

**IMPACT OF EFFECTIVE ACCOUNTING INFORMATION SYSTEM ON  
DECISION MAKING OF ETHIOPIAN COMMERCIAL BANKS IN CASE  
WOLKIYE TOWN**



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## **Abstract**

*This study would be focused on the impact of effective accounting information system on decision making of Ethiopia commercial banks in Wolkite town. Although few studies were conducted on accounting information system, the aim of this study is to close the gap in literature and add some more knowledge in this area. The research design would be employed explanatory research design in order to analyses the cause and effect relationship between effective accounting information system (system quality, information quality, system usage, simplicity of use, reliability and flexibility ) and decision making. The study would be used primary sources of data in order to gather the required information. And would be collected through structured interview and questionnaire distribution to managers and employees (66 respondents) purposively. Then the data would be processed, analyzed and interpreted by using descriptive and inferential statistics through STATA14 version. The findings further indicate that, there exists linear and positive significant ranging from substantial to strong relationship was found between working place factor and dependent variable. Moreover, the selected independent variables may insignificantly explain the variations in the dependent variable at 0.05level of significance. Based on findings, recommendations to the banks and suggestions for other researchers are forwarded.*

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IQ information quality.....	<b>vi</b>
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List of acronym;

AIS accounting information system

DM decision making

FLX flexibility

IQ information quality

IS information system

IT information technology

REL reliability

SQ system quality

SU system usage

SMU simplicity of use

# **CHAPTER ONE**

## **INTRODUCTION**

### **1.1 BACKGROUND OF THE STUDY**

The significance of IT in today's successful organization cannot be underestimated. It plays a major role in the success of the organization in today's highly competitive world by providing easy and fast means of collecting, storing, retrieving, processing, transmitting and distributing information. There can be various other factors that determine the success of a firm, and a firm may use various strategies to pursue the path of success. However, fast and easy access of information through the use of IT is very important to the firm because it influences all the other success factors, and the competitive strategies cannot be practically implemented without its support. Therefore, no business-firm that minimizes the use of IT can attain the topmost position in its business. This is very much true in the case of financial institutions, which include commercial banks (Loonam, 2008).

Accounting is the service function that seeks to provide the users with quantitative information on the other hand, AIS is an information system that is designed to make the accomplishment of accounting function possible. Furthermore, accounting system, in recent times, has tended to be a system of information that does not stop at limits of data and financial information, but also it includes data and descriptive and quantitative information which is useful in decision making for users distinct with plurality and diversity (Nwinee et al., 2016).

In recent years the firms started changing faster and faster front of globalization technology, part of this changing is an accounting information system, any change depends on data and information, to improve an international accounting information system or to make it more successfully business should be collect high quality of data which will be lead to high quality of information about the enterprise, these information it will be the way to planning, controlling and make right decision. The main function of AIS is to assign quantitative value of the past, present and future business events. Accounting information, in the form of periodic reports or special

analyses, is often a source of information for making decisions including pricing, production levels and product mix, outsourcing, inventory policy, customer servicing, labor negotiations, and capital investments (Horngren et al., 2005; Sprinkle, 2003).

Accounting Information System (AIS) as one of the most grave systems in the organization has also changed its way of capturing, processing, storing and distributing information. Nowadays, more and more digital and on-line information is utilized in the accounting information systems. Organizations need to take an action, which put such systems at the forefront, and consider both the system and the human related factors while managing their accounting information systems. In managing an organization and implementing an internal control system, the role of accounting information system (AIS) is crucial (Steinbart, 1997). Now days the business world is changing at a faster and faster change. The reasons given for this is globalization, high information technology investments and the rapid change of technological change in combination with increasing costs of research and development.

Require to understand the relevance of AIS in the country to identify areas in which the country lags behind that inhibit their AIS practice Having a good and reliable accounting systems has become a major concern for all managers as it leads to better management and analysis of firm's performance and decision making in Ethiopia (Shwarega, Abiy, Paul, Welelaw, Saim & Yared, 2015). And they were focused on the evaluation of design of AIS and its impact on decision making and investment.

Due to such circumstance in this era to be investigate and conduct a research on title of AIS it's so much important. And the previous study most probably focuses all over the world impact of AIS over the macro level. Therefore, to address the current gap in the literature, this study would be focused on the accounting information system and its impact on decision making. Not only to be evaluation design of AIS, but also the use of art of AIS and its effect on decision making of banks at wolkite town. And recommends appropriate actions would be taken to promote accounting information system.

## 1.2 Statement of the Problem

Organizations today seek to enhance their profit, market share and quality through applying the available IT tools. AIS as one of these tools - is an important system that has a crucial role as the most important of source of internal information. It has a great potential to enhance the success of the process of decision making which is seen as the most important enabler for the achievement of the organizational goals Accounting information systems (AIS) as a part of company's information systems (IS) are seen as facilitating decision making within organizations and should be bespoke to an organization environment, requirements of task, and structure. In particular, specially trained accountants work with AIS to ensure the highest level of accuracy in a company's financial transactions and recordkeeping and to make financial data easily available to those who legitimately need access to it, all while keeping data intact and secure (Akgün and Kılıç, 2013). An impact that leads to better organizational performance and improved effectiveness in decision making.

According to the challenges that faced firms, and the negative findings of global crisis necessitate from all employees at different levels to award the important role of information that played in the activity of the firm. From here arising the importance of information. Information is the main source of decision-making, so this information must be characterized by a set of characteristics, in order to achieve the goals required for decision maker. Short term decision-making needs cost data both fixed and variable costs, Long-term decisions are made by the top-level executives for the future course of action. The managers at various levels are in need of certain type of AIS. And the question that mentions here is how the AIS impact in decision making managers. Accounting information system is one of the oldest information systems known in companies, as accounting information described with a great importance in identifying the financial and economic reality of the firms, and how company's relationships with its environment (Kassem, 2004).

Recently, the intents of business organizations have shifted from the earlier times which were only working towards profit making and survival. Today, the objectives of business organizations and financial institutions are beyond profit making, but includes; gaining competitive advantage, sustainability, surviving turbulence environment, customer satisfaction and effective decision making. To do so AIS have to being used. Effective AIS is essential to any organizations long run success. Without a means of monitoring the events that occur, there is no way to determine how well the organization is performing (Romney, 2003).

Accounting information system is useful if it has a potential for making administrative decision otherwise it misleads the users idea and also it lead them to decide wrong decision and that may be the cause for bankruptcy or loss of the organization. In Ethiopian organizations this problem is visible especially; they do not utilize AIS as a tool for the financial administration purposes. (USAID-Ethiopia, (2006)

The main drive of accounting is to provide financial information to be used for decision making. For instance, business executives and managers need the financial information provided by the accounting system to help them to plan, control and evaluate business operations. Outsiders such as bankers, potential investors and labor unions and other also need accounting information (Mengistu, 2008) Ethiopian firms have poor accounting records for the purpose of to avoid tax and other obligations. This creates twofold problem. Poor records make it difficult for companies to get reasonably priced credit and then to manage their affairs effectively if they do get credit. Failure to make better decision based on financial reports is a feature of firms in Ethiopia due to multiple books kept by businesses in order to avoid taxes and other obligations, so that most organizations do not have audit-worthy financial records. Thus, poor accounting increases the likelihood of bankruptcy and makes bankruptcy administration more difficult as well (USAID Ethiopia, 2007).

The previous research regarding to AIS, they could assess and investigate its impact and role on the financial performance and decision making on different organization with their branches. Besides, in Ethiopia they have no proper AIS which help to improve the administrative quality of the organization and to make quality decision making.

Therefore, this study would be attempt to investigate and analyses the potential effect of AIS on the decision making within the context all Ethiopian commercial banks at wolkite town. This study also seeks to examine and explore this issue in a systematic research process that aims to achieve the following main objective.

### **1.3. Objective of the study**

#### **1.3.1 General objective**

The general objective of this study is to examine the impact of effective accounting information system on decision making of Ethiopian commercial banks in in case of wolkite town.

#### **1.3.2 Specific objectives**

This study aims to achieve the following specific objectives

- To investigate the effect of system quality (process and control) on Ethiopian commercial banks decision making.
- To analyses the relationship between information quality (input control and output) and Ethiopian commercial banks decision making.
- To examine the relationship between system usage and decision making of Ethiopian commercial banks.
- To investigate the effect of simplicity of use AIS on Ethiopian commercial banks decision making
- To examine the relationship between flexibility and decision making of Ethiopian commercial banks.

- To investigate the effect of reliability on the decision making of Ethiopian commercial banks.

#### 1.4. Research hypotheses

**H1;** system quality (process and control) has positive and significant effect on decision making of Ethiopian commercial banks

**H2;** Information quality (input control and output) and decision making have positive and significant relationship.

**H3;** System usage (flexibility and simplicity of use) has positive and significant relationship with decision making of commercial banks of Ethiopian.

**H4;** simplicity of use has positive and significant relationship with decision making of Ethiopian commercial banks.

**H5;** flexibility has positive and significant relationship with decision making of Ethiopian commercial banks.

**H6;** reliability has positive and significant effect on decision making in commercial banks of Ethiopian.

#### 1.5. Significance of the study

The importance of this study stems from the importance of the Ethiopia banks sector. Through its essential role in support the Ethiopian national economy, and how use (AIS) to continue the development program. Using accounting information systems in these banks make a substantial impact on reasoning o decisions making.

