and used for academic purposes only.

Your assistance will be greatly appreciated.

Yours faithfully

NobukhosiMabhena(R13515F)

Appendix iii

Questionnaire guide to Library, ICT, Human resources,Accounts and Management personnel.

Instructions to respondents

1. Do not disclose your identity on the questionnaire
 2. Show response by marking the corresponding answer box
- a) Fill where applicable;

1 What is your gender?

Gender	Male	Female

2 Which department do you work in at United College of Education?

Management	Administration	Accounts and Finance	Library	ICT	Human Resources

3 What is your working experience at United College of Education?

	RISK	1	2	3	4	5
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0-5 years	6-10 years	11-15 years	15 years and above

b) The rankings are as follows;

Strongly agree	Agree	Not sure	Disagree	Strongly disagree
1	2	3	4	5

1. The following are the risks of a partially computerised Accounting Information system

a	Accidental entry of bad data by employees					
b	Intentional entry of bad data by employees					
c	Accidental destruction of data by employees					
d	Intentional destruction of data by employees					
e	Unauthorised access to the data or system by employees					
f	Unauthorised access to the data or system by outsiders					
g	Employees sharing of passwords					
h	Natural disasters					
i	Disasters of human origin					
j	Entry of computer viruses to the system					
k	Destruction of output					
l	Creation of incorrect/fictitious output					
m	Theft of data or information					
n	Unauthorised copying of output					
o	Unauthorised document visibility					
p	Unauthorised printing and distribution of information					
q	Directing prints and distributed information to people not entitled to receive					
r	Sensitive documents are handed to non security cleared personnel for shredding					
s	Interception of data transmissions					

2. The following are the strengths of a partially computerised AIS at United College OF Education

STRENGTHS	1	2	3	4	5
Financial reports are quickly generated.					
The partially computerised AIS at UCE produce accurate data processing, retrieval and analysis.					
Financial reports are timely produced at the College.					
There is ease of auditing procedure due to presence of source documents					
Timely management decisions are produced by the system.					
Non dependence on power cuts as the system is both manual and computerised					
Reduced risks of data loss					
Cost saving					

3. The following are the weaknesses of a partially computerised AIS as used by the College

WEAKNESS	1	2	3	4	5
Longer processing time					
High risk of human error					
High risk of data manipulation					
High costs of accessing computers					
Need for technological experts to repair and maintain the computers					

4. The following are the effects of partially computerised AIS on data quality at United College of Education.

EFFECTS	1	2	3	4	5
The system produces very accurate financial reports.					
There is timely submission of financial reports for internal and external reporting.					
Financial reports generated by the system are reliable and relevant.					
Financial reports produced by the system can be verifiable.					
Financial reports produced by the system is consistent and comparable					

5. The following are the effects of a partially computerised AIS on the quality of decision making at the College

EFFECTS ON DECISION MAKING	1	2	3	4	5
Positive effect					
Negative effect					

6. The following are options towards the attainment of quality accounting information at the College

OPTIONS	1	2	3	4	5
User friendly accounting package/software					
Complete computerisation					
Recruitment of skilled staff					
Training of old and new employees on security and safety of computerised accounting information system					

7. Any other information you think will assist this research

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Thank you.

Appendix iv

Interview Guide to Management

a) Fill where applicable;

1 What is your gender?

Gender	Male	Female

2 Which department do you work in at United College of Education?

Management	Accounts and Finance	Library	ICT	Human Resources

3 What is your working experience at United College of Education?

0-5 years	6-10 years	11-15 years	15 years and above

b) Interview questions

1. What are the risks of the partially computerised AIS used by the College?
2. What are the strengths of the partially computerised AIS used by the College?

3. What are the weaknesses of the partially computerised AIS used by the College?
4. What are the effects of partially computerised AIS on data quality?
5. To what extent do partially computerised AIS affect the quality of decisions at the College?
6. What options does the College have towards the attainment of quality accounting information?
7. Do you have any other information you think will assist this research?