



**THE ROLE OF MANAGEMENT INFORMATION SYSTEM
ENHANCING BANKING SERVICE: IN CASE OF
COMMERCIAL BANK OF ETHIOPIA UNDER EAST ADDIS
ABABA DISTRICT.**

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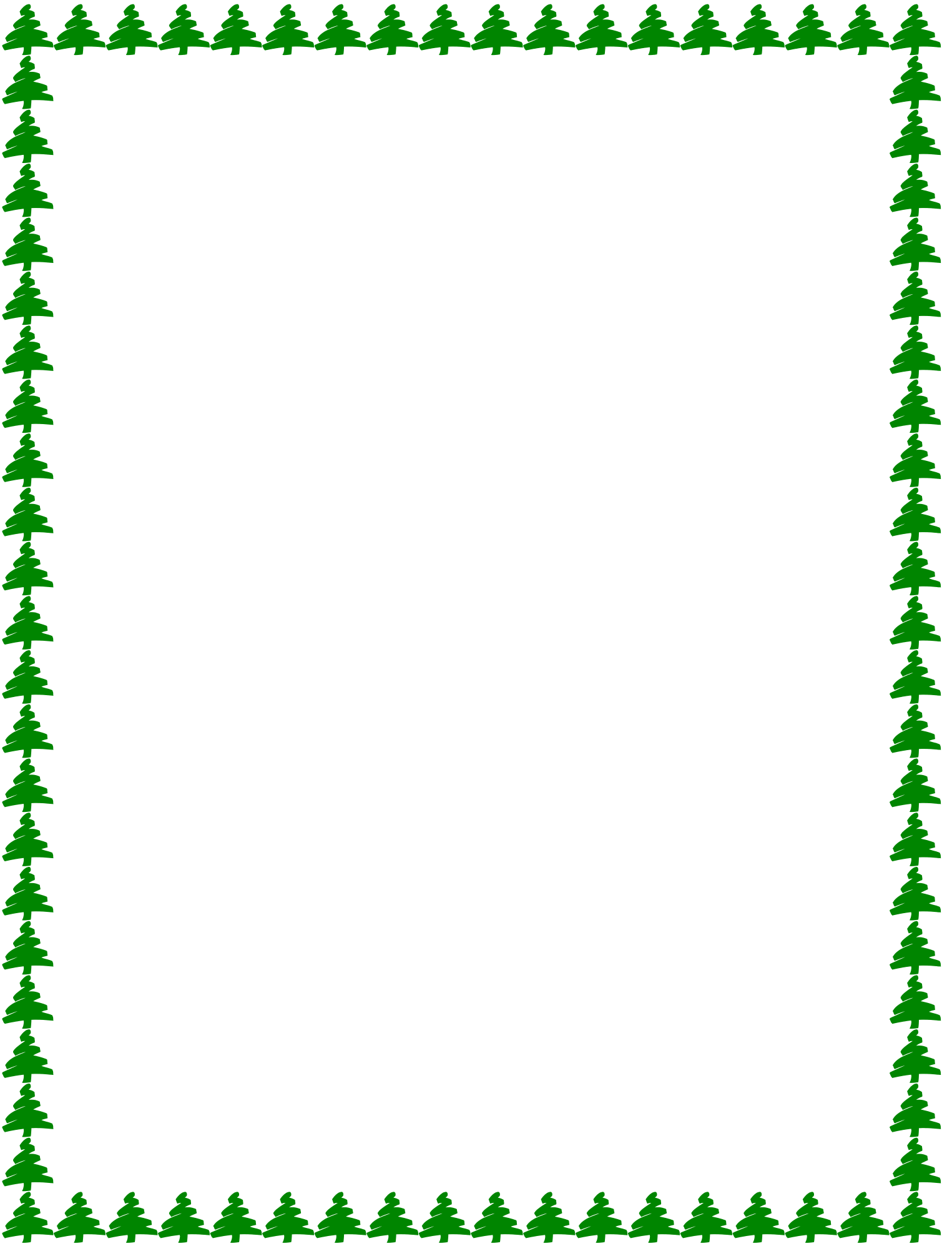
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As members of Board examiners of the final MSc. Thesis open defense examination, we certify that we have read and evaluated the thesis prepared by **Shegade keyo** entitled “**The role of Management Information system Enhancing Banking service** and examined the candidate. We recommend that thesis be accepted as fulfilling the thesis requirement for the degree of masters of Science in MBA.

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DECLARATION

I, ShegayeKeyo hereby declare that the Research paper for *The Role of Management information system enhancing Banking service : (The Case of commercial Bank of Ethiopia East Addis Ababa District)* is my original work and has not been presented for a degree in any other university and that all sources of material used for the project have been duly acknowledged.

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CERTIFICATION

This is to certify that the thesis prepared by Shegayekeyo entitled “The role of Management Information Systems enhancing banking service : The Case of Commercial Bank of Ethiopia” East Addis Ababa District Submitted to Debre Berhan University department of management in Partial Fulfillment of the Requirements for the Degree of Masters of Business Administration Complies with the Regulations of the University and Meets Accepted Standard with respect to Originality and Quality.