- ❖ Subsidize the development of banks and preserve their continuity.
- ❖ Advancing users of accounting information (internal and external users) and improve their abilities in decision making process, as well as any other groups interested in these

banks through using efficient accounting information systems, and banks provide recommendations that increasing the contribution level for different users to secure achieved precious information to take suitable decisions, through the use of Accounting information systems. Depending on above, the study attempts to examine this issue regarding (AIS) using primary data of Ethiopian commercial banks at wolkite town and is considered an important source and reference for researchers and those attentive in the using the financial reports, in particular banks managers

- ❖ And finally the study will contributes to opening up outcrops for further researches on the Accounting information systems and how increases their efficiency to provide the accurate information needed to meet decision making needs similar with that of banking industry.

## **1.6 Scope of the study**

The study would be limited to the accounting information system and its effect on decision making of Ethiopian commercial banks at wolkite town. Beside this the study cannot visualize overall effect of AIS on the organizations as a whole. Which means the area of the study is only focus on decision making and would be selected the respondent purposively who have efficient knowledge with respect to accounting information system. And also the study would be limited primary source of data

## **1.7 Organization of the Study**

This research paper is organized in to five chapters. Chapter one states introduction that includes background of the study, statement of the problem, objective, significance, scope and organization of the study. The second chapter presents review of related literature; theoretical and empirical literature, summary and knowledge gape and conceptual framework. The third chapter deals with research methodology; The subsections include; research design and approach, target population, sampling technique and procedures, sample size, source and methods of data collection and data analysis, variable descriptions and measurements and model specifications.

## **CHAPTER TWO**

### **2. RELATED REVIEW LITERATURE**

#### **2.1 Theoretical review**

##### **2.1.1. Contingency theory**

This study stands on the contingency theory such as (Haldma 2002; Ajibolade 2013). This theory supposes that no single type of organizational structure is suitable, applicable to all organizations. Moreover, organizational effectiveness is dependent on a fit between the type of technology, environmental volatility, company's size and other characteristics such as organizational structure and its information (Alhtaybat, 2013; Haldma & Laats, 2002). The accounting information system can be defined as one of the core components of an administrative organization to collect, classification, processing, analysis and delivery of appropriate financial information for decision-making to different parties of accounting information users. The accounting information system is one of the basic components of the information system and the main difference between them (the two systems), the accounting information system is concerned with accounting data and information while information system is concerned with all data and information that effect on the activity of the company.

##### **2.1.2. Technology acceptance model**

Technology acceptance model (TAM) was originally proposed by Davies in 1986 [12]. This model was designed to forecast the user's acceptance of information technology and usage in an organizational setting. And theorizes that firms are adopting technology to cope with the change in the external environment. This model has been tailored in a manner that can accommodate changes for improved costs reduction and efficiency. TAM deals with perceptions as opposed to real usage, the model suggest that users, the key factors that influence their decision on how, where and when they will use it. The factors to consider are: Perceived usefulness (PU). According to Davis, it is the degree to which a person believes that using a particular system will lead to improved performance and Perceived ease-of-use(PEoU) is explained as the degree to which a person believes that using a particular system would results to improved productivity.

### **2.1.3. Information System**

In discussing what information on systems are one must first understand what information is further processed data that has meaning and purpose. This gives the information value for specific persons and meets their particular information needs thus, information is a basic source that individuals and organization must have, to survive and succeed in today's competitive and dynamic environment (Romney, 2003). An information system is a set of people, procedure and resources that collects, transforms and disseminates information in an organization (Obrien, 2004). An information system is a set of organized procedure that, when executed provides information to support the organization. Thus information system are systems designed process data and produce information which is a vital resource for individuals, organizations, and the society as a whole (Lucas, 1997).

### **2.1.4. Accounting information system**

An accounting information system (AIS) is a system that collects records, stores, and processes data to produce information for decision makers. AIS can be a very simple paper and pencil based manual system, a very complete and information technology, or something between these two extremes, regardless of the approach taken, the process is the same. The AIS and the people who use it must still collect, enter process, store and report data and information (Romney, 2009).

#### **2.2.4.1. Functions of Accounting Information Systems:**

The basic functions of accounting systems, in developing information about the financial position of a business and the results of its operations; every accounting system performs the following basic functions. Interpret and record the effects of business transactions, classify the effects of similar transactions in a manner that permits determination of the totals and subtotals useful to management and used in accounting reports, Summarize and communicate the information contained in the system to decision makers. The differences in accounting systems arise primarily in the manner and speed which these functions are performed. Ensure the fully control, which confirm accuracy recording and manipulating the data related to business activity. Also, protect those data and organizations assets (Meigs et al. 1999).

#### **2.1.4.2 Features of accounting information system**

Information system is perceived as an entirety of information processing system and resource of an enterprise meant to form and disseminate information has been established. that they stem of information is purpose of providing useful information contemporary is cannot function without computers and other technical means to measure primary information gather and register is in carries process and transmit it to consumers. For this reason computerized information system (CIS) are designed and implemented (salehi, 2010).

#### **2.1.4.3 Advantage of accounting information system**

The main advantage of an optimal use of AIS is in an organization are: better adaptation to a changing environment, better management of arm's length transaction and a high degree of competitiveness. There is also a boost to the dynamic nature of firms with a greater flow of information between different staff levels and the possibility of new business on the network and improved external relationships for firm, mainly with foreign customers accessed through the firm's web. AIS have a lot of benefit to any company and corporation as follows: Good Corporation, to meet the need of multi-users, to control after wards, and control in advance and incurrent(Salehi, 2010).

#### **2.1.5. Types of accounting system**

There are many different types of AIs used in business organization today. The Size of organization, the nature of its process, the extent of computerization, and philosophy of management affect the choice of the system. Simply to organize the study to AIS (Turner, 2002).

##### **2.1.5.1. Manual System**

Certainly most large or medium size organization used computerized accounting system rather than manual record keeping system. However, there are many small organizations that use manual system in the whole, in part to maintain accounting records and system it is important to

examine manual process in AIS. An entire manual system require source documents, paper based ledger, and journal.

### **2.1.5.2 .Legacy System**

Legacy system is an existing system in operation within organization. A legacy system uses older technology in organization has a considerable investment and might be entrenched in the organization. Some legacy systems have been in place to many years, perhaps organization spent much time developing, maintaining, and customization their system.

### **2.1.6. Basic accounting cycle in the AIS**

The revenue cycle- are a recurring set of business activities and related information processing operations associated with providing goods and services to customers and collecting cash in payment for these sales. The primary external exchange of information is with customers. Information about revenue cycle activities also flows to the other accounting cycles via the centralized data base.

The expenditure cycle is a set of business activities and related information processing operations associated with the purchase and payment for goods and services. In the expenditure cycle the primary external exchange of information is with suppliers. the primary objective in the expand item cycle is to minimize the total cost acquiring and maintaining inventories, supplies, and the various services the organization needs to function.

The human resources management (payroll cycle) is a recurring set of business activities and related data processing operations associated with effectively managing the employee workforce. The more important tasks include: - recruiting and hiring new employees training job assignment, compensation (payroll), performance evaluation, discharge of employees (due to voluntary or involuntary terminating).

The production cycle- is a recurring set of business activities and related data processing operations associated with the manufacture of products. It involves activities raw materials and labor in to finished goods.

The financing cycle- involves activities of obtaining necessary funds to organization, repay creditors and distribute profits to investors.

### **2.1.7. Accounting information system and organizations**

Virtually all organizations from business and government agencies to hospital, educational institution have an accounting information system. Among these groups, the AIS of business organizations tend to be the most highly developed and innovative. However, many of the same concepts, techniques and principles are equally applicable to AIS in other kinds of organizations. The modern business organization served by the AIS is a very complex institution such an organization may employ thousands of people in tasks ranging from the development and engineering of new products to the management of a large sales force. The activities of prominent companies are of interest to many segments of society customers, suppliers, employees, lenders, stock holders and the various government under whose jurisdiction they operate (Obrien, 2004). How can the modern business organizations plan coordinate, and control the multitude of activities that it under takes? How can it supply information to the many people and institutions that are interested in its activities? The AIS plays a vital role in accomplishing these tasks. It is use full to examine AIS is from view point of uses who utilize accounting information as a business for making decisions, there are two basic categories of such uses those external to the business organization and those internal, external uses are many and varied. Their needs are met to some extent by the publication of general purpose financial statements, such as the income statement and balances sheet (Romney, 2009).

Trade owners usually employ AIS to make their accounts bundling feasible, rapid and precise. Since the system is all about the investigation and evaluation of the records with the ultimate preparation of statements, it gives less room for errors. Moreover, many AIS have a built in means of mistakes reduction all the information is compiled in an automated way. The communications are all electronic hence there are minimal instances of mistakes. In addition to this the process takes less time with your work being more efficient than before. On the other hand, the cost of the execution of an AIS may be high however, the advantages that it promises in the long run out weights the cost incurred. AIS provide all the equipment's that are needed to keep track of ones financial proceedings together the data about ones clients and dealers. The main objective of this structure is to endow he companies with their financial status and

capabilities. Here this can assist the managers to highlight and recognize the variation in their business. Besides this in order to decide as to whether a particular company needs an AIS and what type is required is that key information that a user has to find out by through scrutiny of all the accounting procedures and the assessment of the nature of dealings. Only then one can conclude an all the clear cur necessities of an AIS of any company (Romney, 2003).

### **2.1.8. Accounting information system role in achieving operational goals**

The AISs major contribution to the company top management nonoperational goals is the development of long range as well as short range operational budgets. Because budgets affect all organizational sub systems, the accountants must communicate with each subsystems employees and seek their participation in planning, implementing and controlling the budgetary system (Murphy and Katherine 2002).

