AN ANALYSIS OF THE EFFECTIVENESS ACCOUNTING INFORMATION SYSTEMS ON DECISION MAKING. A CASE OF MMCZ

BY

BLESSING MUTONGI

STUDENT NUMBER: R111467G

This dissertation is submitted in partial fulfilment of the requirements of the Bachelor of Commerce Honours Degree in Accounting at Midlands State University. Gweru, Zimbabwe

SEPTEMBER 2014
DECLARATION FORM

I, Blessing Mutongi, declare that this project is my own work and has not been copied from any source without acknowledging the source.

SIGNATURE
...........................................................................

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..............................................................
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The undersigned give their certification on reading and recommending to the Midlands State University for acceptance: a research project entitled, ‘An analysis of the effectiveness of accounting information systems on decision making: A case of MMCZ’ submitted by Blessing Mutongo (R111467G) in partial fulfilment of the requirements of the Bachelors of Commerce Accounting Honours Degree (HACC) with Midlands State University.

SUPERVISOR

DATE

CHAIRPERSON

DATE

EXTERNAL EXAMINER

DATE
RELEASE FORM

NAME OF STUDENT: MUTONGI BLESSING

DESIDERTATION TITLE: An analysis of the effectiveness accounting information systems on decision making. A case of MMCZ.

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SIGNED: ............................................................................................................

DATE: .............................................................................................................

Permanent Address: 9693B Mukonono rd
Mufakose
Harare
Zimbabwe

Date September 2014
DEDICATION

I dedicate this project to my mother Athel Mutongi and my late dad Mr Tadius Mutongi, my only sister Emma and my only brother Tafadzwa Mutongi for their encouragement, support and love. I love you all.
ACKNOWLEDGEMENTS

It is of great honour to have this opportunity to thank all the parties whose diverse contributions enabled me complete this work successfully. First and foremost I would like to thank the Almighty God for giving me this opportunity to get to this level in my studies.

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My sincere gratitude is directed to Minerals Marketing Corporation in Zimbabwe personnel, particularly the departments of Internal Audit, Finance ,Marketing, Human resources and IT for their cooperation in providing me with adequate information for the production of this meaningful research.
ABSTRACT

This research sought to investigate how accounting information systems affect decisions made by management at Minerals Marketing Corporation of Zimbabwe. The information system background of the company is made up of stand-alone systems which includes Sun system the main Accounting Information System and Excel spreadsheets. The initiative was driven by the challenges that are associated with using two systems such as production of erroneous reports, difficulties in consolidation of local and international sales, high audit fees and manual asset management. These factors have strongly affected the reliability of the output of these accounting systems at Minerals Marketing Corporation of Zimbabwe. The main objective of this research was to investigate how accounting systems influences decisionmaking by management. The researcher used descriptive design, the research instruments used were questionnaires and interviews. Twenty one questionnaires were distributed to employees from these departments - Internal Audit, Marketing, Finance and Information Technology. Only nineteen questionnaires were returned. Data was collected, analysed and presented in tables, graphs and piecharts. The company was recommended to integrate its accounting systems and to train its employees.
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CHAPTER ONE

INTRODUCTION

1.1 INTRODUCTION

This chapter presents an overview of the research. Specifically, it looks at the background of the study, the statement of the research problem, objectives of the study, research questions, and importance of the study, assumptions, scope and limitations of the study.

1.2 BACKGROUND OF THE STUDY

The nature of business in the mining industry involves large volumes of transactions and as such, the industry is increasingly dependent on computerised accounting information systems to carry out financial operations and to process, maintain and report financial performance. Currently MMCZ is using Sun Systems and Excel Spreadsheet. Sun systems is being used for capturing debtors, creditors and for government royalties, the Excel sheet is being used as the Assets register. All creditors, debtors and bank reconciliations are being done in the Excel spreadsheet. (*MMCZ Final Accounting Procedures Manual 2013*).

The company failed to consolidate the local and international sales captured in the system and manually done before the 25th of November 2012 the date at which VAT was supposed to be paid. The company’s failure to meet the Zimra deadline for the VAT resulted in a penalty of $156 321.80 in November 2012. The payment of this amount caused the company not to pay their employees the bonus for that year and it led to employees grievances and demotivated staff morale. (*Finance Manager Report November 2012*)
MMCZ physical stock counts are normally done once at the start of every year. During the year management will rely on stock values updated in the system. In May 2013 the organisation’s profit was understated. This was due to the misstated stock figures in the system which resulted in incorrect profit figures of $109 874. The stock figures were misstated by $20 000 in April and $42 000 in May 2013. The Permanent Secretary of Ministry of Mines complained about the reliability of financial statements. MMCZ pays its proceeds to the government monthly but for the month of May 2013 the organisation could not afford to release the stipulated amount. (Finance Committee Meeting minutes June 2013)

Real time reports could not be produced. Producers often raised complaints about the delay of the monthly statements affecting their supplier’s policies which did not allow them to place new orders for the next month before clearing the previous month’s debt. The debtors were requesting for May 2012-May 2013 statements yet there were not ready till June 2013. Therefore they could not continue doing business with MMCZ resulting in client loss. (Management Meeting Minutes August 2013)

1.3 STATEMENT OF THE PROBLEM

Management and the directors have found it difficult to rely on information produced by the AIS being used by MMCZ. The use of manual system and Excel has been presenting challenges such as delays in reports. This study therefore provides an investigation into ways in which the problem of the accurate accounting package could be put in place, could be useful especially in the marketing, finance, human resources and procurement department.
1.4 MAIN RESEARCH PROBLEM

An analysis of the effectiveness accounting information systems on decision making.

1.5 SUB RESEARCH QUESTIONS

1. What systems are currently operational at MMCZ?

2. How efficient and effective is the AIS being used?

3. How reliable are the results being produced by Sun systems currently?

4. In what ways can the systems be improved?

5. What are the benefits of using an integrated accounting information system?

1.6 RESEARCH OBJECTIVES

❖ To investigate the systems which are currently operational at MMCZ

❖ To investigate the efficiency and effectiveness of the Sun system.

❖ To analyze the reliability of the results being produced by Sun systems currently.

❖ To provide recommendations to the company on the alternative accounting information system that overcomes the weaknesses of what they are currently using.

❖ To investigate the benefits of using an integrated accounting information system.

1.7 JUSTIFICATION FOR THE RESEARCH

To Midlands State University

To MSU it will assist in the event of further researches being carried out for future students

To researcher

This study is carried in partial fulfilment of the Bachelor of Commerce Accounting Honours Degree. This is also help the student to gain new scientific and technical knowledge about the
accounting information system, that he can use to help any organization how to produce and maintain high quality accounting data for reporting so that they can come up with sound decisions through the use of AIS.

To MMCZ

Recommendations from research enable MMCZ to come up with effective accounting information systems as a result of improved quality.

1.8  DELIMITATIONS

The study shall be limited to MMCZ head office in Msasa

Time delimitations will be from 2010-2014

1.9  LIMITATIONS OF THE STUDY

1. Time constraints-the researcher is conducting the research as well as doing other university modules. The researcher will have to burn the midnight candle and also utilise the weekends.

2. Financial constraints-the research is to be done from employees at MMCZ whilst the researcher is learning in Gweru. The researcher is facing difficulties in gathering funds for printing costs, transport costs and communication costs. The writer will save from the little she budgets and cover the financial constraints.

1.10  AIM OF THE STUDY

The aim of this research is to advice management on the importance of acquiring proper AIS. Its effectiveness and its advantages on the operations of MMCZ. This enables them to implement sound policies as they lack corrective measures to solve problem.
1.11 DEFINITION OF TERMS

Accounting information system- Accounting Information System (AIS) is a generally a computer-based method for tracking accounting activity in conjunction with information technology resources. Fontinelle (2013)

1.12 ACRONYMS /ABBREVIATIONS

MMCZ-Minerals Marketing Corporation of Zimbabwe

AIS-Accounting Information Systems

1.13 SUMMARY

This chapter provides a brief analysis of the background, statement of the problem and research objectives. Chapter two focuses on literature review of what other authors found regarding AIS and decision-making.
CHAPTER TWO

LITERATURE REVIEW

2.0 INTRODUCTION

This chapter shows literature made by other authors about accounting information systems and decision making of management. It seeks to give related information found in the literature in relation to the study of AIS.