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“A journey is easier when you travel together”

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ShegayeKeyo

Name

Signature

Date

LISTOF ACRONYMS

CBE–Commercial Bank of Ethiopia

EAAD–East Addis Ababa District

IS – Information Systems

EDP - Electronic Data Processing

MIS – Management Information Systems

DSS – Decision Supporting Systems

EIS - Executive Information Systems

IT – Information Technology

EIS – Expert Information Systems

HRMIS – Human Resource Management Information Systems

FIS - Financial Information Systems

ICS- Internal control systems

CMIS- Credit Management Information systems

RCIS- Risk Control Information Systems

MMIS-Marketing Management Information Systems

GIS- Geographic Information Systems

I/ES – Internet and Extranet Systems

CRM – Customer relationship management

ABSTRACT

Banking industry plays a key role in investment and growth for the development of different industries in our glob. Because MIS play a key role in determining the degree of success and affect the competition position of commercial banks in the world, which has connection with globalization, and thus, this issue needs investigation. Therefore, the main purpose of this study was to examine the role Management information system enhancing banking service in case of commercial bank of Ethiopia under East Addis Ababa District. In order to meet the objectives of the study, different statistical techniques were employed on the basis of the basic questions stated and on the nature of the data collected. Consequently, the data collected from the respondents were analyzed quantitatively and qualitatively. Due to the small in number of the population, the total populations were taken as a sample via purposive sampling method. out of 89 of the total population the branch manager accounts for 18 and the rest 71 were customer service manager at grade four branches. Documents were also analyzed to supplement the quantitative data. The data obtained through the questionnaire were analyzed using frequency, and percentages. This study employed more quantitative case study method to answer research questions some qualitative to respond semi structured interview. The findings revealed that MIS are available and automated to support management decision as well. And managers' decision making processes in commercial bank of Ethiopia were highly influenced by the availability and utilization of management information system in order to achieve their organizational goals and objectives. Furthermore, the study revealed that majority of management information systems available and used for the demand scheduled alternative reporting. This shows that the verification of management information system is important in management decision making process in the bank. It also used in medium and short term decision plan, which leads to better planning, better decision making and better results. This implies that there is a major influence of management information systems' on decision making of managers. Therefore, it is recommended that commercial bank of Ethiopia should make relevant management information systems availability on time to help managers use for decision-making and enhance banking service .

Keywords: *Banking service, Commercial Bank of Ethiopia ,MIS availability and managers decision making.*

CHAPTER ONE

1. INTRODUCTION

1.1. Background of the Study

In modern days, a large number of organizations cannot operate successfully without the proper implementation of MIS. With the help of MIS, organizations can get the right information to improve the cooperation and intercommunication between institutions and peoples (Mamary, Shamsuddin, & Aziati, 2014). MIS enables information to flow between departments immediately, shortening the requirement for direct intercommunications between members, thus MIS enables to increase the performance and effectiveness of the organization (Nath, & Badgujar, 2013). MIS is certainly a major tool in each organization, which intends to bring dependable, thorough, available, and accurate data to system's user on time. MIS facilitate tasks mechanization. Mechanization significantly improves organizational workflow (Mamary, Shamsuddin, & Aziati, 2014). MIS has three dimensions- organization, management, and information technology (Laudon, 2016). Successful implementation of Management Information Systems primarily depends on organizational factors, Management factors, and Technological factors. These three main dimensions also interact with each other's, and they cannot operate independently without the help of another dimension.

The main motivation for this paper is based on the fact that many organizations are trying to adopt Management Information Systems to increase their efficiency and improve their decision making. Three factors named organization, management, and technological factors affect the successful execution of MIS. This paper aims to make discussion on these factors, and it demonstrates how they are interrelated with each other. Recently, due to a significant decline in the cost of information technology (IT) and greatly improved speed and power of computers, MIS moved from its traditional role as an application of back office support to one offering opportunities for gaining significant competitive advantage. It is being increasingly viewed as having the capability to alter core organizational directions, reorient corporate strategy, and redefine industry structure.

In recent years, there has been increased awareness among organizations of the potential of IT and use of MIS to exploit its potential and use it effectively. Many successful local financial institutions like Eastern Bank Ltd., The City Bank Ltd, Brac Bank have clearly demonstrated that information systems and technologies can be a powerful competitive weapon that can be used to capture market share, improve customer service, reduce operating costs, and create new products and services. Currently, organizations are in the race for enhancing their capability in order to survive in the competitions of the new century global market. Therefore, organizations are attempting to advance their agility level by improving the decision making process to be more efficient and highly effective to meet the successive fluctuations of the market. In an effort to achieve this, many modern organizations, either mid or large sized, have concerned with a cycle of progressive investments in and adopted new management information system components. During last decade, a high percentage of financial organizations frequently used Management Information Systems to facilitate the provision of services; and that the speed of the adoption is expected to grow further as the technology expands.

In a Bank's information system, there is always a potential crisis which makes the bank endure an insufficiency; thus, an advanced information system supported by a superior mechanism control is required to make certain that an information system has achieved the required processes. If the relevant information required in a decision-making process or an organization planning is not available at the appropriate time, then there is a good change to be a poor organization planning, inappropriate decision-making, poor priority of needs, and defective programming or scheduling of activities (Adebayo, 2007).Information is essential for the endurance of a financial organization in the global and competitive market. The nature of globalization and competitiveness in the market stress on the importance of developing an organization capability through better enhancing MIS. Accordingly, the stored information must then be recalled and distributed for the use of an organization leadership and top management as well as mid-level managers to take effective long term (strategic) and short term (Tactical) decision-making. MIS is deemed to be a system which provides organizations top management and, even lower level management, with appropriate information based on data from both internal and external sources, to allow them to make effective and timely decisions that best achieve their organization goals and satisfy stakeholder requirements (Argyris, 1971).