#### **2.1.8.1. Accounting information system contribution to non-operational goals of responsive and motivated employees.**

The personal subsystem has the primary responsibility for achieving this goal. As a result of effective personal selection procedures, adequate compensation, efficiently operating training programs, and the involvement of employees in challenging activities, the company labor force should have positive attitudes toward their work environments the accountants, in performing their cost accounting budgetary and systems study functions, must consider the human element within a company. Rather than just informing the employees what their budget allowances will be or unilaterally introducing a systems change for instance, the accountants should seek the employees' participation in making these decisions. Employees should be more responsive and positively motivated to achieve their companys goals if they participate in various decisions affecting their work environment (Murphy and Katherine, 2002).

#### **2.1.8.2. AIS and performance measures**

Thanks to investment in AIS, the scope for action is expanded, thus providing time saving in trips to and dealings with banks, the administration etc. this reduces firms cost productively increases when these innovations are properly used. In so far as a firm's culture is open to the introduction of new accounting information system this will lead to a more holistic view of it and

make for greater flexibility and dynamism in organizational search for improved results. Despite of some authors who postulate that the direction of the cause effect relations hops only that company achieves a high performance when they can afford the implementation of certain technological developments. Other indicate that firms performance drops just after the implementation taking several years to realize the entities from IT adoptions. There are several research work which, in the widest sense, have studied relationships between performance indicators and IT, and how IT impact on firm performance achieving inconclusive results (Agbolade, 2011).

There are studies which obtain a positive relationship between investment in IT and economic profitability, financial profitability and value added. Other research shows that no clear relationship exists between this type of investment and the performance indicators. Their authors argue that currently, it is readily available and using them gives no competitive advantage for achieving improved results. Similarly, they maintain that many firms have invested in IT but they do not succeed in attaining the established performance goals. Although research on the IT performance ratio is more abundant in large sized firms, the analysis of the impact an small sized ones becomes particularly important because investment in these technologies may give them a competitive advantage and the chance to position themselves to achieve better results since they are more flexible and have better response capability (Obasan & Agbolade, 2011).

In Spain, in most sectors there is a generalized opinion that using information technologies has been decisive in expanding the business market and in saving commercial management cost. Given that AS are a basic component derived from technologies in general the main issue is whether applying accounting information system contributes to firms improving their results (Murphy and rathrine, 2002).

#### **2.1.8.4 AIS integration**

At the operation level, AIS integration is defined in terms of the following two characteristics (a) the degree of integration in internal AIS applications and (b) the degree of integration between the inter organizational systems and the internal AIS applications. Accounting systems are primarily influenced by contextual factors that affect accounting processes for transaction processing, reporting, internal control, process monitoring, and performance evaluation. These

characteristics can capture the range of potential contractual influences. The integration of AIS applications was measured by the extent of standardization in coding schemes and by the extent to which applications systems adhere to standard coding schemes. These two items were developed in this study and were based on the operational concepts of data integration which refers to the use of common field definitions and codes across different parts of the organization (Murphy and Rathine, 2002).

#### **2.1.8.5. The relationship between AIS integration and AIS effectiveness**

AIS integration has been defined above as a system design state that influences the ability of the system to provide output information that can be effectively used to respond to outside classroom curriculum requirements. At the conceptual level therefore, AIS integration is related to AIS effectiveness. Increased system integration has been suggested to improve communications both within and across organizations. The relationship between the use of integrated systems and users' evaluations of task-technology fit, that is, the degree to which a technology assists an individual in performing his or her portfolio of tasks. Electronic integration among inter-organizational and internal information systems has also been reported to have a significant association with a perceptual measure of user information satisfaction and an objective measure of shipment discrepancy reduction in the automotive industry. In conclusion, system integration is shown to be an important construct in past research. Accounting systems are primarily influenced by contextual factors that affect accounting processes for transaction processing, reporting, process monitoring and performance evaluation (Obasan & Agbolade, 2011).

#### **2.1.9. Accounting information system and decisions**

Decision making is defined as a rational choice among alternatives. There have to be options to choose from; if there are not, there is no choice possible and no decision. Decision making is a process, not a lightning bolt occurrence. In making the decision, the manager is making a judgment reaching a conclusion from a list of known alternatives (Plunkett, 1986).

A vital role of the AIS is to supply internal decision makers with information that is relevant to their needs. An organization is held together by its information network, the acquisition, use, retention and transmission of information, one of the primary network members in an organization is its AIS. The AIS summarizes and filters the data available to decision making. By

processing the data, the AIS influence organizational decision (Romney, 2003). AIS are systems used to record the financial transactions of a business or organization. This system combines the methodologies, controls and accounting techniques with the technology of the IT industry: user interface, computers and sophisticated software. The software used to track transactions provides internal reporting data, external reporting data, financial statements, and trend analysis capabilities (Obasan Agbolade, 2011).

### **2.1.9.1 Decision Making Process**

Decision making is the process of making choices such as what product to sell, in which market to sell those products, what organizational structure to use and how to direct and motivate 2employees. A decision is easy to make when one option will clearly bring about a better outcome than any other decisions became more difficult when more than one alternative seems reasonable and decision-making process is also the core of the manager function, where we find that planning, organizing, personnel management, command and supervision are the main functions of management. All of them are clearly related to decisions in order to implement the plan and to set goals (Deisler ,2010). The decision-making process is the major issue that gets a lot of attention by the manager and occupies a large portion of his activity. It is associated closely with the function of planning, because the activity of planning itself is to make decisions (Alsahen, 2000).

Alhelo( 2000)decisions are classified according to the level at which decisions are taken Strategic decisions: associated with goals and master plans of the organization and relatively cover a long period of time. Management decisions: functional decisions that are taken in the middle management level in order to achieve the ideal performance of the different functional activities inside the organization such as production, marketing, finance, etc. Operational decisions: concern the internal distribution of materials and the translation of goals and plans into work and short-term missions. It is mainly related to routine work. Such decisions are carried out by the executive departments. Believes that information is the material of the administrative decision.

### **2.1.9.2. Decision structure**

Decision vary in terms of the degree they are structured. Decisions are classified in to three in This regard: (Romney, 2003)

### **2.1.9.3. Structure Decision**

Is repetitive, routine, under stood well enough that they can be delegated to low level of employee in the organization? For example, the decision about extending credit to established customer requires only knowledge about customer's credit limit and current balance. Structured decision often can be automated.

### **2.1.9.4. Semi-Structured Decision**

Characterized by incomplete rule for making the decision and the need for subjective assessment and judgments and judgments to supplement formal data analysis. Although such decision can't be fully automated, they are often supported by computer based decision aids.

### **2.1.9.5. Unstructured decision**

Is non- recurring and no routine decision for example, choosing the cover to magazine, hiring senior management, and etc., No frame work or model exist to solve such problems instead, they require considerable Judgment and intuition. Never the les, unstructured decisions can be supported by computer based decision aid that facilitates gathering information from diverse source.

## **2.1.10. System quality**

### **2.1.10.1. Processes, control and reliability**

It represents the technical side of the system and is a collection of calculations, Logical comparison, summarization, classification, and sorting performed on entered data with a view to converting it into information provided to the final beneficiary. The processing activities include various additional processes where data is managed through the following functions. (Kasem, 2004)

Storage: System memory is the place where data and information are stored for use. In achieving the goals for which they were created, the data is saved and stored in files or on a format Database.

Update: It is to modify the data that is stored and updated to reflect the evolution of events and processes and the impact of decisions made after data is entered into the system and stored.

Callback: It means extracting and re-ordering stored data for further operation or submission to interested users in the form of financial reports.

Control and control: It includes all processes that are taken to maintain the system entity and its continuity to achieve its objectives. It includes all procedures necessary to protect data and prevent its loss or manipulation control of all phases and functions of the system.

Request accurate information and the ability to have control over the input processes and output to ensure that the system produces and delivers information according to the assumed standards. Its design, it is a set of procedures and rules designed to verify that the operation system is done as planned when it is designed, and that the system contains all control procedures to ensure that the correctness of inputs, processes and outputs.

Reliability means the completeness of information, so the accounting information system should be described with comprehensive, and the numbers exactly represent what actually happened, in other words any person use the same inputs should arrive for the same result.

## **2.1.11 System usage**

### **2.1.11.1. Flexibility and Simplicity of Use**

Flexibility mean the degree of consistent with its environment and organizational structure, or how carry out the financial operations without any complications during the work. Therefore the accounting information system should have the ability to adapt and change in the company depending on its needs, operations, and management.

Appropriate design of AIS that secure supports business strategies in ways that increasing the company profitability and improve performance, this design should be described with the easiest in input the data and with easiest way to understand the outputs (Samuel, 2011).

### **2.1.12. Information quality**

#### **2.1.12.1. Inputs, Outputs and Feedback**

Which represent the raw materials that arise from economic processes events happened inside and outside the company which can distinguish between four sources of such data, namely,. Routine data arising from daily operations such as sales and purchase, payments and collections. Non-routine data arising as a result of the surrounding external environment such as government policies and legal legislation. Routine data arise as a result of daily operations within the facility between internal departments as data such as costs in production stages and inventory movement. Non-routine data arising from internal management decisions and as a result of accounting policies and administrative (Hussein, 1997).

They represent system works results that access, and the information is communicated to beneficiaries according to different formats such as reports, tables, lists and diagrams, these Information is called the outputs of the information system.