2.1 OVERVIEW OF ACCOUNTING INFORMATION SYSTEMS

Romney and Steinbart (2012) defined Accounting information systems as ‘a system that collects, records, stores, and handles data to provide information to decision makers through using advanced technology or simple systems’.

Accounting information systems is ‘a collection of parts and sub systems that are connected with each other and with the surrounding environment and operate as a single overlap relationship between each other and between the system that combine it where each part depends on the other in achieving the goals sought by the comprehensive system of accounting, in order to provide data and information to decision makers’(Gill, 2010).

AIS are generally a computer-based method for tracking accounting activity in conjunction with information technology resources(Fontinelle 2013).Hall(2010) found that typically AIS is composed of three major subsystems namely Transaction Processing System (TPS) that supports daily business operations, General Ledger System and Financial Reporting System (GLS/FRS) and the Management Reporting System (MRS).
Successful implementation of AIS requires a fit between three factors namely the organization, problems solved and organization culture. Firstly a fit between the AIS and the organization must be obtained with a dominant view in the entity. Secondly the AIS must fit where difficulties are normally addressed i.e. the technology of the company and finally the AIS must fit with the organizational culture. (Christiansen2001). Stakeholder use information extracted from the AIS when making economic decisions however Otley (2002) however contends that AIS are important parts of the company life and need to be assessed in their broader administrative, organizational and environmental context.

Knežević et al (2012) added that “accounting information system deals with measurement or quantification of business events in monetary forms (by recording in accounts), input data processing in business books and drawing accounting reports, process; and publication of financial statements, with which the accounting communicates with internal and external users thus giving them information necessary for business and financial decision-making output.”

2.2 ELEMENTS OF ACCOUNTING INFORMATION SYSTEMS

According to Haddad , Atma (2009) the elements of accounting information systems are personnel who use the system, and perform various functions, the procedures and instructions, information, software, computer hardware and networks, internal control and security that protect the data in the information system. Mancini D (2013) opinioned that the three main antecedents of AIS are technology, management practices and models and accounting rules. Malinić,and Todorovic (2011) states that people, equipment, software, data, manners and
methods, communication and network solutions that connect all elements and organizational procedures form a complete accounting information systems.

2.3 FACTORS CONSIDERED

2.3.1 The scope of the business

Firstly the management and owners of the business must know the scope of their business and document the functions which they ideally want the AIS to perform. In addition to the basic accounting functions they also have to document other functions such as Payroll and inventory management which they want the AIS to perform. Management also has to look at the future use of the system in cases of expansion of the business. http://smallbusiness.chron.com/factors-consider-choosing-accounting-software-3824.html accessed on 12 September 2014 (23:52)

2.3.2 Modules included

Once the company has documented the scope of their business and the functions which they want the AIS to perform it will have to consider the modules included in the different accounting packages. Management checks the modules included in the basic price and which modules calls for an additional cost for example payroll. (Morris K 2014)

2.3.3 Access and portability

An entity has to consider the business locations that it has or it might have. If for example it has more than one business location it has to consider how the field employees will access the AIS. The entity also have to consider the location of the software developer as there are times when problems occur that need the assistance of the developer. http://lnu.diva-portal.org (accessed 11 September 2014 16:41)
2.3.4 Knowledge required

According to http://www.uhyhn.co.nz/newsdesk_info.php?newsdesk(accessed 11 September 2014 17:22) the company has to look at the level of education that the users of AIS have and the difficulty of the software selections. A company will never realize the software’s full potential as long as it is underutilizes the system.

2.3.5 Subscription-based software

Continual use of software requires paying a yearly subscription and that is the meaning of Subscription-based software. An entity has to assess the costs of system upgrades, annual licensing and support. Technical support packages and factor additional fee support packages are considered into the overall cost of the software. www.firmology.com/.../6 accessed 15 September 2014 13; 19

2.3.6 Bank link

A company has to assess if the AIS has a bank link as most modern accounting packages are being linked with the company’s bank statement. As transactions occur in electronic format the data will be coded hence bank link will allow financial reports there and then. www.business-software.com accessed 15 September 17:22

2.4 IMPACTS OF ACCOUNTING INFORMATION SYSTEMS

Most AIS have internal checks and balances that assist entities to ensure that all transactions and accounts are properly balanced before financial statements are prepared. These AIS will not allow posting of journals with lags so as to ensure that individual transactions are properly recorded. Accuracy is also enhanced by limiting the number of personnel that have access to
financial information and only qualified supervisors are allowed to adjust financial information. (Ghasemi et al 2011)

AIS allow processing of large amounts of financial information and process it quickly through the accounting system. The time needed to close out each accounting period has been lessoned by the quicker processing times for individual transactions. Company efficiency is increased as shortening the year end closing period and thereby avoiding longer hours and higher labour hours. (Barvayeh et al 2011)

Goreva et al 2013 found that the use of AIS in organizations is beneficial for the entities. They found that the use of AIS significantly “reduces the time requirements for accounting activities, decreases the amount of required personnel and minimizes the chance of error.”

Romney and Steinbart (2000) added that the AIS are utilized by companies in planning and managing business activities. AIS are also used as a controlling mechanism such as budgeting and most commonly they also produce financial reports. The automatic transfer of data from the subsystems of analytical bookkeeping into the subsystem of the general ledger makes booking easier. (Knežević1 et al 2012). Accounting information systems are responsible for providing long term forecasts and they also keep financial assets of an entity. (Al-Najjar, Fayez, 2005)

Most managers obtain reports from AIS. These reports will be of utmost important in the day to day running of the business as they help in controlling business transaction and also help to check the entity’s economic performance. Accounting information systems provide financial
reports on a daily and weekly basis and provide useful information for monitoring decision making and performance of the organization (Hakim, S. 2007)

Assigning quantitative value for the past, present and future economic events are the main functions of AIS. They produce financial statements namely statement of financial position, statement of comprehensive income, statement of changes in equity and cash flow statements. Onaolapo and Odetayo(2012). Data is transformed into information during input, processing and output stages that will be used by internal and external users. Wilkinson, (2000) noted several key functions throughout these processes such as “data collection, data maintenance, data Accounting Information Systems (AIS) and Knowledge Management; data control (including security) and information generation.

Preparing accounting statements and reports manually has implications on the statements. It takes time for compilation and generation of report also it’s also prone to human error. The accounting records are susceptible to perils like fire and water and usually disaster recovery plans are hard to implement. The system does not suit an organization with large volume transactions. (edblog.hkedcity.net/wp.../unit-5-ict-application-in-accounting accessed 13 September 2014)

However, Sipponen and Vance (2010) the contented that “same advantages often show their negative side when it comes to security. Electronic systems may increase the chance of theft, embezzlement, fraud, and other type of crimes, which become possible for the same reasons: lack of personnel and therefore control, compromised information, and the ease of access to
financial assets. Even with no malicious intent from employees, their negligence and failure to comply with security policies is admitted to be one of the most serious problems.”

2.5 IMPACTS OF DECISION MAKING

Decision making is “the process of choosing among competing alternatives.” Decision making is a pervasive managerial function which assists in planning and control. One cannot plan without making decisions. If information about alternatives is gathered and made available to managers then decisions can be improved by management. AIS supply information that facilitates decision making, managers choose among competitive objectives and ways to carry out the chosen objectives and one numerous mutually exclusive plans can be chosen. (Hansen and Maryanne 2007)

Jones and George (2011), asserts that “decision making is the process by which managers respond to opportunities and threats that confront them by analysing options and making determinations about specific organizational goals and courses of action. Thus, it can be said that business decision is a reasoned choice among alternatives respond to opportunities and threats that confront them by analysing options and making determinations about business goals and courses of action”. The use of accounting information system leads to good financial reports and also leading to better decision- making. Onaolapo and Odetayo(2012)

2.6 EFFECTIVENESS AND EFFICIENCY

According to www.businessdictionary.com (accessed 10 September 2014 20:57) effectiveness is the degree to which objectives are achieved and the extent to which targeted problems are solved. Efficiency means doing the thing right and effectiveness means doing the right thing.
Qasim (2004) contended that for an accounting information system to work effectively and efficiently should have many tasks such as ‘Collecting and storing the activities and operations data efficiently and effectively, classifying and summarizing the data, generating useful information for decision-making and providing adequate supervision’.