In the past decade, developing countries have been encouraged to reform their public and private expenditure management systems and have increasingly embarked on major projects to computerize their business operations. In 2006, a paper by the Kennedy School of Government presents a case study of Ethiopia as an illustration of a successful and to some extent unconventional approach to automating public and private financial systems. This case study is especially interesting as it challenges the traditional wisdom usually associated with such schemes. Actually in Ethiopia, the automation process faced major challenges of resource, capacity, infrastructure, changes in government and IT development dependency on foreign aid policies. In actual sense, one of the critical functions of managers in corporate banking beside business planning and controlling is decision-making. Information provides decision makers with the means of altering the degree of uncertainty in decision-making situations (Klein, 1998). Klein has emphasized on the importance of information in decision making by suggesting that the key to a good decision is 90% information and 10% inspiration. This indicates that electronic banking services facilitated by various information technologies offers numerous benefits for every country for supporting economic development as well as decision making through efficient financial services.

In addition, the poor implementation of management information system of banks often results in excessive risk-taking through operating expenses, inadequate administration of loan portfolio, an overly aggressive growth policy to attract deposits, and poor communication between stockholders coupled with other instances of poor judgment that results stress in the banks. It must be noted that deregulation of the financial sector in any economy is driven. For these reasons, the bank managers need accurate, reliable, complete, efficient, and timely information to manage uncertainty associated with their business operations and to make rational decisions. The quality of service offered and quality of decisions made by the managers in commercial bank of Ethiopia East Addis Ababa especially on credit management, conflict resolution, financial products and service planning and development, human resources management, portfolio management, choice of suitable business plan investment analysis, insurance policy, risk assessment, marketing strategy to adopt, the use of appropriate information and communication

technologies, etc depends on availability of information and how well they use available information produced from information system developed in the bank. The risks associated with business operations of banks at the current time in Ethiopia are enormous. Macroeconomic problems such as inflation rate, exchange rate, unemployment rate, debt stock, debt service rate, and export and import growth rates coupled with political instability and poor banking culture adversely affect quality of the Commercial bank of Ethiopia's business performance. It would be of interest to note that manager's monitor and evaluate trends in their business environment through internal and external channels of information available and accessible to them by using modern information technology.

1.2 Background of Commercial Bank of Ethiopia

The establishment of banks in Ethiopia traces its origin to over 100 years. The agreement that was reached in 1905 between Emperor Minelik II and Mr.MaGillivray, representative of the British owned National Bank of Egypt, marked the introduction of modern banking in Ethiopia. Following the agreement, the first bank called Bank of Abyssinia was inaugurated on Feb.16, 1906 by the Emperor. The Bank was totally managed by the Egyptian National Bank (Girma, 2011). Bank of Abyssinia was legally replaced by Bank of Ethiopia shortly after Emperor Haile Selassie came to power. The new Bank, Bank of Ethiopia, was a purely Ethiopian institution and was the first indigenous bank in Africa and established by an official decree on August 29, 1931 with a capital of £750,000 (Girma, 2011).

The National Bank of Ethiopia with more power and duties started its operation in January 1964. Following the incorporation as a share company on December 16, 1963 as per proclamation No.207/1955 of October 1963, Commercial Bank of Ethiopia took over the commercial banking activities of the former State Bank of Ethiopia. It started operation on January 1, 1964 with a capital of Eth. Birr 20 million. In the new Commercial Bank of Ethiopia, in contrast with the former State Bank of Ethiopia, all employees were Ethiopians. Following the declaration of socialism in 1974 the government extended its control over the whole economy and nationalized all large corporations. Organizational setups were taken in order to create stronger institutions by merging those that perform similar functions. Accordingly, the three private owned banks, Addis Ababa Bank, Banco di Roma and Banco di Napoli were Merged in 1976 to form the second

largest Bank in Ethiopia called Addis Bank with a capital of Eth. birr 20 million and had a staff of 480 and 34 branches. Before the merger, the foreign participation of these banks was first nationalized in early 1975.

Proclamation No.99 of 1976 brought into existence the Agricultural and Industrial Bank, which was formed in 1970 with a 100 percent state ownership, was brought under the umbrella of the National Bank of Ethiopia. Then it was reestablished by proclamation No. 158 of 1979 as a public finance agency possessing judicial personality and named Agricultural and Industrial Development Bank. It was entrusted with the financing of the economic development of the agricultural, industrial and other sectors of the national economy extending credits of medium and long-term nature as well as short-term agricultural production loans (Girma, 2011). Monetary and Banking proclamation No.83/1994 and the Licensing and Supervision of Banking Business No.84/1994 laid down the legal basis for investment in the banking sector. Consequently after the proclamation there is such a move in flourishing of private banks and branch expansion, Ethiopia remains one of the under-banked economies even by the standard of Sub-Saharan African countries. As we understand from the historic event Commercial Bank of Ethiopia stands to be the merger of several banks. By virtue of that it is the biggest bank of Ethiopia that was handling the entire commercial banking sector. As noted by the bank management during the primary discussion Commercial Bank of Ethiopia is the pioneer in the banking industry of Ethiopia and currently having around 1243 branches all over the country. Commercial Bank of Ethiopia combines a wide capital base with more than 35,000 talented and committed employees. It is also the Pioneer to introduce western union money transfer services in Ethiopia. The bank has reliable and long-standing relationships with many internationally acclaimed banks throughout the world.