The process of measuring the response of beneficiaries of accounting information system, to make sure that the system perform its functions as it is supposed to be designed, but some information may not outfit the needs Users, then users request to re-change the system to satisfy what they want,. It aims to provide a guiding tool for the system's activities. It evaluates the results of the system's work and corrects the objectives if there are flaws in the system's objectives (Kassem, 2004, p. 16)

## **2.2 Empirical Literature**

Azize (2016) studied the impact of accounting information system on firms performance on relationship small and medium sized enterprises in Kayseri, Turkey. In order to conduct his

research he obtained the data by interviewing 60 firms in organized industrial zone and analyzed the data by using least squares method. The find of this study was that there was positive and statistical relation between the use of AIS and educational status of managers. Furthermore, positive relation was found between the use of AIS and growth( sale, customer and revenue). Al Qatananeh (2004) aimed to identify and analyze the role of accounting information system to provide quality accounting information to meet the managerial requirements in Jordanian manufacturing companies. The research done on a sample of 45 which constituted 60% of the population showed that there exists relationship.

Kabiru and Abdullahi (2014), asserted that the use of accounting information is relevant in simplifying issues and in the provision of quality information in the Nigerian banking industry, the use of AIS has also led to the timely and accurate preparations of reports, as customers have limitless access to banking service through the aid of internet banking. Their study intended to find out the impact of information system on the Nigeria banking sector in which both primary and secondary data were used and analysis of variance ( ANOVA) was used to test the hypothesis. Judgmental sampling method was used to obtain a representative sample of the population. It was found that accounting information 14 technology can improve banks performance by reducing operational cost and by facilitating transactions among customers within the same or different network between accounting information system component and quality of information received.

Mesfine (2009) the study assessed the impact of accounting information in management decision making in both profit-oriented and not-for-profit organizations. Questionnaires were distributed to General Managers, Financial Managers, Marketing Managers, Production Managers and Accountants who are thought to be influenced by the information. All of them were selected by personal judgment of the research. The study showed that though accounting information impact differs in weight and result from organizations to organizations, it was found to have a relative impact in all types of organizations. And it also depicted that the impacts of accounting information is high in business organization in general, as compared to not for- profit organizations, and in manufacturing companies in particular.

Tewodros (2009) the study examined the use of management accounting information in decision making and management control in the case of some selected manufacturing companies in the city of Addis Ababa. It also assessed whether management accounting information help managers to be effective in their decisions and control. The data used in the study was obtained through questionnaire and interview. Questionnaire was prepared and distributed to finance 15 managers, marketing managers, production managers and accountants. Unstructured Interview was also made to collect data. The study finding showed that there was modest use of management accounting information in manufacturing companies in city of Addis Ababa and it also showed managers that use management accounting information are effective in their decision and control.

Yuvaraj and Kibret (2013) the study evaluated the design of AIS and its implementation by medium and large scale manufacturing firms in and around Addis Ababa. The research paper followed a survey design in order to evaluate the AIS design and implementation of medium and large scale manufacturing firms. From a survey of 555 medium and large-scale manufacturing firms in Addis Ababa Ethiopia, 105sample manufactures were taken out of which 79 firms return the questionnaire.

Data were collected from primary sources while Z-Test statistics and multiple comparison tests were used for analysis of data. The results indicated that the accounting information system design and implementation of these firms was effective at the same time as it could enhance quality of financial reports, control and safeguard assets. The results did not indicate that the accounting information system design and implementation is effective, as it could not improve performance evaluation. It was concluded that for accounting information system design and implementation to be effective, firms' accounting information system stakeholders are supposed to focus on: enhanced AIS design and implementation criteria and increased attention towards professional and operational standard.

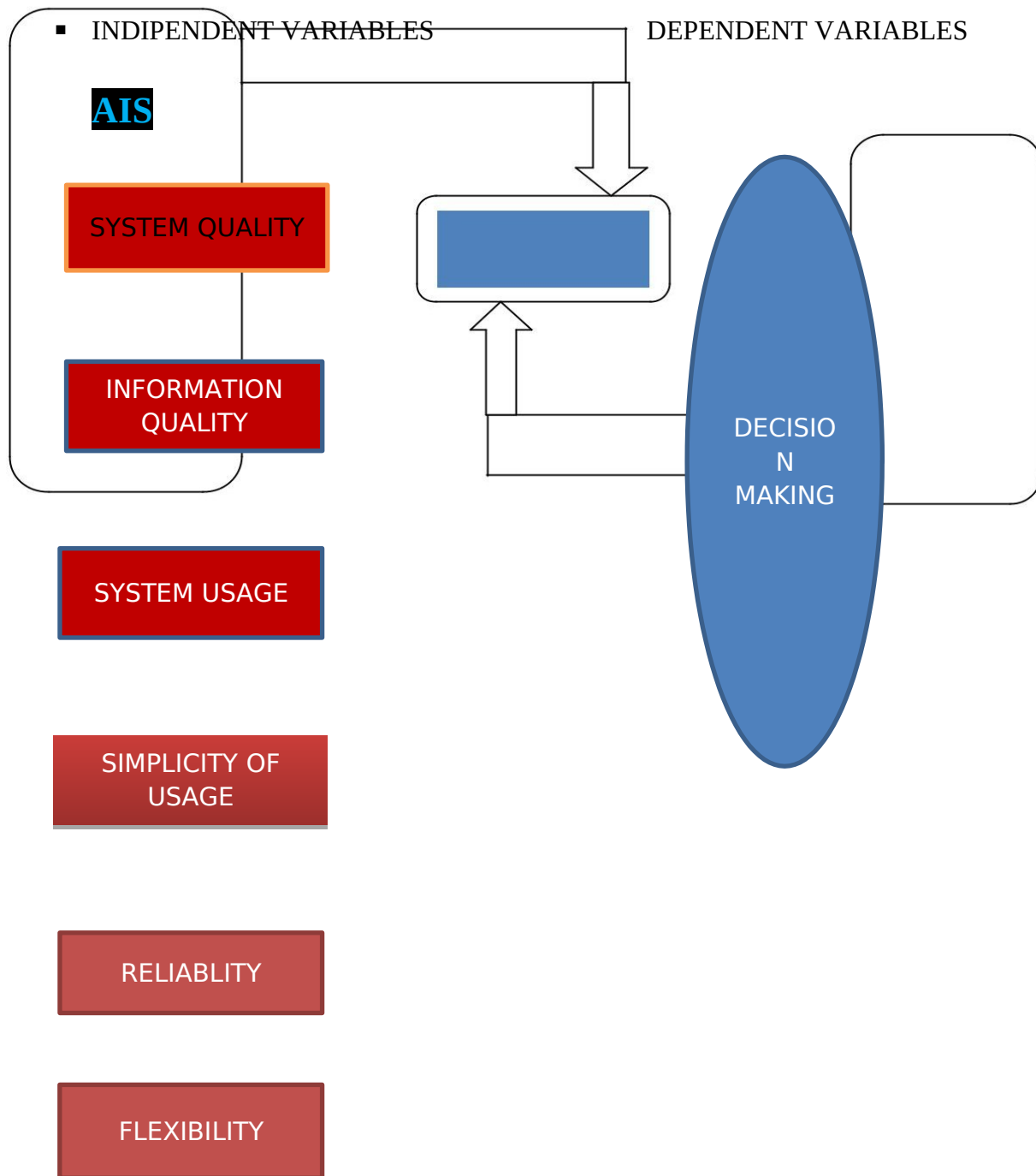
### **2.3. SUMMARY AND KNOWLEDGE GAP**

Existing literature offers scant evidence of the relationship between these AIS and organizational effectiveness; though it is important to the study made by Hunton (2002) Al Qatananeh (2004) Azize

(2016) they discover assessment and impact of AIS design on organizational strategy, performance and decision making. Studies done so far in Ethiopia as mentioned earlier concentrate more on examining the design of AIS and its operation, whether the accounting system in use is in line with the accounting principles, investment of AIS and its effect, the use of management accounting information in decision making and management control and impact of accounting information in management decision making. And those studies do not exhaustively show on the impact of accounting information system on decision making. Therefore, this study tries to narrow the research gap paying particular attention to the impact of accounting information system on decision making. Not only the evaluation design of AIS, but also the use of art of AIS and its effect on decision making. Generally; This study would be focused on the impact of effective Accounting Information Systems in to six further classification as independent variables (SQ, IQ, SU, SUS, FLX and RLE ) on the decision making of Ethiopian commercial banks and how does accounting information system impact and contribute to the effectiveness of decision making of the banks at wolkite town.

## **2.4. Conceptual Framework**

The main objective of this study is to examine the impact of AIS in commercial banks of Ethiopia at wolkite town. And the objective of this conceptual framework will be to clear for the user or any other reader easily to understand the research idea. Based on the previous literature review parts, decision making are affected by macroeconomics factors such as information technology. The blue color part represents the dependent variables (decision making) and the red color represents independent variable (system quality, information quality, usage quality, simplicity of usage, reliability and flexibility) would be used in this study. Generally; this conceptual frame work model to summarize the main focus and scope of this study in terms of variables.



**Figure 2.1. Conceptual framework**

## **CHAPTER THREE: RESEARCH METHODOLOGY**

### **3. Introduction**

The choice of research method does have an influence on the inferences drawn from the analysis of data (Babbie& Mouton, 2001). The research methodology employed in this study comprise of qualitative and quantitative methods. This chapter deals with the descriptions of methods that would be used in resonant out the study. The subsections include; research design and approach, target population, sampling technique and procedures, sample size, source and methods of data collection and data analysis, variable descriptions and measurements and model specifications.