According to Hafnawi (2001) for an accounting system to be efficient and effective it should have the following features

2.6.1 Accurate

The accounting information system should be transparent, correct and perfect so as to provide accurate information. If the system fails to provide correct information this leads to incorrect decisions by the decision maker. (Hafnawi 2001)

2.6.2 Timing

Timing is a vital factor to success in decision-making, as accounting information system cannot give benefit to the decision maker if the information it produces is outdated. (Hussein, A 2005)

2.6.3 Provision of essential data to management.

Essential data is vital for decision making as it enables management to make meaningful economic decisions.

Ramly, (2011), argued that “the accounting information systems that combined with qualified human resources, software and hardware and data bases will be efficient information system”.

Also Shaheen (2012) revealed that there is a correlation between the environmental, legal, technological and cultural factors and AIS efficiency. Similarly, Haddad and Atmeh (2009) found that there are positive link between information technology, environment, and accounting
information system. Thus, entities have to focus on these important three factors to have an efficient information system.

Mudashiru et al (2013) found that the use of accounting information systems lead improved decision-making by management, more effective internal control system improvement of the financial reports and improving financial transaction processes. Kim cited in Oga 2013 argues that ‘the usage of AIS depends on the reliability, form of reporting, timeliness and relevance to the decisions. Thus effectiveness of AIS also depends on the perceptions of decisions makers on the usefulness of information generated by the system to satisfy informational needs for operation processes, managerial reports, budgeting and budgetary control within organization’.

Oga 2013 in his conclusion found that inadequate supplies of equipment and gadgets and inadequate accounting personnel establish the main interruptions to successful employment of an efficient accounting information system. In addition to these factors inadequate accounting personnel have also undermined the successful use of AIS. Poor maintenance and upgrading of existing gadgets have also marred successful adoption of an efficient AIS. The effectiveness of accounting information systems depend upon the quality of the output of the information system that can satisfy the users needs (Delone 2006).

Effectiveness of AIS is noted when information provided by them serves widely the requests and the expectations of the system users. (International Journal of Information Science & Technology 2008). Sajady et al (2012) states that “effectiveness of accounting information systems can be analysed on three bases namely information scope, timeliness and aggregation. Information
scope is considered as financial and non-financial information, internal and external information that is useful in prediction of future events. Timeliness quality is related to the ability of accounting information system to satisfy information needs by providing systematic reports to the user. Aggregation of information is considered as means of collecting and summarizing information within a given time period”.

2.7 DECISION MAKING AND ACCOUNTING INFORMATION SYSTEMS

AIS improve the functionality of accounting departments by increasing the timeliness of accounting information. Managers can prepare reports and operations analysis that give management an accurate picture of current operations hence decision making is enhanced.(Ghasemi et al 2011)

Sutton (2006) asserts that “the coherence between management and AIS leads to the simplification of making business and financial decisions by management. He added that compatibility of all functions in the company is established by an adequate connection between AIS and management as well as executive functions and external users.

AIS generates financial statements which are substantial for administration and decision making and it presents initial pulse for improvement of information content when management endeavours to remove weaknesses in production by repeating requests. Knežević et al (2012).The information strength of the accounting information systems is increased and business and financial decisions by management is facilitated by reviewing, directing and improving information request by using pro-active solutions. Goreva et al (2013) Accounting information system is one of the tools used for decision making dealing with complexity and uncertainty.
Okoli (2011) found that entities use accounting systems to deliver a systematic way for collecting and organizing data about the several business transactions. This will assist management in running the business.

Accounting information can be used by many stakeholders as it has many dimensions. “AIS use formalized categories for collecting and reporting information that creates a common language with which members of the organization can communicate” (Jawabreh and Alrabei2012).

Accounting information systems provide information required for decision making through systematic collection and recording keeping and processing of data with the aim of providing relevant info for making decisions. AIS serve for collecting, procurement, processing, warehousing and analysis of information with the purpose to plan, control, coordinate and make decisions in business and other organizations (Hartmann F and Vaassen, E. 2003)

Sajady et al (2012) states that “accounting information systems provide primary data for decision-making. Information technology has caused many changes in reporting information. Thus, the characteristics of information currently prepared can help decision-makers seek more alternatives to the solution of the problem in hand. Accessibility to information related to the main transactions of an organization leads to a categorized detailed information which facilitates decision making in any difficult situation”. Reliable information and good quality information is needed by management when engaging their duties. They need nonfinancial information such as production statistics and quality of production.
Reports distributed to outside investors and stakeholders have been enhanced by AIS. Improved reporting assists investors to assess if a company is a good investment for growth opportunities and has the potential to be a high-value company. (Ghasemi2011)

2.8 CHALLENGES BROUGHT ABOUT BY SEPARATE SYSTEMS.

Some of the reasons entities uses Excel Spreadsheets is that information prepared by the Spreadsheet can be sent or can be received through emails for example a company can receive its bank statement through email in an Excel format. Availability of training programs and training courses also enable firms to use the Excel as it is easier to get personnel being trained. Excel can be secured through the use of passwords; password is created through Visual Basic Programming or directly within Excel file. Excel spreadsheet is part of Microsoft office which comes with most PC so there is no need to purchase or install it. (www.microsoftexcelonline.blogspot.com accessed 12September 00:15)

Sajady et al (2012) also found that entities use sun systems because they improve the quality of accounting information, performance evaluation, internal controls and facilitating company’s transactions thus when the information provided serves widely the requirements of the system users AIS are said to be efficient. When accounting systems fails the outcomes can be terrible. Grande, Estebanez and Colomina,( 2010) explains that AIS combine methods ,controls and accounting techniques with technology of the IT department to track transactions provide internal reporting data, external reporting data, financial statements, and trend analysis capabilities to effect on organizational performance.
Using separate accounting systems leads to transaction duplication of capturing, disposition of figures during capturing, risk of omissions, risk of capturing incorrect figures, the risk of employing many data capturers and risk of high audit fees.(Chang Y 2010)

Hart A(2008) argues that financial statements prepared using a spreadsheet are more likely to contain material errors and for that reason companies must use accounting information systems which are offer consolidation without exporting data to the spreadsheet. In addition he found “that there are driver based budgeting and forecasting tools that can seamlessly integrate with any ERP and general ledger system reducing the amount of time spent and to consolidate the data while ensuring the integrity of information”.

Excel files may get infected by viruses such as macros hence the file will be corrupted. Slow execution especially when one is using one big file the program will run slowly. In trying to break the file into smaller files there is an increased risk of data loss and it also limits the number of rows and columns. (www.microsoftexcelonline.blogspot.com accessed on 15 September 23:15)

2.9 IMPROVING ACCOUNTING INFORMATION SYSTEMS

According to Ram J (2014) there a four critical factors that affect accounting information systems these are Organisational related, Technological related, Project related and Individual related.

2.9.1 Organizational related

According to Ngai cited in Jiwat the aspects which affect the organisational related aspects are top management support, organisation culture and political structure, cooperation, business
plan/vision/goals/justification, project justification based on cost and economic scale, retrain IT workforce in new skills, employee morale.

2.9.2 Technological related

According to Chang et al (2008) the aspects which affect the technological related feature are technological complexity, compatibility. Somers T, Nelson K and Karimi J (2003) also added that data analysis and data conversion also fall under this factor. Ngai et al (2008) also found that data accuracy is also affected under the technological related as data needs to be validated and converted into a single and consistent format.

2.9.3 Project related

Training and education An-ru et al. (2009) found it as one of most important factor under project related. If personnel are trained and educated they can then record, store analyse the information provided by the AIS. Bradley J and Lee C (2008) found that if there could be a full time project manager that will assist employees within the organisation.