Initially banks were lacking service attitude but due to rapid increase and advancement in the banking services, the concept of management information system has been introduced. Banks could compete with rivals in financial products, offering flexible timings, low credit interest rate and high deposit return but offering quality customer services is the competitive advantage to those banks which offered best quality services because now customers are well known about their rights and everyone wants to be provided with best services by their banks. To meet customers' expectations in exchange to the price they pay and retain competitive edge is merely

a real challenge to Commercial bank of Ethiopia. because customers learn from their experience and if their level of service expectations decreases it affects customers' satisfaction. Studies also reveal that high level of management information system leads to high profitability of the organization (Czepiel, 1990). Service quality is consequently studied in the studies as a major construct of customer satisfaction and revealed that it is the customer satisfaction that affects the success and performance of any organization. In this perspective services delivered to customers are necessary to be evaluated from their own perspectives rather than the bank management own perspectives.

1.3. Statement of the Problem

Banking industry is consequently put into lot of pressures towards increase in global competition. Different strategies are formulated to retain the customer and the key of it is to increase the service quality level. Typically, customers perceive very little difference in the banking products offered by banks dealing in services as any new offering is quickly matched by competitors. Parasuraman (1985) and Zeithaml (1990) noted that the key strategy for the success and survival of any business institution is the deliverance of quality services to customers. The quality of services offered will determine customer satisfaction and attitudinal loyalty (Ravichandran, 2010).

The trade liberalization and globalization have resulted in keen competition among firms and industries. The Ethiopian banking industry is not exempted especially with the proliferation of banking and financial institutions in the country. With the availability of goods and services, organizations need proactive strategies, the absence of which can lead to a steady decline of market share (Collier, 2006). Before the developments of modern information system, traditional decision making processes had been under taken in the forms of haphazard management technique. Such kind of decision making which was random selective alternative did not bring solution for management decision and identified organization problems. This try and error activity in the past had resulted in bankruptcy to organizational performances.

Now days, MIS provide regular information to managers to allow them to make decisions based on data rather than guesses. Currently, in developed countries the way of doing works and the

managers' decision making processes has changed dramatically. As MIS has developed, the availability and utilization of information for decision making processes will increase efficiency and effectiveness of banking operation. The information technology simplifies the use of decision making to integrate the functional units of the organization and disseminate the information among each unit. The concept of electronic banking services was benefited associated with electronic transactions between banks and their clients, or, realizations of electronic system of payment are developed specially in well developed countries. This is because bank managers daily have to take job-related decisions in order to provide value-added services to their clients. The development and uses of MIS is a modern phenomenon concerned with the accessible and appropriate information that will lead to better planning, better decision making and better results in developing countries like Ethiopia. In spite of the management information systems development, it is not well accepted due to different resistance which arises from different factors. But it is not an exaggeration to state that MIS is the lifeblood of management. Ajayi and Omirin (2007) investigated the use of MIS in decision-making on long-term planning, short term planning and budgeting in the commercial banks of Nigerian. The authors said that, "the use of management information systems has a great importance in improving business operations in terms of reducing time and cost as well as increasing competitiveness." In the same way, in case of Commercial bank of Ethiopia, the utilization of MIS in management decision making process has also great importance if well available and utilized effectively and efficiently. But as current practice shows, there is a gap in the availability and utilization of MIS in management decision making process in Commercial Bank of Ethiopia. MIS has been viewed by its practitioners as playing only a supportive role. Thus, commercial bank of Ethiopia will have a lot of advantages if they use management information systems effectively and efficiently. The Study of (Karim, 2011) Title is " The Significance of Management Information Systems for Enhancing Strategic And Tactical Planning ", this study investigates the contribution of management information systems (MIS) only for decision making. the rest role of MIS has been missed in the study. The gap of the study has initiated the researcher to assess how management information systems availability and utilization affect management decisions making and enhancing banking service. Based on this, the rationale of this study was to find out the role of management information systems in commercial bank of Ethiopia EAAD, which has tremendous importance since they are blood vessels of the country's

economy and the use of management information systems effectively and efficiently will boost their performance. to some lesser extent the the study used to support researchers to address service excellence and business growth problems.

1.4. Objectives of The study

The general objective of this study was to examine the role of management information system enhancing banking service.

The study has also the following specific objectives.

- To examine how management decision support system contributes for enhancing banking service.
- To identify the extent to which marketing management information system solve the problem of banking operation.
- To see the availability of human resource management information system in banking service
- To examine how computerized management information system i.e information technology, and internet/intranet system contributes for the enhancement of banking service.

1.5. Research Questions

This study has been guided by the following research questions:

- What is the role of management information system in the Management decision support system?
- How human resource management information system affects banking service?
- To what extent that the marketing management information system solve the problem of banking operation?
- How computerized management information system contributes for the enhancement of banking service?