#### **3.1. Research Design**

Research design is the blueprint for fulfilling research objectives and answering research questions (John A.H. et al., 2007:20-84). In other words, it is a master plan specifying the methods and procedures for collecting and analyzing the needed information. It ensures that

the study will be relevant to the problem and that it uses economical procedures. The same authors discussed three types of research design, namely exploratory (emphasizes discovery of ideas and insights), descriptive (concerned with determining the frequency with which an event occurs or relationship between variables) and explanatory (concerned with determining the cause and effect relationships).

The types of Research design that would be employed under this study was explanatory research in that the relationship between variables is correlated with an aim of estimating the integrated impact of AIS on decision making.

### **3.1.1 Research approaches**

According to Creswell (2003) there are three basic types of research approaches: quantitative, qualitative, and mixed approach. Based on the general and specific objective the researcher might select one or both methods that are most appropriate to achieve the aim.

In this research both quantitative and qualitative approaches would be use. Quantitative methods involve a systematic empirical study which includes quantifying through the help of mathematics and statistics and the collected data were converted into numbers which would be tested empirically to draw some conclusions from the results. And these approaches would be applied to test the research hypothesis and to examine the relationship between dependent and independent variable by using empirical models.

While in qualitative methods, statistical analyses are irrelevant rather they draw conclusion by understanding of how the respondents perceive the impact of AIS. Similarly, the researcher would be used the second approach (qualitative) to interpret result of the analysis and to collect qualitative data from the respondents. According to Mark et al. (2009) mixing qualitative and quantitative approaches gives the potential to cover each method's weaknesses with strengths from the other method. In this study, combinations of qualitative and quantitative (mixed) approaches of doing research would be employed, which has been practiced, as recommended by Creswell (2009).

### **3.3. Data type, source and method of data collection**

#### **3.3.1. Types of data**

Data refers to all the information a researcher gathers for his or her study (Mugenda and Mugenda, 2003). There are mainly two types of data, namely primary data and secondary data. Primary data refers the information a researcher obtains from the field and survey and from the subjects in the sample while, secondary data refers to the information a researcher obtains from research reports. In this study, the researcher would be used primary data.

#### **3.3.2. Source and method of Data Collections**

The source of data for the purpose of this study would be the employee of banks at wolkite town (including managers and all other employees) The study would be operated questionnaires as gadget of collecting primary data. Mugenda and Mugenda (2003) depicts that the use of questionnaire method is advantageous because many of the respondents' information can be captured in an easy, quick and cost-effective manner. The questionnaire will be used to collect both qualitative and quantitative information through open and close-ended questions. The questionnaire has both open and close-ended questions. The questionnaires would be structured according to the objectives of the study.

### **3.3. Target population and sample design**

According to Dawson (2009), the correct sample size in a study is dependent on the nature of the population and the purpose of the study. Although there are no general rules, the sample size usually depends on the population to be sampled. The target population for the research involved all employees who are being employed in 11 commercial banks at wolkite town. The total population of the study is 201 populations. With regard to the research hypotheses and objective the researcher would be used non-probability sampling.

For all non-probability sampling techniques, other than for quota samples the issue of sample size is ambiguous and, unlike probability sampling, there are no rules. Rather the logical relationship between the researcher sample selection technique and the purpose and focus of research is important generalizations being made to theory rather than about a population. Consequently, the research sample size is dependent on research questions (hypotheses) and

objectives in particular, what the researcher need. In such away for the purpose this study purposive sampling technic would be employed in order to get reliable data regarding to AIS.

To calculate the sample size, formula of Yemen (1967) is used.

Based on the formula of Yamane (1967) the sample size

$$\text{was: } n = N / (1 + N (e^2))$$

e = is the error or confidence level

N = total population

n= is sample size

$$n = 201 / (1 + 201(0.05^2))$$

$$= 133.77 \approx 134$$

In circumstance, where there are relatively small population elements the sample will be tend to equal the population. In such case we can adjust the sample calculated by the formula:

$$n = n / (1 + (n/N))$$

$$= 134 / (1 + (134/202)) = 80$$

Accordingly, 80 respondents would be selected none probably from the total of 201 population of employed in 11 commercial banks.

NAME OF COMMERCIAL BANKS	EMPLOYEES	SAMPLE PROPORTION FROM TOTAL
CBE	26	11
AWASH BANK	23	10
DASHEN BANK	17	6
BANK OF ABYSSINIA	21	8
WEGAGEN BANK	19	7
UNITED BANK	16	6
COOPRATIVE BANK OF	12	4

OROMA		
BIRHAN INTERNATIONAL BANK	18	7
OROMIA INTERNATIONAL BANK	27	12
BUNNA INTERNATIONAL BANK	16	6
DEBUB GLOBAL BANK	6	3
TOTAL	201	80

### **3.4. Description of study variables measurement**

The following variables have chosen in this study to be test empirically, weather they have an effect on decision making of Ethiopia commercial banks of. The variable consists of dependent and independent variables.

#### **3.4.1. Dependent variable**

##### **3.4.1.1. Decision making**

The concept of decision making however, have been interpreted differently by different scholars. In the words of Harris (2009) decision making involves an act of identifying and ably selecting among an array of alternatives based on the inclination. A manager is only called a manager if he/she is capable of making effective decisions. Decision making depicts a process of adequately reducing uncertainty and doubt about alternatives to allow a reasonable choice to be made from within and among them.

The common understanding of decision making measurement and processes, criteria and roles avoids many of the common organizational decision blocks, allowing managers in organizations to spend their conversational energies on creating better alternatives and validating and measuring assumptions and ultimately justifying their own decisions. The framework proposed by Tanck (2008) for breaking down working and measuring decisions of virtually any size and

complexity, declaring a decision and working and measuring decision. Frames are mental construction that managers should create to simplify their decisions by reducing complexity.

Therefore this study measured decision making in the above aspects using a likert scale questionnaire.

### **3.4.2. Independents variable**

#### **3.4.2.1. Accounting information system**

Hadi (2014) has done a research on the impact of AIS on Financial statements in India company and he found out that AIS has a positive relationship between financial performance, decision making and organizational resource. Furthermore, the research which was done by Ahmad (2013) found that AIS has a positive impact on the quality of financial statements prepared and used to make objective decision.

Mesfine (2009) the study assessed the impact of accounting information in management decision making in both profit-oriented and not-for-profit organizations. The study showed that though accounting information impact differs in weight and result from organizations to organizations, it was found to have a relative impact in all types of organizations.

Moreover, studies conducted in different countries confirmed that, AIS has significant impact on Organizational performance and decision making. by Azize in Turkey, Clara in Spain and Simak in UAE those researchers stated that AIS has improved the efficiency of the organization performance. In such a way this study confirms that the results of previously conducted studies and develop the following research hypotheses.

H1; system quality (process and control) has positive and significant effect on decision making Ethiopian of commercial banks.

H2; Information quality (input control and output) and decision making have positive and significant relationship.

H3; System usage has positive and significant relationship with decision making of Ethiopian commercial banks.

H4; simplicity of use has positive and significant relationship with decision making of Ethiopian commercial banks.

H5; flexibility has positive and significant relationship with decision making of Ethiopian commercial banks.

H6; reliability has positive and significant effect on decision making of Ethiopian commercial banks

#### Measurement

Variables	Measurement
System quality	Likert scale
Usage quality	Likert scale
Information quality	Likert scale
Flexibility	Likert scale
Reliability	Likert scale
Simplicity of use	Likert scale

### 3.6. Data analyses technic

Kothari (2004) defines data analysis as the process of computation of certain indices or measures along with searching for patterns of relationship that exist among the data group. Further, Mugenda and Mugenda (2003) added that the data must be cleaned, coded and analyzed from the results of which the researcher is able to make sense of the data. Considering that, in this study two type of statistical analysis would be used to test the proposed hypotheses. These are descriptive statistics which would be used to convert the raw data in to a more meaning full form which enables the researcher to understand the ideas clearly and interpret with statistical description including standard deviation, mean, and minimum & maximum and inferential statistics/multiple regression analysis to see the effect (relationship) of explanatory or independent variables on the dependent variable.

The descriptive statistics of both dependent and independent variables would be calculated in a given observation. This helps to convert the raw data in to a more meaning full form which enables the researcher to understand the ideas clearly and then interpret with statistical description including standard deviation, mean, percentages and minimum & maximum. Then,

correlation analyses between dependent and independent variables would be made and finally a multiple linear regression would be used to determine the relative importance of each independent variable in influencing decision making of the banks. To conduct this, the researcher would use statistical tools STATA software.

### 3.7. Model specification

#### Regression model

Regression term is first used by Francis Galton in the end of nineteenth century. Regression analysis is a powerful technique for analyzing the associative relationship between a dependent variable and one or more independent variables (Malhotra, 2002).

Linear regression is a method of estimating or predicting a value on some dependent variable given the values of one or more independent variables. Like correlations, statistical regression examines the association or relationship between variables. Unlike correlations, however, the primary purpose of regression is prediction (Geoffrey M. et al., 2005). In this study multiple regressions would be employed. Multiple regression analysis takes into account the inter-correlations among all variables involved.

This method also takes into account the correlations among the predictor scores (John Adams, 2007). They added multiple regression analysis, which means more than one predictor is jointly regressed against the criterion variable. This method is used to determine if the independent variables would explain the variance in dependent variable.