2.9.4 Individual related

According to Chang et al (2008) the features which affect the individual related factor are the social factors, facilitating conditions, near-term consequences, long-term consequences and a feeling of joy or displeasure with a particular act. Oga 2013 concluded that for companies to successfully use AIS as an efficient management tool the company should be responsive in upgrading existing facilities as well as engaging in staff training to enable them to be competitive.
2.10 BENEFITS OF INTEGRATED SYSTEMS

Spathis and Constantinides (2004) found that the three most important reason that lead companies to leave the traditional IS re increased demand for real-time information, information generation for decision making and the need for integration of applications. According to Granlund and Malmi (2002) ‘integration is needed to facilitate coordination and which is related to the building of competitive advantage’.

According to Grant cited in Oga 2013 the benefits of using integrated accounting information systems are” better adaptation of the business to a changing environment, better management of arm’s length transactions and a high degree of competitiveness. Integration also helps to boost the dynamic nature of business with a greater flow of information between different staff levels and the possibility of new business on the network and improved external relationships for the firm mainly with its stakeholders.”

According to Stefanou (2002) the advantages of using integrated system is that the system integrates several business procedures, applications and departments while sharing one database and assist companies in responding to real-time information. Chang (2006) found that ERP link traditional business functions like finance, production; warehousing and sales into a single system hence it eliminates multiple data entry.

Spathis and Constantinides (2004) went on to say that the most crucial benefits were increased flexibility in information generation, increased integration of accounting applications, improved quality of reports–statement of accounts, improved decisions based on timely and reliable
accounting information and reduction of time for closure of annual accounts’. According Spathis (2006), “the most important accounting benefits that occur for a company due to the inclusion of the accounting department in the ERP system are increased flexibility in information generation, increased integration of applications, improved quality of reports–statements of accounts, improved decisions based on timely and reliable accounting information and reduction of time for closure of annual accounts”.

Colmenares, (2009) showed that integrated system benefits the company in improved decision making and enterprise integration. Kanello and Spathis, 2007 also supported that integrated systems improves decision making in companies. Velcu (2007) and Colmenares (2009) specifically mentioned that integrated systems produce more accurate reports-statements of accounts and improved service of accounts in accounting tasks.

Brazel and Dang (2008) opines that integrated systems appears to reduce reporting lags. The use of integrated systems results in improvements in coordination within the company and eliminations of reports and data entry chores. Gattiker and Goodhue (2004) out that the system resulted in many benefits for the organization such as improvements in coordination within the enterprise, and eliminations of reports and data entry chores.

Olhager and Selldin (2003) explains that the use of integrated systems improves the availability of information and the quality of information. Kanello. A, and Spathis C (2007) noted ‘that personnel are able to carry out routine activities more effectively, to handle large databases more quickly and to report in a faster and more flexible way’. Granlund and Malmi (2002) found that
the use of integrated system helped management to focus on the analysis and business support processes.

In addition Scapens and Jazayeri's (2003) found that the use of integrated systems helped mangers to focus on more of interpretative than focusing on accounting activities. Hyvönen et al. 2008 found that these integrated accounting information systems also force management to find ways of combining accounting and management rationalities and not only to study the logic of the solution.

Some of the benefits of using an integrated system found by Esteves (2009) are ‘cycle time reduction, cost reduction, quality improvement, improved decision making, support organizational changes, increase IT infrastructure capability and business flexibility’.

Kanelou and Spathis concluded that “integrated systems seem to increase flexibility, integrate accounting applications and processes and improve gathering and processing of data”.

2.11 SUMMARY

This chapter gave an overview of the Accounting information systems, decision-making in management accounting the various factors to be considered when selecting AIS, improvements of AIS and the benefits of using integrated systems. The following chapter will dwell on the research methodology.
CHAPTER THREE

RESEARCH METHODOLOGY AND DESIGN

3.0 INTRODUCTION

This chapter provided an analysis of the methods that are to be employed in this research study to gather information. It provided an analysis of research design, sampling population and data collection methods to be employed when compiling this research.

3.1 RESEARCH DESIGN

Wagner and Babbie (2010) defined the principle of the research design as the process involving the development of strategies aimed at executing scientific inquiry. Polit et al (2001) defined a research design as “the researcher’s overall for answering the research question or testing the research hypothesis. Basically research design is a design used as a guideline for collecting data. The aim of research design is to provide for the gathering of relevant information with minimal expenditure of effort, time and money. The following factors are considered when selecting a proper research design. These are objectives of the research study, methods of data collection to be adopted, sources of information-sample design, tools for data collection and data analysis-qualitative and quantitative. There are various types of research design such as descriptive, explanatory and experimental. (Zonabed 2007)

3.2 DESCRIPTIVE DESIGN

Descriptive research is “designed to provide a picture of a situation as it naturally happens” Burns and Grove (2003). It comprises of surveys and fact finding enquiries of different types. The main objective of descriptive research is describing the state of affairs as it prevails at the
time of study. This depended on the integrity of the respondents and their willingness to disclose information about the financial information and the company’s managers on disclosure of their decisions.

3.3 JUSTIFICATION OF USING DESCRIPTIVE DESIGN

This design yielded qualitative data which was useful to the researcher as it could be presented easily and understandably by data presentation tools. The reasons why the researcher used the descriptive research were that it was accurate and systematic. The method was successfully used to collect data from employees from MMCZ. It was used because it was relevant in that it reported on what was happening and also it was suitable and assisted the researcher in analysing the effectiveness of AIS on decision making.

3.3.1 Advantages and disadvantages of descriptive research methods

The benefits of using this kind of research was that used both quantitative and qualitative data in order to find the solution to the research. The researcher was able to accumulate findings from all forms of data such as personal accounts. It allows the researcher to get an overview of a research area, it was less expensive and time consuming than quantitative experiments and also it collected large amount of data for detailed studying. Finally it also identified further area of study. However descriptive research methods cannot prove what causes phenomenon and also it takes a whole lot of time to study.

3.4 TARGET POPULATION

Burns and Grove (2003) describe population as “all the elements that meet the criteria for inclusion in a study”. The target population comprises units such as the internal auditors, information systems administrators, management accountant, financial accountant, procurement
manager, debtors’ controller, creditors’ controller, cashbook controller and accounts clerks of MMCZ.

3.5 SAMPLING

A sample is defined as “a proportion of a population” Polit et al (2001). The sample was chosen from a group of employees from Minerals Marketing Corporation in Zimbabwe head office.

Table 3.1 Sample Size

<table>
<thead>
<tr>
<th>FUNCTION</th>
<th>POPULATION</th>
<th>SAMPLE SIZE</th>
<th>%REPRESENTATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Finance</td>
<td>6</td>
<td>6</td>
<td>100%</td>
</tr>
<tr>
<td>Marketing</td>
<td>5</td>
<td>5</td>
<td>100%</td>
</tr>
<tr>
<td>Procurement</td>
<td>2</td>
<td>2</td>
<td>100%</td>
</tr>
<tr>
<td>Human Resources</td>
<td>4</td>
<td>4</td>
<td>100%</td>
</tr>
<tr>
<td>IT Support Technicians</td>
<td>4</td>
<td>4</td>
<td>100%</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>21</strong></td>
<td><strong>21</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>

3.6 SOURCES OF DATA

According to Kumar (2011) there are two common sources of data which are primary source and secondary source of data. The researcher used both sources to acquire a deeper understanding and produce quality result.

3.6.1 Primary source of data

This type of information is first-hand information. Primary data was collected especially to address specific objectives of this research (Kumar2011). Questionnaires and observations were
used to gather both quantitative and qualitative data. Primary data addressed the challenges faced by the organisation through the use of two separate accounting systems. The researcher used primary data as it focused on specific issues and data is collected directly from the population. The other reason is that information collected was original as it was collected by the researcher and was not biased. However it took long to collect data, it was also too demanding as it required direct and personal intervention. Data collected was raw and not useful except if processed.

3.6.2 Secondary source of data

Second hand information is provided by secondary source of data. Kumar (2011) defined this data as data previously acquired to serve for other purpose other than this research. This included the analysis of current data for further use and it was obtained through desk research. Secondary data was obtained from MMCZ, and prior researches that are related to this research so as to cover the gap left by primary data.