1.6. Significance of the study

A-Theoretical importance: The significance of the study by highlighting the theme "The role of Management Information Systems enhancing banking service in CBE East Addis Ababa District. Not only this but also in this study set of results placed and recommendations contribute to enriching the subject, as it helps to identify all obstacles impeding the implementation of management information systems in the commercial Bank of Ethiopia East Addis Ababa District. .

B-Applied Popularity: The study enables the Commercial Bank Customers by identifying the impact of the application of management information systems through quality service, Managers for the development of policies and strategies that improve the effective use of management information systems, Researchers in order to identify the findings, and help them to develop in other variables pertaining to the subject of the study. The study also identifies the most common type of management information system requirements in decision making of managers in commercial Bank of Ethiopia to encourage the CBE managers, employees and stockholders to utilize management information systems efficiently and effectively. Because information is considered to be an important asset for any company in the modern competitive world. It initiates other interested researchers to carry out more extensive studies in the area.

1.7. Delimitation and Organization of the of the Study

The study was delimited to Commercial Bank of Ethiopia East Addis Ababa District, by believing that all banking service has been offered in this district and the researcher can access all relevant information for the study, The study was also limited to the Role of MIS enhancing banking service as concept of MIS, levels of MIS importance, types of MIS considerations in decision making processes for banking service, MIS availability, and degree of MIS utilization. The study relies on preparation of interview and and distribution of questionnaire. The research was organized under five chapters. Chapter one, background of the study, back ground of the organization, statement of the problem, research questions, objectives of the study, significance of the study, and delimitation of the study and definition of terms were included. Chapter two

was devoted to literature review. Chapter three examines the research method used in undertaking the studies. Chapter four deals with details analysis of the findings, presentation, discussion and interpretation of data. Chapter five incorporates the summary of major findings, conclusions, and recommendations.

1.8. Limitation of the study

This research faced some hindrances while conducting this study. Some of the problems were: The results are limited to the target population, Time and financial constraint in collecting, analyzing and interpreting the data, Opposition or refusal to collaborate from the side of the target population, Lack of availability of prior researches in Ethiopia, Lack of reliability of the information provided by the respondents.

1.9. Definition of terms

Information system: An information systems can be defined technically, as a set of interrelated components that collect (or retrieve) process, store, and distribute information to support decision making and control in an organization.

Management information system: Management information system, is defined as the development and use of information system that help businesses achieve their goals and objective.

Transaction processing system: Process data resulting from business transactions, update operational databases, and produce business documents.

Decision support system: Provide interactive support for the decision-making processes of manager's and other business professionals.

System : refers to "A set of elements joined together for a common objective.

CHAPTER TWO

2. REVIEW OF RELATED LITERATURE

2.1. Theoretical Frame work of the study

2.1.1. Concept of Management Information System

Management information system, is define as When a system gives information to people who are not part of the managerial staff, then it will not be viewed as part of a Management information system (Belassi and Tukul, 1996). Such a system, the development and use of information system that help businesses achieve their goals and objective. This definition has three key elements: development and use, information system, and business goals and objectives (kroenke, 2011). A system is a group of component that interacts to achieve some purpose, an information system (IS) is a group of component that interact to produce information. A model of the components of an information system: computer hardware, software, data, procedures and people (kroenke, 2011). while it may contain similar interfaces as Management Information System, is not a part of it. Examples of such systems are salary acknowledgments and excise duty statements. Generally, Management Information System deals with information that is systematically and routinely collected in accordance with a well-defined set of rules (Spathis et al., 2007). Furthermore, Management information system is a part of the formal information network in an organization.

Information that has great managerial planning importance is seldom obtained at golf courses. However, this information is not part of Management Information System, but “one-shot market research data accumulated to measure the full potential of a new product does not come within the goal of a Management information system by our definition, seeing as such information which is systematically retained is not collected on a regular basis” (Belassi and Tukul, 1996). Frequently, the information provided by a Management Information System helps

managers in making planning and control decisions (Jorgenson, 1989). Each company or organization, in order to function properly, must be able to execute particular operations, “whether it is a wholesaler or car manufacturer or who has to provide water to its area of jurisdiction” (Wu and Lee, 2007).

There is a lot of research conducted on the approaches, techniques and technologies for the design and development of MIS. However, there are a few articles that cover the role of MIS on planning strategies and decision making while there are no universally accepted definitions of MIS (Adeoti-Adekeye, 1997). Conducting the study on relationships of MIS availability, effective utilization and decision making in the areas of business decision making process has a great significant advantageous. Because, MIS is a formal establishment of information systems accepting data as input for further processing and provides information as a final output that helps management decision making process in the organization. Argyris (1991) defined MIS as “a system using formalized procedures to provide management at all levels in all functions with appropriate information based on data from both internal and external sources, to enable them to make timely and effective decisions for planning, directing and controlling the activities for which they are responsible.” MIS is an information system used for supporting decision making on all levels in an organization (Larsson and Malmsjo, 1998). MIS serve the management level of the organization, providing managers with reports and (online) access to the organization’s current performance and historical records. Typically, MIS are oriented almost exclusively to internal, not environmental or external, events. MIS primarily serve the functions of planning, controlling, and decision making at the management level (Laudon, 2006). According to Kumar (2006) in order to define MIS formally, it must be principally divided into the three facets that constitute it—which are: management, information, and systems. In furthering his ideas, Kumar simply defines management as the process through which managers plan, organize, initiate and control operations within their businesses. Essentially, a management can only exist when there are subjects/ workers to be managed (Al-Zhrani, 2010.); Kumar also states that information generally refers to analyzed data. In other words, information (with regards to business) results from data that is analyzed using business statutes, principles and theories advanced by various macro economists (Kumar, 2006).