**Regression Functions:** The equation of regressions on this study is generally built around two sets of variables, namely dependent variable (decision making) and independent variables (system quality, information quality and system usage). The basic objective of using regression equation on this study would be to make the study more effective at describing, understanding and predicting the stated variables. **Regress Decision making on Selected Variables**

$$Y_i = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_6 X_6 + \epsilon_t$$

$$DM = \beta_0 + \beta_1 SQ + \beta_2 IQ + \beta_3 SU + \beta_4 REL + \beta_5 FLX + \beta_3 SUS + \epsilon_t$$

Where;

DM = decision making

SQ = system quality

IQ = information quality

SU= system usage

SUS= simplicity usage

FLX= flexibility

REL=reliability

## CHAPTER 4

### DATA ANALYSIS AND PRESENTATION

#### Introduction

In the preceding chapters, the review of relevant literature helped this study to understand the problem and design an appropriate research approach to deal with. The previous chapter also discussed the research design employed to achieve the objectives of the study and to test the

research hypotheses there on. In this chapter, discuss the respondents profile, the study analyses the collected data using various statistical tools and presents the results and discussion accordingly. This chapter is organized in three sections. The first presents the result of general characteristics of enterprises. This chapter presents the findings of the study collected from employees of 11 commercial banks in wolkite town, on the impact of effective accounting information system on decision making of Ethiopian commercial banks. The unit of study was wolkite town located in Gurage Zone. The data was collected through use of researcher administered questionnaire. Accordingly, the result of descriptive statistics, correlation analysis, the test of assumption and result of the regression analysis are presented in the following sub-sections. After the presentation of findings, interpretations are made and later discussions are made to check for similarities or differences with previous published works.

#### 4.1. Descriptive statistics

This part of the research primarily present profile of respondents and descriptive statistics of dependent and explanatory variable. The dependent variable of this study is decision making and explanatory variable are system quality, system usage, information quality, reliability, flexibility and simplicity to usage. The total number of observation for each dependent and independent variable was 66. The descriptive statistics include mean, median, percentages, maximum, minimum and standard deviation for the study variable.

#### **Table 4.1 Response Rate**

The following table shows the response rate of the respondents

Respondents	Sample size	Response rate	Percent
employees	80	66	83.5%

The responses rate from the sample taken from the employees was 66 (82.5%). Gitonga and Njeru (2014) informs that response rates are more important when the studies purpose is to measure effects or make generalizations to a larger population and less important if the purpose is to gain insight. Acceptable response rates vary by how the survey is administered.

**Table 4.2 Gender of Respondents**

```
. tab gender
```

gender	Freq.	Percent	Cum.
1	24	36.36	36.36
2	42	63.64	100.00
Total	66	100.00	

Source; STATA14

Results on gender category shows that (63.64%) of respondents were male while (36.36%) were female. This shows that majority of the respondents were male.

**Table 4.3 AGES OF THE RESPONDENS**

```
. tab age
```

age	Freq.	Percent	Cum.
1	30	45.45	45.45
2	24	36.36	81.82
3	9	13.64	95.45
4	3	4.55	100.00
Total	66	100.00	

Source; Output of STATA 14

Concerning the age group of the respondents the larger portion of the respondents that is (45.45%) of the respondents are within the age interval of 25 to 30, (36.36%) of them lie in the age interval of 31-35 and (9%) lie in the range of 36 to 40 and remaining (3%) is in age above 40. This fact shows the majority of the respondents are in working age groups.

**Table 4.4 EDUCATIONAL QUALIFICATION OF RESPONDENT**

```
. tab eduquain
```

Edu Qua in	Freq.	Percent	Cum.
1	35	53.03	53.03
2	15	22.73	75.76
3	13	19.70	95.45
4	3	4.55	100.00
Total	66	100.00	

Source; Output of STATA 14

The above result shows educational qualification of the respondents, accordingly 53.3% of them are qualified in accounting and finance which indicates large proportion of the

respondents were accountant, 22.73% were economics, 19.7% management and the remaining 3% of the respondents were qualified other than the above field of study.

#### 4.2. Descriptive statistics of the study variables

This section essentially present descriptive statistics of dependent and independent variables included in this study. The dependent variable of this study is decision making and independent variable are: system usage system quality information quality reliability flexibility and simplicity of use. There are 66 respondents gave their answer for each dependent and independent variable. The descriptive statistics include mean, maximum, minimum and standard deviation of all study variables.

Table 4.5: Summary of descriptive statistics

```
. sum dm sq su iq smu rel flex
```

Variable	Obs	Mean	Std. Dev.	Min	Max
dm	66	3.666667	.5304812	1.75	4.75
sq	66	3.545455	.6398754	1.5	4.75
su	66	3.727273	.6056263	2	4.75
iq	66	3.5	.6621643	1.75	5
smu	66	1.287879	.4562439	1	2
rel	66	1.287879	.4562439	1	2
flex	66	3.511364	.5414223	1.75	5

Source; Output of STATA 14

As shown in table 4.5 above, the dependent variable of this study, decision making, have a mean value of 3.666667 and standard deviation of 0.5304812. This implies that during the study has normal accrual, on average with value of 3.666667. On the other hand, the minimum and

maximum value of 1.75 and 4.75 indicate that the bank with 4.75 of maximum have the highest decision making while with 1.75 chance have to made decision making at a minimum.

System quality is independent variable of the study, as shown on the table 4.5 has the mean value of that clearly 3.545455 displays in this study period the bank have composed, on average, 3.545455 of their system quality from the bank. The minimum and maximum independent system quality value for this decision making is show as 1.5 and 4.75 respectively, where 1.5 implies gap of system quality facility to banks and 4.75 means that at least one banks have use independent system quality facility for decision making in wolkite town town. Standard deviation value of 0.6398754 reveals the average spread from the mean value of banks system quality.

System usage of banks shows how much usage the banks have getting from different operating to made quality decision making of the banks. In this case, a mean value of 3.727273 and standard deviation 0.6056263. Besides, the minimum and maximum amount of usage on decision making of commercial banks is 2 and 4.75 respectively. This indicates that there is banks with a maximum have in order to made decision making within the banks are 4.75 and a banks with a minimum usage on decision making of the banks is 2. The other effective AIS is information quality which is another indicator of objective decision making of banks in this study. As reported in table 4.3 its mean value and standard deviation is 3.5 and 0.6621643 respectively. The maximum and minimum value for banks decision making in wolkitey town is 1.75 and 5 respectively.

As shown in table 4.3 above, reliability have a mean value of 1.287879 and standard deviation of 0.4562439. This implies that at the time of decision making of commercial banks have reliable accounting information system, on average, On the other hand, the minimum and maximum value of 1 and 2.

Flexibility of accounting information system also another independent variable that have mean is 3.511364 and standard deviation is 0.5414223, on other hand, minimum and maximum value of 1.75 and 5 that implicate the banks have to make decision respectively.

#### 4.2 Correlation Analysis

Correlation measures the degree of linear association between variables. Values of the correlation coefficient are always ranged between +1 and -1. A correlation coefficient of +1 indicates that the existence of a perfect positive association between the two variables, while a correlation coefficient of -1 indicates perfect negative association. A correlation coefficient of zero, on the other hand, indicates the absence of relationship (association) between two variables (Brook, 2008). The table below shows the correlation matrix among dependent and independent variables.

**Table 4.6: Correlation matrix of dependent and independent variables**

```
. corr dm sq su iq smu rel flex
(obs=66)
```

	dm	sq	su	iq	smu	rel	flex
dm	1.0000						
sq	-0.0708	1.0000					
su	0.4070	0.2235	1.0000				
iq	0.1615	0.0953	0.1151	1.0000			
smu	0.1642	0.0599	-0.0873	0.1528	1.0000		
rel	-0.2013	-0.0060	-0.1569	-0.1146	-0.0347	1.0000	
flex	0.6260	-0.1264	0.3791	-0.1529	-0.1380	0.1111	1.0000

Source; Output of STATA 14

This study had calculated correlation of dependent variable with the independent variables. From the table system usage, information quality, simplicity usage and flexibility had appositve correlation with decision making. System quality and reliability had negative correlation with decision making.

This relationship suggests initial picture as to the nature of the relationship between explanatory variables and decision making. As the correlation matrix indicates: flexibility and system usage (0.6260 and 0.4070 respectively) are a dominant impact on banks decision making, which is reflected in the table by moderate positive correlation with decision making. This correlation clearly shows that, as flexibility of accounting information system and accurate system usage increase, sound decision making will also moves to the same direction. Besides, the variables information quality and simplicity usage (0.1615 and 0.1642) shows a relatively weak positive correlation between decision makings. The variables system quality and reliability show a weak and negative correlation with decision making.

### 4.3. Testing Assumption

#### 4.3.1 Normality test

This assumption dictates that the errors should be normally distributed around the mean. This helps address any issues that may arise out of skewness and high kurtosis in the data, which may affect the test statistics (p, t and F). The estimations using binary models and non-parametric models do not rely on the normality of the dependent variable to produce valid outcomes. For the linear parametric models, however, a normality check becomes crucial. The data that you brought/ independent variable should be normally distributed unless it is not advisable to the regression. To Check Normality we can use *skewedness and kurtosis test and shapiro Wilk Test*

**Table 4.7: Normality test**

```
. sktest dm sq su iq smu rel flex
```

Variable	Skewness/Kurtosis tests for Normality				
	Obs	Pr(Skewness)	Pr(Kurtosis)	adj chi2(2)	joint Prob>chi2
dm	66	0.1494	0.1835	4.02	0.1338
sq	66	0.0556	0.7917	3.90	0.1420
su	66	0.0483	0.9059	4.08	0.1299
iq	66	0.3470	0.8672	0.94	0.6252
smu	66	0.0027	0.0003	17.04	0.0002
rel	66	0.0027	0.0003	17.04	0.0002
flex	66	0.8866	0.0951	2.93	0.2315

Source; Output of STATA 14

As per Brooks (2008), if the residuals are normally distributed, skewness and kurtosis test value would not be significant in that normality assumption is not being violated in the study. The rule of thumb provided by Brooks (2008) for this assumption is that P value from the test must be above 0.05 to say that violation of this assumption is not occurred in that residuals are normally distributed.