The researcher used secondary data as it was readily available hence short access period. The data provided a reasonable starting point, it was readily cheap to maintain and it also helped to the problem statement and objectives. Secondary data also assisted in addressing information that was not obtainable through interviews and questionnaires.

3.7 RESEARCH INSTRUMENTS

Heaton (2009) found that data collection can be obtained by a number of methods namely questionnaires, taped social interactions, surveys, focus groups, interviews, telephone interviews and field notes.
3.7.1 Questionnaires

A questionnaire is a statement that contains a series of questions that will be asked from respondents and are used in organizations to obtain information about current conditions and practices and to make inquiries of attitudes and opinions. Milne(2008). A number of techniques were used to coming up with the questionnaire so as to give relevant ad reliable data. The questionnaire made use of open ended and close ended questions so as to enable easier analysis and comparability by the researcher. The researcher will distribute the questionnaires to all the twenty one characters making up the population

The questionnaires were more objective since responses were gathered in a standardized way, it was also generally quick to collect information and information was collected in a large portion of a group. However using questionnaires limited respondents to express themselves clearly especially on open-ended questions and also return of electronically distributed questionnaires was typically low. Open ended questions in questionnaires can generate large amounts of data that can take a long time to process and analyse.

3.7.1.1 Closed questions

Closed questions are structured questions with set parameters Kumar (2011). These types of questions are used when all possible responses are known. Closed questions were used as they were easier and quicker for respondents to answer, the answers of different respondents were easier to compare, answers were easier to code and statically analyze. There were also fewer irrelevant or confused answers to question, the respondents were more likely to answer about sensitive topics.
However using closed ended questions suggested ideas that the respondent would not otherwise have, respondents without knowledge about a certain subject could answer anyway and also misinterpretations of a question got unnoticed.

### 3.7.1.2 Open ended questions

Open ended questions gave respondents a chance to fully express themselves freely as there were not restricted by any set parameters. This technique was directed to those issues that needed clarity and a deep understanding and hence they needed well explained answers. The respondents provided information by filling in the blank space of the questionnaire in their own words. The benefits of using open ended questions were that they permitted unlimited number of possible answers, respondents answered in detail, qualified and clarified responses, they permitted adequate answers to complex issues and permitted creativity, self-expression, and richness of detail.

Nonetheless open ended questions gave different degrees of details in answers, responses were irrelevant or buried in useless detail and comparisons and statistical analysis became difficult.

#### 3.7.1.3 Likert-Scaling method

Likert-Scaling method was used as it produced questions which were quick and cost-effective to administer. They were easily adapted to most attitude measurement situations. They provided straight and trustworthy assessment of attitudes when scales are well structured.

The researcher used the five Likert items with scores distributed as follows:

*Table 3.2 Likert Scale*
<table>
<thead>
<tr>
<th>Strongly agree</th>
<th>Agree</th>
<th>Uncertain</th>
<th>Disagree</th>
<th>Strongly disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
</tbody>
</table>

The benefits of using the Likert Scale were that they were easily adapted to most attitude measurement situations, they were quick and economical to administer and score, they provided direct and reliable assessment of attitudes when scales are well constructed. However internal consistency of the scale was difficult to achieve therefore care was taken to have one dimensional items aimed at a single person, group event or method and also results were easily distorted where individuals presented a false impression of their attitudes.

### 3.7.2 Interviews

Gosh (2002) defined an interview as “a verbal technique for obtaining data”. The purpose of this technique is to get a full understanding of the respondent’s actions and discover more fundamental reasons underlying the respondent’s attitude. An interview is a method of getting responses through direct questioning (Wilson 2006)

Relevant, reliable and recent information could only be provided through interviewing the finance managers and ICT administrator of MMCZ. Interviewing these two was very efficient and effective as it enabled the researcher to get instant and immediate response from interviewees and relevant and reliable information was obtained. The researcher also got the chance to clarify some of her research questions which enables him to obtain relevant information.
3.7.2.1 Benefits of using interviews
The benefits of using interviews are that greater confidentiality were possible because of personal contact, flexibility to give follow-up questions, opportunity to clarify questions, higher return rate.

3.7.2.2 Challenges of using interviews
However conducting interviews led to fewer subjects to be sampled, taking notes quickly was a challenge and the researcher needed a permission to tape the conversation and also one needed to be able to listener to one reply and be ready to follow-up immediately with the next question.

3.8 VALIDITY AND RELIABILITY

3.8.1 Reliability
Reliability is defined as a matter of whether a particular technique applied repeatedly to the same object would yield the same results each time and it deals with accuracy. Babbie(2009).The extent to which the observable measure represents a theoretical concept that is predictable, accurate and stable according to (Kumar, 2011).In ensuring that the information obtained was reliable the researcher chose questions which she asked in both the questionnaires and interview questions. The findings indicated that the instruments were test reliable as the responses were similar for both the interviews and questionnaire questions

3.8.2 Validity
According to Panneerslvan(2005) the extent to which the research instruments are measuring what they are intended to measure. Validity can be defined as the best approximation of the truth of a given position inference or conclusion. In ensuring reliability and validity the questions were made simple, straight to the point and they did not require calculations.in ensuring validity the
researcher made sure that the questions on the questionnaires and interview questions were related to the problem of the study and objective.

3.9 DATA ANALYSIS AND PRESENTATION PLANS

Information collected from the field was presented in the form of pie charts, tables, narrations and pie charts. All questionnaires were verified for completeness and irrelevant data was discarded while relevant data was considered for analysis. This screening process allowed the significant observations to become one from all the data obtained in the field and hence reducing the volume of data for analysis. Responses from interview questioned were analysed and summarized according to the relevance of the responses.

3.10 SUMMARY

This chapter explored in detail the design of the research, population, and sampling, techniques of gathering data, data collection tools or instruments. The next chapter shall dwell on data analysis and presentation.
CHAPTER FOUR

DATA PRESENTATION AND ANALYSIS

4.0 INTRODUCTION

This chapter dealt with data presentation, analysis and interpretations. The responses were analysed per question and then major findings were summarized. Charts, tables and graphs will be used to illustrate the findings.

4.1 QUESTIONNAIRE RESPONSE RATE

Twenty one questionnaires were distributed to the Internal Auditors, Marketing staff, Finance staff and IT personnel. Of the questionnaires distributed only 19 were attempted and returned that is 90% responses and two questionnaires were not returned. Respondents were centred at the company headquarters in Harare, which made the distribution and collection of data easy. Respondents played a very crucial role in contributing to the information the researcher gathered.

Table 4.1 Questionnaire response rates

<table>
<thead>
<tr>
<th>Descriptions</th>
<th>Number of respondents</th>
<th>Percentage distribution (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Questionnaires issued</td>
<td>21</td>
<td>100%</td>
</tr>
<tr>
<td>Questionnaire returned</td>
<td>19</td>
<td>90%</td>
</tr>
<tr>
<td>Questionnaire not returned</td>
<td>2</td>
<td>10%</td>
</tr>
</tbody>
</table>

4.1.1 Position held

The table below shows positions held by the various respondents who contributed to this research. Respondents who answered the questionnaires were human resources managers who
constituted 11% of the population, finance manager 5%, accountants who constituted 16%, marketing managers 21% and ICT managers who constituted 5% and other employees (42%) from the finance department. The bulk of the respondents were managers, this enhanced the results of the research as management were responsible for decision-making.