According to Kumar, System refers to “A set of elements joined together for a common objective.” More often than note, business systems normally consist of smaller systems known as sub systems which all function towards ensuring efficacy of the large systems. As a matter of fact, systems vary from one organization to an other depending on the nature of organizational operations, size of the businesses and organizational priorities among many other salient factors. A system to convert data from internal and external sources into information and communicate that information in an appropriate form to managers at all levels in all functions to enable them to make timely and effective decisions for planning, directing and controlling the activities for Which they are responsible (Bee and Bee, 1999).

Then finally, Kumar defines MIS as “a system providing management with accurate and timely information necessary to facilitate the decision-making process and enable the organizations planning, control, and operational functions to be carried out effectively”. So in this way MIS increases competitiveness of the firm by reducing cost and improving processing speed in business sector. Sekhar (2007) defined management information system as “a system that collects and processes data (information) and provides it to managers at all levels, which use it for decision making, planning, program implementation and control.” Leedy and Ormrod (2005) defined MIS as “a system or process that provides information needed to manage organizations Effectively.”In their study, Laudon (2010) have defined MIS as “the study of information systems focusing on their use in business and management.”

2. 1.2. History of MIS

Kenneth C. Laudon and Jane Laudon identify five eras of Management Information System evolution corresponding to the five phases in the development of computing technology: 1) Mainframe and minicomputer computing, 2) Personal computers, 3) Client/server networks, 4) Enterprise computing, and 5) Cloud computing. The first era (mainframe and minicomputer) was ruled by IBM and their mainframe computers. These computers would often take up whole rooms and require teams to run them - IBM supplied the hardware and the software. As technology advanced, these computers were able to handle greater capacities and therefore reduce their cost. The second era (personal computer) began in 1965 as microprocessors started

to compete with mainframes and minicomputers and accelerated the process of decentralizing computing power from large data centers to smaller offices. In the late 1970s minicomputer technology gave way to personal computers and relatively low cost computers were becoming mass market commodities. As technological complexity increased and costs decreased, the need to share information within an enterprise also grew, giving rise to the third era (client/server), in which computers on a common network access shared information on a server. This lets thousands and even millions of people access data simultaneously. The fourth era (enterprise) enabled by high speed networks, tied all aspects of the business enterprise together offering rich information access encompassing the complete management structure. Every computer is utilized. The fifth era (cloud computing) is the latest and employs networking technology to deliver applications as well as data storage independent of the configuration, location or nature of the hardware. This, along with high speed cell phone and Wi-Fi networks, led to new levels of mobility in which managers access the MIS remotely with laptop and tablet computers, plus smart phones.

2. 1.3 .Physical view of MIS

The Physical view of the MIS can be seen as an assembly of several sub systems based on the data bases in the organization. These sub systems range from data collection, transaction processing and validating, processing, analyzing and storing the information in databases. The sub system could be at a functional level or a corporate level. The information is evolved through them for a functional or an operational management and it provides the information for the management of business at the corporate level and also analyzes and provides huge data for the governments in a systematic way for analysis and for designing welfare schemes. MIS, therefore, is a dynamic concept subject to change, time and again, with a change in the business management process. It continuously interacts with the internal and the external environment of the business and provides a corrective mechanism in the system so that the changed needs of information are met effectively. MIS, therefore, is a dynamic design, the primary objective of which is to provide the information for decision making and it is developed considering the organizational fabric, giving due regard to the people in the organizational management functions and the managers and the managerial control.

2.1.4. Concepts of Information Systems

An information systems can be defined technically, as a set of interrelated components that collect (or retrieve) process, store, and distribute information to support decision making and control in an organization (Laudon and Laudon, 2006). There is a significant need for determining the role of information systems in banks. Information systems have become a vital component of successful business firms and other organizations. The knowledge of the real role of IS in banks would help IS managers in managing information systems by judging the business needs of the IS projects, associated risks, importance and ranking of IS managers in organizational hierarchy, need for innovation and flexibility in IS planning approach. Additionally, information systems may also visualize complex subjects, and create new products. Three activities systems produce the information that organizations need to make decisions, control operations, and create analyze problems. According to Laudon that collects (retrieves), processes, stores, and disseminates information to support decision making and control.”In his study, Becta (2005) describes an information system as “communication channels used with in an organization.

2.1.4.1. Information Technology and Information System

Information technology and information system are two closely terms, but they are different. **Information Technology (IT)** refer to the products, methods, inventions, and standards that are used for the purpose of producing information, IT pertains to the hardware, software, and data components, Whereas information system(IS) is an assembly of hardware, software, data, procedures, and people that produces information (Laudon,2013).

Management Decision Support Systems

- **MIS.** Provide information in the form of pre-specified reports and displays to support business decision making. Examples: sales analysis, production performance, and cost trend reporting systems.
- **DSS.** Provide interactive support for the decision-making processes of manager's and other business professionals. Examples: product pricing, profitability forecasting, and risk analysis systems.
- **EIS.** Provide critical information from MIS, DSS, and other sources tailored to the information needs of executives. Examples: Systems for easy access to analyses of business performance, actions of competitors, and economic developments to support strategic planning.