#### 4.3.2 Multicollinearity test

According to Gujarati (2004) infers in the assumption of the classical linear regression model in that there must be no Multicollinearity or no relation of one independent or explanatory variable with another one unless the assumption is violated. As a definition taken from Brooks (2008) also Multicollinearity occurs when there is an exact linear relationship among explanatory variables and in this case, it fails to determine the explained or dependent variable. To say explanatory/independent variable are not related or there is Multicollinearity; Rule of thumb: Variance inflation factors (VIF) revealed that tolerance is greater than 0.1 in that mean VIF. And if the value of  $1/Vif$  is  $> 5\%$ , there is no problem of Multicollinearity. Or Tolerance level should be above one.

As indicated below this table Variance inflation factors (VIF) of all independent variables are more than 0.1 revealed that tolerance is greater than 0.1 in that mean VIF, which is 1.18 and the value of  $1/VIF$  of all explanatory variables are greater than 5% or 0.05. Accordingly there is no problem of Multicollinearity or tolerance level is above 1.

**Table 4.7: Test of Multicollinearity through variance inflation factor**

Variable	VIF	1/VIF
su	1.39	0.717430
flex	1.34	0.746939
sq	1.12	0.889088
iq	1.09	0.918616
rel	1.07	0.931400
smu	1.05	0.955674
Mean VIF	1.18	

Source; Output of STATA 14

Kennedy (2008) also suggests that any correlation coefficient above 0.7 could cause a serious Multicollinearity problem leading to inefficient estimation and less reliable results. This indicates that there is no a single agreed upon measure of Multicollinearity. In this research paper the researcher had six explanatory variables. The table below shows the correlation result for all the independent variables in this research

**Table 4.8: Test of Multicollinearity by Correlation Matrix of X variables**

```

. corrr sq su iq smu rel flex
(obs=66)

```

	sq	su	iq	smu	rel	flex
sq	1.0000					
su	0.2235	1.0000				
iq	0.0953	0.1151	1.0000			
smu	0.0599	-0.0073	0.1528	1.0000		
rel	-0.0060	-0.1569	-0.1146	-0.0347	1.0000	
flex	-0.1264	0.3791	-0.1529	-0.1380	0.1111	1.0000

Source; Output of STATA 14

The method used in this study to test the existence of Multicollinearity was by checking the correlation between the independent variables.

The correlations between the independent variables are shown in table 4.8 above. All correlation results are below 0.75, which indicates that Multicollinearity is not a problem for this study.

### 4.3.3 Heteroscedasticity

It is a test made to check whether error terms variance is constant (homoscedasticity) or not (heteroscedasticity). To test for the presence of heteroscedasticity, the popular white test was employed (Brooks 2008). One of the important assumptions of the multiple regressions reveals that the variance of the disturbance term is constant. This is called the assumption of homoscedasticity. If disturbance terms (errors) do not have constant variance, they are said to be heteroscedasticity (Gujarati, 2004).

**Table 4.9: Test of Heteroscedasticity**

```
. hettest sq su iq smu rel flex
```

Breusch-Pagan / Cook-Weisberg test for heteroskedasticity

Ho: Constant variance

Variables: sq su iq smu rel flex

chi2(6) = 13.64

Prob > chi2 = 0.0339

Source; Output of STATA 14

In this case as presented in table 4.9, both the F-statistic and Chi-Square versions of the test statistic gave the same conclusion that there is evidence for the presence of heteroscedasticity in this particular study, since the p-values are considerably less than 0.05. Therefore, the null hypothesis that the variance of the errors is constant (homoscedasticity) should be rejected.

## 4.4 Analysis and Interpretation of Regression Result

This part presents the result of regression. Six independent variables and one dependent variable are included in the model.

**Empirical model:** the empirical model used in the study in order to identify the impact of accounting information system on decision making.is:-

$$DM = \beta_0 + \beta_1SQ + \beta_2SU + \beta_3IQ + \beta_4SMU + \beta_5REL + \beta_6FLEX + \epsilon_t$$

### Table 4.10 Regression result

```
. regress dm sq su iq smu rel flex
```

Source	SS	df	MS	Number of obs	=	66
Model	10.6433597	6	1.77389178	F(6, 59)	=	13.68
Residual	7.64831598	59	.129632474	Prob > F	=	0.0000
				R-squared	=	0.5819
				Adj R-squared	=	0.5393
Total	18.2916667	65	.281410256	Root MSE	=	.36005

dm	Coef.	Std. Err.	t	P> t	[95% Confr. Interval]
sq	-.0425038	.0740172	-0.57	0.568	-.1906118 .1056041
su	.1170185	.0870574	1.34	0.184	-.057183 .2912199
iq	.1522085	.0703668	2.16	0.035	.0114049 .293012
smu	.270377	.1001263	2.70	0.009	.0700247 .4707293
rel	-.2599375	.1014178	-2.56	0.013	-.462874 -.057001
flex	.6416602	.095438	6.72	0.000	.4506891 .8326313
_cons	.5819257	.5235942	1.11	0.271	-.4657838 1.629635

Source; Output of STATA 14

On the above regression outputs the beta coefficient may be negative or positive; beta indicates that each variables level of influence on the dependent variable. P-value indicates at what percentage or precession level of each variable is significant. The R-squared value measures how well the regression model explains the actual variations in the dependent variable (Brooks, 2008).

R-squared statistics of the model was 58.19%. These indicate that explanatory variables included in this model could explain variation in the dependent variable by about 58.19 percent. The remaining 41.81 percent can be taken as the role of explanatory variables that are not included in this model but that have impact on banks decision making.

The regression F-statistic (6.59) and the p-value of zero attached to the test statistic reveal that the null hypothesis that all of the coefficients are jointly zero should be rejected. F-probability of 0.000 indicates that the model fit the sample data well and the explanatory variables are jointly significant. All the independent variables jointly have statistically significant impact on

banks decision making. Thus, it implies that the independent variables in the model were able to explain variations in the dependent variable.

The coefficient for system quality is -0.0425038 on decision making indicates that system quality of a given banks had negative relationship with decision making but the relationship is not significant at 5% level of significant. The coefficient for system usage is 0.1170185 on decision making indicate that the level of system usage in a quality manner with the bank had positive relationship with decision making and the relationship is not significant at 5% level of significant. The coefficient for information quality is - 0.522082 on decision making indicate that the information quality from the financial statement of the banks had a positive relationship with decision making and it is significant at 5% level of significant.

The coefficient for simplicity usage is 0.270377 on decision making indicate that simplicity usage had a positive relationship with decision making and insignificant effect at 5% level of significant. The coefficient for reliability is -0.2599375 on decision making indicate that the reliability of accounting information had a negative relationship with decision making and the relationship is significant at 5% level of significant.

The coefficient for flexibility is 0.6416602 on decision making indicate that flexibility had a positive relationship with decision making and significant effect at 5% level of significant.

The negative relationships indicate that there is an inverse relationship between the two independent variables and decision making. Thus, the increase of those variables will lead to a decrease in decision making. On the other hand, the positive relationships indicate that there is a direct relationship between the other four independent variables and decision making.

The increase of these variables will lead to an increase indecision making.

## 4.5 Discussion of Regression Result

**Table 4.11 Marginal Effect**

. mfx							
Marginal effects after regress							
y = Fitted values (predict)							
= 3.6666667							
variable	dy/dx	Std. Err.	z	P> z	[	95% C.I.	]
sq	-.0425038	.07402	-0.57	0.566	-.187575	.102567	3.54545
su	.1170185	.08706	1.34	0.179	-.053611	.287648	3.72727
iq	.1522085	.07037	2.16	0.031	.014292	.290125	3.5
smu	.270377	.10013	2.70	0.007	.074133	.466621	1.28788
rel	-.2599375	.10142	-2.56	0.010	-.458713	-.061162	1.28788
filex	.6416602	.09544	6.72	0.000	.454605	.828715	3.51136

Source; Output of STATA 14

Thus, based on the result in above Table, the following model was developed to examine the impact of effective accounting information system on banks decision making.

$$DM = 3.6666667 + -0.0425038 SQ + 0.1170185SU + 0.1522085IQ + 0.270377SMU - 0.2599375REL + 0.6416602 + \epsilon$$

The following section provides a brief analysis of the results for each independent variable and their importance in examining the impact of effective accounting information system on banks decision making.

### System quality and banks decision making

System quality is the technical side of the system and is a collection of calculations, Logical comparison, summarization, classification, and sorting performed on entered data with a view to converting it into information provided to the final beneficiary.

According to the regression result in the table above system quality, measured by five likert scale had a negative relationship with decision making with a coefficient estimate of -0.425038 and it is insignificant at 5% level of significant with p value of 0.566 which is greater than 5%. The statistical result was not in line with the expectation (working hypothesis) of the researcher. So, the result supported the rejection of the working hypothesis that system quality has a positive and significant influence on decision making. The implication of this result is that system quality has not significant influence on decision making and the insignificant result indicates that system quality was not considered as a proper explanatory variable of banks decision making.