**Table 4.2 Positions held**

<table>
<thead>
<tr>
<th>Position</th>
<th>Number of respondents</th>
<th>Percentage(%) distribution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Finance manager</td>
<td>1</td>
<td>5%</td>
</tr>
<tr>
<td>Human resources manager</td>
<td>2</td>
<td>11%</td>
</tr>
<tr>
<td>Accountant</td>
<td>3</td>
<td>16%</td>
</tr>
<tr>
<td>Marketing manager</td>
<td>4</td>
<td>21%</td>
</tr>
<tr>
<td>ICT Administrator</td>
<td>1</td>
<td>5%</td>
</tr>
<tr>
<td>Other</td>
<td>8</td>
<td>42%</td>
</tr>
</tbody>
</table>

**4.1.2 Experiences of the respondents**

**Table 4.3 The respondents experience in their respective departments**

<table>
<thead>
<tr>
<th>Time period</th>
<th>Number of respondents</th>
<th>Percentage(%) distribution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 1 year</td>
<td>1</td>
<td>5%</td>
</tr>
<tr>
<td>1-5 years</td>
<td>3</td>
<td>16%</td>
</tr>
<tr>
<td>6-10 years</td>
<td>4</td>
<td>21%</td>
</tr>
<tr>
<td>More than 10 years</td>
<td>11</td>
<td>58%</td>
</tr>
</tbody>
</table>

The objective of this analysis was to look at the working experience in years, each of the respondents had, and this experience helped in providing relevant and reliable information as it...
was assumed they knew the activities of the organisation in detail. Respondents who had less than one year experience in the department were 5%, 16% ranged from 1-5 years’ experience in their departments, 21% of the respondents ranged from 6-10 years working experience in their departments and 58% respondents have more than 10 years working experience in their departments.

4.1.3 Academic qualifications

Of the total respondents 5% have A level certificates, 5% have diploma, 26% have degrees, 53% have masters and 11% are doctorates as shown on the table below. Of the total population 90% have a minimum qualification being a degree. This shows that most respondents were qualified enough to provide appropriate and dependable information.

Table 4.4 Results of the level of education of the respondents

<table>
<thead>
<tr>
<th>Academic qualification</th>
<th>Responses</th>
<th>Percentage of responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>A’ Level</td>
<td>1</td>
<td>5%</td>
</tr>
<tr>
<td>Diploma</td>
<td>1</td>
<td>5%</td>
</tr>
<tr>
<td>Degree</td>
<td>5</td>
<td>26%</td>
</tr>
<tr>
<td>Masters</td>
<td>10</td>
<td>53%</td>
</tr>
<tr>
<td>Doctorate</td>
<td>2</td>
<td>11%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>19</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>
4.2 ANALYSIS OF QUESTIONNAIRE RESPONSES

4.2.1 Use of Excel spreadsheets and Sun systems

The question aimed to finding if respondents had practical knowledge of the accounting information systems by finding out systems in use at the organisation. Of all the respondents 53% strongly agreed, 26% respondents agreed that they use these systems. Parts of 11% of the respondents were uncertain, 5% disagreed and 5% respondents disagreed.

![Pie chart showing response distribution]

**Fig 4.2.1 Use of Excel spreadsheets and Sun systems**

The pie chart depicts the results analysed above. Of the total respondents 79% agreed that they use these three systems. This was supported by Goreva et al (2013) the use of AIS in organizations is beneficial for the entities. They found that the use of AIS significantly “reduces the time requirements for accounting activities, decreases the amount of required personnel and minimizes the chance of error.”
4.2.2 Information produced by these accounting packages is reliable.

The objective was to find out how reliable the information produced by the AIS was. In analysing the Sun systems, 53% agreed that it was reliable however 47% disagreed that it was not. Of the total population 47% of the respondents agreed that Excel Spreadsheet are reliable however 53% disagreed that was not reliable. This analysis was supported by Hart A(2008) in that financial statements prepared using a spreadsheet are more likely to contain material errors and for that reason companies must use accounting information systems which are offer consolidation without exporting data to the spreadsheet and also manual systems are prone to human error.

**Fig 4.2.2 Reliability of information produced by AIS**
4.2.3 **AIS play a role in generating accounting information for decision making.**

The analysis was aimed at finding the respondents view on AIS in generating accounting information for decision making. Of the total questionnaires answered 47% strongly agreed, 37% agreed, 11% were uncertain and 5% disagreed. Out of all the respondents 84% supported that AIS play a vital role in generating accounting information for decision making. Knežević et al (2012) supported that AIS play a vital role in generating accounting information for decision making through generating financial statements which are substantial for administration and decision making and it presents initial pulse for improvement of information content when management endeavours to remove weaknesses in production by repeating requests.

![Diagram](image)

**Fig 4.2.3** Responses about AIS playing a role in accounting information for decision-making

4.2.4 **Influence of AIS on decision making**

Analysis aimed at finding out what respondents knew about the influence of effective AIS on decision-making. In inquiring the whether decision making is influenced by effective AIS 20%
strongly agreed, 60% agreed and 20% disagreed. Delone (2006) explained that the effectiveness of accounting information systems depend upon the quality of the output of the information system that can satisfy the user’s needs in decision making.

This is illustrated on fig 4.2.4 below

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**Fig 4.2.4 Influence of AIS on decision-making**

**4.2.5 Errors in excel produced reports**

The objective of this analysis was to find if respondents were aware of errors in excel produced reports. Majority of the respondents agreed that excel reports have been having errors. Of the total population 50% strongly agreed, 10% agreed, 10% were uncertain, however 10% disagreed and 20% strongly disagreed that excel produced reports have been having errors.
The situation shown above showed that the respondents agree that excel produced reports contain errors. This was supported by Hart A(2008) in that financial statements prepared using a spreadsheet are more likely to contain material errors and for that reason companies must use accounting information systems which are offer consolidation without exporting data to the spreadsheet.

4.2.6 Efficiency and effectiveness of systems used.

The objective of this analysis was to assess the efficiency and effectiveness of systems being used. For Sun systems 20% of the respondents strongly agree, 30% agree that it is efficient and effective, 30% of the respondents are uncertain, 10% of the respondents disagree and 10% strongly disagree that that it is efficient and effective. The questionnaire responses showed that 20% strongly agree, 20% agreed that excel spreadsheets are efficient and effective. Of the total respondents 40% were uncertain 10% strongly disagreed and 10% disagreed that excel
spreadsheet are efficient and effective. Ramly (2011) contented that for AIS to be efficient and effective it should be combined with qualified human resources, software, hardware and databases.

**Figure 4.2.6 Efficiency and effectiveness of sun systems and excel spreadsheet in %**

### 4.2.7 Training and data output distortions

The objective of this analysis was to assess what respondents thought about inadequate training of users of AIS distorting data output.
Table 4.5 Responses about inadequate training of users of AIS distorting data output

<table>
<thead>
<tr>
<th>Respondents</th>
<th>Percentage of respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly agree</td>
<td>70%</td>
</tr>
<tr>
<td>Agree</td>
<td>10%</td>
</tr>
<tr>
<td>Uncertain</td>
<td>10%</td>
</tr>
<tr>
<td>Disagree</td>
<td>10%</td>
</tr>
<tr>
<td>Strongly disagree</td>
<td>-</td>
</tr>
</tbody>
</table>

Of the total population 70% strongly agreed, 10% agreed that inadequate training of AIS users distorts data output, 10% however were uncertain and 10% disagreed. Oga 2013 in his conclusion found that inadequate supplies of equipment and gadgets and inadequate training of accounting personnel establish the main interruptions to successful employment of an efficient accounting information system.

4.2.8 Irrelevant and unreliable financial information contributes to poor decisions.

The objective was to find out if the respondents view that the absence of relevant and reliable financial information contributes to poor decisions by management. The percentage that agreed that the absence of relevant and reliable financial information contributes to poor decisions by management was 80% and 20% were uncertain of the information. According to Zare I and Shahsavari A, (2012) reliability “includes confirmation capability, comprehension, correctness, priority of contents on forms, and neutrality”.

41
Fig 4.2.8 Absence of relevant and reliable information leads to poor decisions

4.2.9 Accurate, timely and provision of essential data

The analysis was done in order to assess how respondents view accounting information systems’ accuracy, timeliness and results. The greater part of the population which is 60% agreed, 20% strongly agreed 10% were uncertain and 10% disagreed that AIS have to be accurate, timely and should provide management essential data to attain control and assessment of the economic services. This is supported by Ghasemi et al (2011), they explained that AIS improve the functionality of accounting departments by increasing the timeliness of accounting information. Managers can prepare reports and operations analysis that gives management an accurate picture of current operations hence decision making is enhanced.
Fig 4.2.9 AIS accuracy, timeliness and provision of essential data

4.2.10 Accounting systems used for collecting and organizing data

This analysis was done to assess if respondents agreed or disagreed with the view that accounting systems are used by entities to deliver a systematic way of collecting and organizing data. Out of the 100% attempted 95% strongly agreed and 5% disagreed that entities use accounting systems to deliver a systematic way for collecting and organizing data about several business transactions. The results are shown by the chat below. Okoli (2011) found that entities use accounting systems to deliver a systematic way for collecting and organizing data about the several business transactions.
4.2.11 Assertions, error classes, control procedures and info transformation process.