The above mentioned theories show that MIS has underlined the development, the application and the validation of relevant theories and models in attempting to encourage quality of work in the area. It should, therefore, be noted that MIS exist in organizations in order to help them achieve objectives, to plan and control their processes and operations, to help deal with uncertainty.

Business Operations Support Systems

- **Transaction processing system.** Process data resulting from business transactions, update operational databases, and produce business documents. Examples: sales and inventory processing and accounting systems.
- **Process control systems.** Monitor and control industrial processes. Examples: petroleum Refining, power generation, and steel production systems.
- **Enterprise collaboration systems.** Support team, workgroup, and enterprise communications and collaboration. Examples: e-mail, chat, and video conferencing group ware systems. change or, indeed, initiating change on the uses to which the information is put Planning, directing and controlling are the essential ingredients for management.

2.1.4.2. Trends of Information Systems

Until the 1960s, the role of most information systems was simple: transaction processing, record-keeping, accounting, and other electronic data processing (EDP) applications. Early business computers were used for simple operations such as tracking inventory, billing, sales, or payroll data, with little detail or structure. Over time, these computer applications became more complex, hardware storage capacities grew, and technologies improved for connecting previously isolated applications. As more and more data was stored and linked, managers sought greater detail as well as greater abstraction with the aim of creating entire management reports from the raw, stored data. Then another role was added, as the concept of management information systems (MIS) was conceived. This new role focused on developing business applications that provide managerial end users with predefined management reports that would give managers the information they needed for decision-making purposes. By the 1970s it was evident that the pre-specified information products produced by such MIS were not adequately meeting many of the decision-making needs of management. So the concept of decision support systems (DSS) was born.

The new role for information systems was to provide managerial end users with interactive support of their decision-making processes. This support would be tailored to the unique decision-making styles of managers as they confronted specific types of problems in the real world. A DSS has three fundamental components: database management system (DBMS), which stores large amounts of data relevant to problems. the DSS has been designed to tackle; model-based management system (MBMS), which transforms data from the DBMS into information that is useful in decision-making; and dialog generation and management system (DGMS), which provides a user-friendly interface between the system and the managers who do not have extensive computer training (O'Brien and Marakas, 2006). In the 1980s several new roles for IS appeared. First, the rapid development of micro computer processing power, application software packages, and telecommunications networks gave birth to the phenomenon of end user computing. End users could now use their own computing resources to support their job requirements instead of waiting for the indirect support of centralized corporate information services department. Second, most top corporate executives did not directly use either the reports of MIS or analytical modeling capabilities of decision support systems, so the concept of executive information systems (EIS) was developed to give top executives an easy way to get the

critical information they want, when they want it, tailored to the formats they prefer. Thirdly, breakthrough thoughts occurred in development and application of artificial intelligence, expert systems, and other knowledge-based systems also forged a new role for information systems. Today, expert systems can serve as consultants to users by providing expert advice in limited subject areas (Stephen, H. and Maeve, C, 2006).

The mid- to 1990s saw the revolutionary emergence of enterprise resource planning(ERP) systems to integrates all facets of a firm, including its planning, manufacturing, sales, resource management, customer relations, inventory control, order tracking, financial management, human resource, and marketing lies in their common interface for literally all computer-based organizational functions, tight integration and data sharing are necessary for flexible strategic decision making. Finally, the rapid growth of the Internet, intranets, extranets, and other interconnected global networks in the 1990s dramatically changed the capabilities of information systems in business at the beginning of the twenty-first century. This Internet and related technologies and applications have changed the way businesses are operated and people work, and how information systems support business processes, decision making, and competitive Advantage (O.Brien and Marakas, 2006).

2.1.5. Decision Support System

Using information systems will increase the knowledge of employees and users and will decrease the degree of uncertainty among them. It also supports the decision making process and the needs of decision makers. The responsibility of providing and improving the applied information systems in commercial bank of Ethiopia lies on the managements of these banks. One of the most important duties of banks' management is to provide, support, and improve the adopted information systems, because this will enable these bank to avoid any threats that commercial bank may face (Hayale, andAbu-Khadrah, 2006).There are different levels in an organization including senior management, middle and operational levels. Each of these levels has different information requirements for decision support and different constituencies or groups that information systems need to serve. O.Brien (2004) describes four kinds of systems used to support the different levels and types of decisions. They include:

- **Management Information Systems:** provide routine reports and summaries of transaction-level data to middle and operational-level managers to provide answers to structured and semi-structured decision problems. They provide information on the firm's performance to help managers monitor and control the business. They typically produce fixed, regularly scheduled reports based on data extracted and summarized from the firm's underlying transaction processing systems.

The formats for these reports are often specified in advance. A typical MIS report might show a summary of monthly sales for each of the major sales territories of a company. Sometimes MIS reports are exception reports, highlighting only exceptional conditions, such as when the sales quotas for a specific territory fall below an anticipated level or employees have exceeded their spending limits in a dental care plan. Traditional MIS produced primarily hard-copy reports. Today, these reports are available online through an intranet, and more MIS reports can be generated on demand.