### **System usage and banks decision making**

The level of system usage with in the bank, measured by five proxies of Likert scale, was positively but statistically insignificant at 5% significance level (p-value=0.179) which is in line with not a prior expectation or it will reject the working hypothesis, which argues, the proper usage of system with in a banking industry in relation to decision making has a positive but insignificant impact on banks decision making. And it was considered as not a proper explanatory variable of

### **Information quality and decision making**

Information quality is represent a system works results that access, and the information is communicated to beneficiaries according to different formats such as reports, tables, lists and diagrams, these Information is called the outputs of the information system.

The process of measuring the response of beneficiaries of accounting information system, to make sure that the system perform its functions as it is supposed to be designed

The regression result above shows that information quality of a given banks has statistically significant and positive impact on decision making. This result is in proper with the result

expected by the researcher that information quality has a positive and significant impact on decision making. Therefore, working hypothesis of the research, information quality of a given banks has positive and significant impact on decision making is accepted.

### **Simplicity use and decision making**

Simplicity of use is an appropriate design of AIS that secure supports business strategies in ways that increasing the company profitability and improve performance; this design should be described with the easiest in input the data and with easiest way to understand the outputs (Samuel, 2011).

As far as simplicity of use is concerned the regression result of Marginal effect model as reported in table 4. 11 above clearly show that simplicity of use has statistically significant positive impact on decision making of banks. This result indicates that the null hypothesis of the study is not rejecting, since the p-statistic value is less than 0.05. This implies that banks decision making will influenced bysimplicity of use of accounting information system, which leads to the accepting of the working hypothesis of the study, simplicity of use positive and significant influence on decision making.

### **Reliability and decision making**

Reliability means the completeness of information, so the accounting information system should be described with comprehensive, and the numbers exactly represent what actually happened, in other words any person use the same inputs should arrive for the same result

Reliability was negatively but statistically significant at 5% significance level (p-value=0.010) which is in line with a prior expectation or it will not reject the working hypothesis, which expect that , the reliability of accounting information system has significant and positive impact on banks decision making.

### **Flexibility and decision making**

Flexibility mean the degree of consistent with its environment and organizational structure, or how carry out the financial operations without any complications during the work. Therefore the accounting information system should have the ability to adapt and change in the company depending on its needs, operations, and management.

According to the regression table flexibility is positively related with decision making with a coefficient estimate of 0.6416602. And the p value of flexibility is 0.000, reveals that it is statistically significant at 5% level of significance. According to regression result the hypothesis that there is significant and positive relationship between flexibility accounting information system and decision making was supported.

**Table 4.12 Summary of Hypothesized and Actual Impact**

Independent variables	measurement	Expected relationship with decision making	Actual result	Statistical significance test	Hypothesize status
System quality	Likert scale	Positive	Negative	Insignificant at 5%	Reject
System usage	„	Positive	Positive	Insignificant at 5%	Reject
Information quality	„	Positive	Positive	Significant at 5%	Accept
Simplicity of use	„	Positive	Positive	Significant at 5%	Accept
Reliability	„	Positive	Negative	Significant at 5%	Accept
Flexibility	„	Positive	positive	Significant at 5%	Accept

## **CHAPTER FIVE**

### **CONCLUSSION AND RECOMANDATION**

#### **5.1 Introduction**

The preceding chapter presented the results and discussion, while this chapter deals with conclusions and recommendations based on the findings of the study. Accordingly, this chapter is organized into two subsections namely conclusion and recommendation. For clarity purpose, the conclusions are based on the research objectives of the study. Based on the findings of the study recommendations are made to the banking industry o and suggestion for other researchers.

#### **5.2 Conclusions**

This research was conducted in wolkite town with the prime intent of critically inquiring the impact of effective accounting information system on banks decision making. To achieve the intended objective, the study used mixed methods by combining quantitative and qualitative approaches together. Qualitative data were collected by using questionnaires. The collected data were analyzed by employing using statistical package STATA 14.

Specifically, the study attempted to examine the banks how to made effective decision making with the help of accounting information system, to investigate contextual factors, to assess the internal factors and to recommend possible solution to alleviate the problem of decision making. Based on the objectives and findings of the study, the following conclusions are worth drawn.

To do so the empirical analysis, one dependent variable, and six independent variables were selected from prominent previous research works on accounting information system. The results of the model showed the existence of the following relationship between decision making and six independent variables.

System quality had statistically insignificant negative relationship with banks decision making, which was in not line with prior expectation. This result implies that system quality of accounting information system related to decision making is not significant to increase the quality decision making institutions. A negative sign suggests that gender has opposite relation with financial inclusion. In contrast, system usage had a positive and statistically insignificant relationship with decision making, which was not match with the expected results. Regarding to the effect of information quality on decision making, the result shows that as there was positive and statistically significant relationship with decision making, which is in line with prior expectation. Besides, the results of study indicated that simplicity of use had statistically significant positive relationship with decision making, which was consistent with the researcher prior expectation. The result implies that simplicity use of accounting information system had significant effect on the banks decision making.

The impact of reliability is negative but statistically significant. The relationship between reliability and decision making are significant and negative. This result was also consistence with prior expectation and other studies which reveals significant impact. Regarding the impact of flexibility the result shows that it has appositve and statistically significant influence on decision making, which was consistent the researcher prior expectation.

In conclusion, the finding of the study suggests that information quality, simplicity of use, reliability and flexibility were important variables that influence banks decision making. However, there was no support of system usage and system quality influencing the level of decision making of Ethiopia commercial banks.

## 5.2. RECOMMENDATIONS

The analyses of the study indicated that information quality, simplicity of use, reliability and flexibility was significantly related to banks decision making. In line with this result the researcher recommended the following points to increase objective or sound decision making.

The recommendations demand an in-depth analysis in what extent influenced of decision making regarding the effective accounting information system. Based on the findings and conclusions of the study, the following recommendations are forwarded.

- ❖ Accordingly the banks should be design effective accounting information system in order to the production of quality accounting information on a timely basis and the communication of that information to the decision makers.
- ❖ The employee of a given banks should be trained to be have efficient skill about accounting information system for the purpose of how to operate the system and finally contribute their views for decision making.
- ❖ As the important of Accounting Information System (AIS) on banks' decision making is been revealed, bank should adopt more on AIS in order to achieve more in their performance, hence the banks should provide a platform for regular training and development of staffs, in order to keep them abreast in AIS world.
- ❖ Throughout working on this study, some suggestions concerning the expansion of the present study have arisen. First, I would suggest similar studies to be done in more companies in order to compare the findings with the findings of this study. It would shed more light than just a case of selected banks. Finally, a similar study could also be carried out focusing on impact of effective accounting information system on decision making or even challenges faced during implementation of accounting information systems in the banks.

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## APENDEX

### QUESTIONNAIRE

#### *WOLKITE UNIVERSITY*

#### **COLLEGE OF BUSINESS AND ECONOMICS**

#### **DEPARTMENT OF ACCOUNTING AND FINANCE**

#### **Dear respondents**

I, Abel Wendaferew currently working a research entitled impact of effective accounting information system on decision making of Ethiopia commercial banks. The purpose of the study is for partial fulfillment of the requirement of BA degree in accounting and finance. This research project is to investigate the impact of effective accounting information system on decision making of Ethiopia commercial banks in wolkite town. The information you provide will be used only for the purpose of the study and will be kept strictly confidential with the researcher. Therefore for the successful accomplishment of the study your response will have pivotal role by being used as valuable input for the study.

There is no need to write your name. Please indicate your answer with “☐” make and write important information when it is needed. The researcher would like to thank in advance for your valuable information.

### Part 1, Personal Information

1. Gender      Female      male  

### 2. Age

1. 20-30 years old  

2. 30-40 years old  

3. 40-50 years old  

4. Older than 50 years old  

### 3. Education qualification

1. Accounting  

2. Economics.  

3. Management.  

4. Others...  

### Part 2 main questions

please answer questions below by putting (√) symbol on the appropriate blank cell. 1 for „strongly disagree“, 2 for „disagree“, 3 for „no option“ 4 for „agree „and 5 for „strongly agree“.

Scale						
Symb ol	Questions	1	2	3	4	5
Question related to DM						
	The company decision making has been improved due to effective AIS					
	The company has been reporting increased the financial decision.					
	AIS provide helpful guidance in performing task and made sound decision making. I					
	the data which is generated from AIS is  Accurate used to make objective decision.					
Question related to SQ						
	System quality performs various functions that aid operations.					
	Updating of the existing system which were used for a long period of time by the given banks are suitable to prepare quality accounting information.					
	Adequate system usage with in the bank used to produce qualified information and positively impact on decision making.					
	AIS usage helps us to provide effective customer services and decision making it depends.					
	AIS is very fast in computing transactions and prepare accurate information					

Question related to IS						
	Information system Provide detail information about the service provided by the banks and understands what decision is made.					
	Provides accurate data to prepare financial statement is depends on the information system and indirectly affect the banks decision making.					
	Provides financial information assisting in the planning of financial resources					
	Quick and timely accounting information delivery to the stakeholder through quality information system are supported the management decision making.					
Question related to FLEX						
	If AIS are flexible, to suit organizational Changes and the bank decide depends on the changes.					
	Flexibility of accounting information system Provides periodic and regular financial reports.					
	Flexible accounting information system is adhere the response time fast and made sound decision.					
	Information produced by AIS is easy to understand and made sound decision.					
	AIS software are fit made, which are made to undergo automated job.					

### Part 3 main questions

1. Simplicity use of accounting information system by the employees of the bank increase the accuracy of accounting information or financial statement and management staff are made objective decision

1 Yes

2 No

- 2 If you are saying yes in question (1) try to explain the financing, investing and dividend decision

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2. Reliable accounting information system is one measure of bank's accurate and valuable financial statement.

1 Yes

2 No

If you are saying yes why?

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