The objective of this analysis to assess how AIS reliability is affected by assertions, error classes, control procedures and information transformation processes. The researcher found that 50% of the respondents agreed, 10% strongly agreed, 10% were uncertain, 20% disagreed and 10% strongly disagreed that the reliability of AIS is affected by assertions, error classes, control procedures and information transformation process. This is shown on fig 4.2.11 below. There is more of transaction processing and data capturing when using AIS hence errors arise in the inputting of data concerned. AICPA (2006) found that the four concepts that auditors who assess AIS reliability look at and these are assertions, error classes, information transformation processes (ITP), and control procedures.
4.2.12 The organization culture, technology, projects and individual related factors.

This analysis was done in order to assess if enhancing organization culture, technology, projects and individual related factors could improve AIS within an organization. The researcher found that 10% of the respondents strongly agreed, 50% of the respondents agreed, 10% were uncertain, 10% strongly disagreed and 20% disagreed that improvements in AIS can be achieved through enhancing culture, technology, projects and individual related factors. According to Ram J (2014) four critical factors that affect accounting information systems are Organizational related, Technological related, Project related and Individual related and they need to be enhanced so as to improve AIS.
Fig 4.2.12 Improvement through advancement of organizational culture technology, projects and individual related factors

4.2.13 Integration of systems can result in accurate and timely financial statements.

The analysis was done in order to find out if the preparation of financial statements could be done accurately and timely if the systems are integrated. The researcher found that 60% of the respondents strongly agree, 20% agree and 20% are uncertain that the preparation of financial statements for financial reporting can be done accurately and timely if the three systems are integrated. Chang (2006) found that integrated systems link traditional business functions like finance, production; warehousing and sales into a single system hence it eliminates multiple data entry.
Fig 4.2.13 Accuracy and timeliness of financial statements through integration

4.2.14 Integrated systems improve the availability and the quality of information

The analysis aimed at finding out if integrated systems improved the availability of information and the quality of information. Of the respondents 53% strongly agreed, 26% agreed and 21% were uncertain that an integrated system improves the availability of information. This view was supported by Olhager and Selldin (2003) when they explained that the use of integrated systems improves the availability of information and the quality of information.
4.3 INTERVIEW QUESTIONS

4.3.1 Summary and analysis of Interviews

The research interviews were conducted at the offices of MMCZ.

4.3.2 The response rate for the Interviews

The sample was made up of four managers and only two of them were interviewed, thus a 50% response rate was achieved. The other two managers were attending in their various duties and meetings. Conducting interview was possible since all the managers were stationed at MMCZ Harare.

4.3.3 Systems used at the organization

The two interviewees agreed that the entity use Sun systems and Excel spreadsheets as these systems suite on certain modules. Respondent 1 explained that of all the systems Sun systems
have more functions that the company can utilize though it doesn’t suit all of its business needs. Of the two managers interviewed respondent 1 said that Sun system is being used in preparing financial statements only. Responded 2 said that Sun was being used for all the financial transactions, payroll transactions, procurement transactions and assets transactions. The responses given by these two respondents were supported by questionnaire responses shown in table 4.2.1 where 79% of the respondents agreed that they use Sun systems and Excel spreadsheet. However respondent 1 elucidated that reconciliations such as debtors, creditors and bank reconciliations are sometimes done manually or are done by the Excel Spreadsheet. He explained excel spreadsheet are being used as they are cheaper to acquire they come with Microsoft office they are easy to use as well as maintain. These Sun systems also allow processing of large amounts of financial information and process it quickly through the accounting system. The time needed to close out each accounting period has been lessoned by the quicker processing times for individual transactions. Company efficiency is increased as shortening the year end closing period and thereby avoiding longer hours and higher labour hours. (Barvayeh et al 2011)

4.3.4 **AIS play a role in the generation of accounting information**

The interviewees both agreed that AIS play a vital role in the generation of accounting information for decision making. Respondent 1 explained that personnel for example in the Finance Department input data into the system. The data is processed into information in the system and in the end output of reports such as asset balances, creditors balances are obtained from the system. These assets, expense, creditors and income balances extracted from the system will assist management in decision making. Questionnaire responses on fig 4.2.3 supported these
responses from respondent 1 in that 84% of the respondents agreed that AIS plays a vital role in the generation of accounting information. Respondent 2 argued that other factors such as the past experiences should be used when making decisions. Hakim, S (2007) also supports that AIS provide management with financial reports on a daily, weekly, monthly and yearly basis for monitoring decision making and performance of the organization.

4.3.5 Decision making influenced by effective AIS

The interviewees agreed that effective AIS influences decision making. Respondent 2 explained that since management relies on information produced by these AIS when making economic decisions so the AIS need to be effective in their operations. Respondent 1 said that effective AIS reduces the chances of producing reports with errors and also produces reports timely. Respondent 2 added that effective AIS also help in correct forecast and budget figures. This is supported in fig 4.2.4 where 80% of the respondents agree that effective AIS influences decision-making. According to Hafnawi (2001) for an accounting system to be efficient and effective it should be accurate, timely and it should deliver management by essential data to attain control and assessment of the economic activities.

4.3.6 Training users of accounting information systems

Respondent 1 explained that personnel from the finance department go for training programs at least three to four times per year. Respondent 1 explained that they conduct such programs to the finance department so as to keep them updated with all technological advancements. Respondent 2 however said that there is no need for employees to kip on being trained hence he said that users of AIS go for trainings once a year in the marketing and human resources
department. Respondent 2’s view is supported by questionnaire responses presented on table 4.2.7 where 80% alluded that inadequate training of users of AIS distorts data output.

**4.3.7 Best practices that MMCZ could adopt**

Respondent 2 opinioned that the entity could change the AIS and stop using all the accounting systems which are currently being used. To curb for such erroneous reports respondent 1 suggested that integrating these systems would help in preparing accurate and timely financial information. Questionnaire responses shown in fig 4.2.14 79% shows supported that the integration of these systems could improve the availability and quality of information. Kanellou and Spathis (2007) concluded that “integrated systems seem to increase flexibility, integrate accounting applications and processes and improve gathering and processing of data”.

**4.4 SECONDARY DATA**

The secondary data was obtained, analysed and conclusions drawn in relation to the impact of AIS in decision making.

The company resulted in financial loss as some producers have abandoned using the company from marketing and selling its minerals. A percentage decrease of 39% of revenue was highlighted in the management accounts shown from January up to June 2014. *(Management accounts mid-year 2014)*

**Table 4.6 revenue changes from 2013-2014**

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<thead>
<tr>
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<th>Year 2013</th>
<th>Year 2014</th>
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<tbody>
<tr>
<td>Client base</td>
<td>82%</td>
<td>43%</td>
</tr>
<tr>
<td>Revenue</td>
<td>$800 000</td>
<td>$200 000</td>
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</table>

*Management accounts mid-year 2014*
The audit report showed that the system produced misstated stock figures in April this year. These misstated amounts resulted in incorrect profit figures of $158,078. However the company still failed to pay its proceeds to the government. (*Internal audit report May 2014*)

### 4.5 SUMMARY

The chapter focused on the analysis and presentation of data that had been collected using research instruments mentioned in chapter three. Data gathered through questionnaires was presented and analysed in this chapter and to strengthen that data interviews were also conducted. Charts, graphs and tables were used in presenting the data collected. The next chapter will focus on summary, conclusion and recommendations.
CHAPTER FIVE

SUMMARY CONCLUSION AND RECOMMENDATION

5.0 INTRODUCTION

The previous chapter dealt with data presentation and analysis. Chapter five will dwell on summary of all the chapters, conclusion and recommendations based on research findings which were derived from the research objectives and research questions.

5.1 SUMMARY OF THE RESEARCH

Chapter One emphasized and introduced the subject matter to be studied and outlined key areas of the research study. Chapter one aimed at introducing the background of the study, statement of the problem, sub research objectives, main research questions and sub research questions and justification for the study. It also discussed about delimitations, limitations of the study and definition of terms.

Chapter Two dealt with the review of literature submitted by various scholars and authorities pertaining the usefulness of AIS on decision making. It aimed at reviewing past literature with circumstances currently prevailing in the modern business world. The other objective was to give authoritative points and reviewing theories and concepts that are closely linked to the impacts of AIS on organizations.

Chapter three focused on the methodology of the study. It gave an insight of the methods employed in the process of collecting data in this research. The chapter gave a detailed description of the research design of the study, the population, the research methods and research
instruments used. The researcher used a descriptive survey study as it enabled her to yield qualitative data which was useful to the researcher and it could be presented easily and understandably by data presentation tools.

Chapter four concentrated on the data analysis and data presentation obtained from the industry. This chapter focused on presenting, analysing and interpreting the research findings as they relay to philosophies underlining the research study. The analysed data was acquired through the use of one on one interviews and questionnaires. Pie charts, graphs and tables were used in presenting data.

5.2 MAJOR FINDINGS

5.2.1 Investigating the systems which are operational at MMCZ

The company was using Sun systems and Excel sheet. They used excel spreadsheets as they are cheaper to purchase as well as well as easy to maintain and keep. The system also helped when performing reconciliations. However Sun systems were mostly used in preparing financial statements.

5.2.2 Investigating the efficiency and effectiveness of the systems.

The systems aim to provide information for the marketing department, procurement and stores, finance department and human resources. However this research showed that the systems are not providing adequate and relevant information to other departments such as the human resources department. To other departments such as finance department the systems fail to produce real time reports and the systems had been presenting reports with errors that made the company to make poor decisions.
5.2.3 Analyzing the reliability of the results produced by the systems.

The reliability of the results being produced by these systems was vulnerable to risk of capturing incorrect figures, disposition of figures during capturing, risk of transaction duplications, risk of omissions and risk of high audit fees.

Accounting information is reliable when it is capable of being verified. Reliability does not always entail certainty.

5.2.4 Recommendations to the organization.

The research found that the way to overcome difficulties they are currently facing is through the integration of the accounting information systems they are using. The integration will help in reducing some of the challenges the company is currently facing such as risk of transaction duplications.

5.2.5 The benefits of using an integrated accounting information system

Integrating these systems would help in preparing accurate and timely financial information. The integration of these systems could improve the availability and quality of information.

5.3 CONCLUSION

The major objective of this research was to analyse the effectiveness of accounting information systems in decision making. The company uses Sun systems and Excel spreadsheet. The systems produced erroneous reports to the finance department as transactions were being captured in separate systems. The reliability of results was vulnerable to risks such as risk of capturing incorrect figures. Integrating these systems would help in preparing accurate and timely information. The research was successful because the research objectives were met.
5.4 RECOMMENDATIONS

Integration
The company is recommended to integrate the three accounting systems that is Excel spreadsheets and Sun systems. Spathis and Constantinides (2004) found companies need to integrate their systems as integration would help in production of real-time information, information generation for decision making and the need for integration of applications.

Training
The company is recommended to train its accounting information systems users in order to avoid errors when capturing. Training is vital as it will help in the effectiveness of the results to be produced. Oga 2013 concluded that for companies to successfully use AIS as an efficient management tool the company should be responsive in upgrading existing facilities as well as engaging in staff training to enable them to be competitive.

5.5 SUGGESTED AREAS OF FURTHER RESEARCH
The researcher found that Sun system does encompass all the business needs of MMCZ. In order to overcome the challenges the company is currently facing there need to develop internally generated software that caters for all their needs. The researcher is recommending further research of what systems MMCZ could develop to suit for all their needs.
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MMCZ INTERNAL SOURCES

Finance committee minutes June 2013

Finance manager report November 2012

Management meeting minutes August 2013

MMCZ Final accounting procedures manual 2013

Management accounts mid-year 2014
APPENDIX A:

COVER LETTER

Midlands State University
P Bag 9055
GWERU

19 September 2014

To the General Manager
Minerals Marketing Corporation of Zimbabwe
90 Mutare Road
Msasa Harare

To whom it may concern

REF: QUESTIONNAIRE TO SOLICIT FOR INFORMATION

I am Blessing Mutongi, a final year student at the Midlands State University, undertaking a Bachelor of Commerce Accounting Honours Degree. In partial fulfilment of the programme we are required to carry out a research project. The title of my project is: an assessment of accounting information systems on decision making by management. Case of Minerals Marketing Corporation of Zimbabwe
All information obtained will be treated with strict privacy and confidentiality and will be used for academic purposes only. Anonymity shall be maintained at all levels. Please assist by answering the below questions. There is no wrong or right answer.

Your positive response on this is greatly appreciated.

Yours faithfully

Blessing Mutongi (R111467G)
Research Project Questionnaire

Questionnaire for Management and Accountants

An analysis of the effectiveness accounting information systems on decision making.

Instructions

1. Do not write your name on the questionnaire.
2. Show response by ticking the respective answer box and fill in the relevant spaces provided.

Questions

Personal Questions

1.1 Position held

- Finance manager
- HR manager
- Accountant
- Marketing manager
- ICT administrator
- Other

Others (specify)

2.2 Department

- Marketing
- Finance
- HR and Procurement
- ICT

Others (specify)
3. You have been in the department for:

Less than 1yr □ 1-5yrs □ 6-10yrs □ More than 10yrs □

Others (specify) ……………………………………………………………………………………………

4. Your experience in the current position

Less than 1yr □ 1-5yrs □ 6-10yrs □ More than 10yrs □

Others (specify) ……………………………………………………………………………………………

5. Your highest academic qualification

‘A’ Level □ Diploma □ Degree □ Masters □ Doctorate □

Others (specify) ……………………………………………………………………………………………

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<tr>
<th></th>
<th>Strongly agree</th>
<th>Agree</th>
<th>Uncertain</th>
<th>Disagree</th>
<th>Strongly disagree</th>
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<tbody>
<tr>
<td>1. MMCZ uses Excel spreadsheets,</td>
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<td>manual systems and sun systems.</td>
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<td>2. Information produced by these accounting</td>
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<td>packages is reliable.</td>
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<td>3. AIS play a vital role in generating</td>
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<td>accounting information for decision making.</td>
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<td>4. Decision making is influenced by an effective AIS</td>
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<td>5. Excel produced reports have been having errors.</td>
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<td>6. Sun systems, Excel spreadsheet and manual systems are efficient and effective.</td>
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<td>7. Inadequate training of users of AIS distorts data output</td>
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<td>8. The absence of relevant and reliable financial information contributes to poor decisions by management.</td>
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<tr>
<td>9. AIS has to be accurate, timely and should provide management essential data to attain control and assessment of the economic activities</td>
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<tr>
<td>11. Entities use accounting systems to deliver a systematic way for collecting and organizing data about the several business transactions</td>
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<tr>
<td>12. AIS reliability is affected by assertions, error classes, information transformation process and control procedures</td>
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13. Improvements in AIS can be achieved through enhancing the organization culture, technology, projects and individual related factors.

14. The preparation of financial statement for financial reporting can be done accurately and timely if the Sun systems, Manual systems and Excel Spreadsheet systems are integrated.

15. The use of integrated systems improves the availability of information and the quality of information.

Thank you for your support.
Research Project Interview Guide

I am kindly seeking your views, opinions and comments to the following questions with regards to the organization’s accounting information systems. Information and views that you will provide will be held as confidential and will be used for academic purposes only. I would greatly appreciate your utmost cooperation.

Questions

1. Does AIS play a vital role in the generation of accounting information for decision making?

2. What system does MMCZ use?

3. Is decision making influenced by effective AIS?

4. How often are users of AIS trained at your organization?

5. What are the Best practices that MMCZ could adopt?