- **Decision-Support Systems:** are targeted systems that combine analytical models with operational data and supportive interactive queries and analysis for middle managers who face semi-structured decision situations. hence DSS support the semi structured and unstructured problem analysis. DSS place emphasizes on change, flexibility, and a rapid response. With a DSS there is less of an effort to link users to structured information flows and a correspondingly greater emphasis on models, assumptions, and display graphics.
- **Executive Support Systems:** are specialized systems that provide senior management making primarily unstructured decisions with a broad array of both external information (news, stock analyses, and industry trends) and high-level summaries of firm performance. Strategic information is the information needed by top management for decision making. For example the trends in revenues earned by the organization are required by the top management for setting the policies of the organization. This information is not required by the lower levels in the organization.

- **Group Decision-Support Systems:** Is however specialized systems that provide a group electronic environment in which managers and teams can collectively make decisions and design solutions for unstructured and semi-structured problems.

2.1.5.1. MIS Availability and Decision making

To work on management information systems there is a need of some resources available. In MIS we can include all software that helps in decision making, data resources such as databases, the hardware resources of a system, decision support systems, people management and project management applications, and any computerized processes that enable the department to run efficiently. In essence the study of MIS is not about the use of computers, it is about the provision and use of information relevant to the user. MIS is an accessible and rapid convey or belt for appropriate high quality information from its generation to its users. Lucey (1997) stressed that the need for MIS in decision making as it provides information that is needed for better decision making on the issues affecting the organization regarding human and material resources. More recently, Adebayo (2007) explained that the existence of MIS is needed to improve and enhance decision making on the issues affecting human and material resources. Therefore, nature of globalization and competitiveness in the market stress on the importance of developing an organization capability through better enhancing MIS. Management information systems give managers quick access to information (Rhodes, 2010). This can include interaction with other decision support systems, information inquiries, cross-referencing of external information and potential data mining techniques. These systems can also compare strategic goals with practical decisions, giving managers a sense of how their decisions fit organizational strategy. In summary, Rhodes simply believes that management information systems are a huge contributing factor in the getting of viable information from organizations.

In addition to above, there is a need of people resources to operate and organize all MIS. So in order not to fall a victim of over-relying on automated systems, Jahangir (2005) advices managers and company owners to ensure that they find a balance in utilizing the human element in operating while assigning some duties to the automate system. Employees try to fulfill the

objectives of managers above them, following established rules and procedures for their routine activities. Increasingly, however, employees are granted much broader responsibilities and decision-making authority based on their own best judgment and information in corporate systems. Employees may be making decisions about specific vendors, customers, and other employees. Because employees interact directly with the public, how well they make their decisions can directly impact the firm's functional performance. The above literatures explore the importance of MIS in providing decision makers with facts, which consequently support and enhance the entire decision-making process. Furthermore, at the most senior level, MIS supply the data and required information to assist the board of directors and management levels to make an accurate and on time strategic decisions.

2.1.5.2. Information Availability and Decision-making

Preliminarily, it is inherent to state that decision making is an integral part of any business. This because a majority of operations in an organization revolve around decisions made by the management and other key stakeholders in the organization. And in order for decision to be made adequately, it is vital for there to be good information systems since decisions are based on information available. The importance of effective decision making can never be over emphasized. Decision making is, in effect, synonymous with management. By definition decision making is the cognitive process leading to the selection of a course of action among available alternatives. Every decision making process produces a final choice called a decision. To support this definition, Klein (1998) defined decision-making as “a reasoning process which can be rational or irrational, and can be based on explicit or tacit assumptions.” This idea supports the relevance of decision making process based on the availability of truth full information drawing from reasonable information available in organization. Again Apple by(1994) defined “decision-making as the point at which plans, policies, and objectives are translated into concrete actions.” Therefore, design and developing best fit organization functions information systems that generating information source for manager decision making is the first decisive success of any organization.

As the above paragraph, the success of decision-making, which is the heart of administrative process, is highly dependent partly on available information, and partly on the functions that are the components of the process. For example, if managerial objectives are absent or unclear, probably due to inadequate information, there is no basis for a search. Without information obtained through a search, there are no alternatives to compare, and without a comparison of alternatives the choice of a particular course of action is unlikely to yield the desired result. Therefore, one can not be wrong to say that information which is a message received and understood, a collection of facts (data) from which conclusions may be drawn and knowledge Acquired through study or experience or instruction, is very crucial in explaining the information and decision-making of any user group particularly managers in business organizations. These all the above ideas indicate that effective decision making demands accurate, timely and relevant information.

The quick accessibility to information for use by the managers in the commercial bank is a key component of enhancing banking service. This is because a majority of operations in an Organization revolves around decisions made by the management and other key stakeholders in the organization. and in order for decision to be made adequately, it is vital for there to be good information systems since decisions are based on information available. Neelo meghan(1981) asserts that the utilization of information also depend upon the appropriateness of information accessed. It must be noted at this juncture that information accessibility of the managers in any organization like the banks does not mean utilization, but it stimulates or facilitates the use of information in their decision making. Miller(2001) view that business information could better be sourced or acquired from direct contact with customers, printed information documents and electronics information services. Concluded, accessibility and use of relevant and timely information by the managers in business organizations could foster effective decision making. Adeniji (2001) pointed out that this idea the decision-making process is considered as fundamental to management in organizations, hence the need for adequate and accessible information that would be utilized by the managers on time.

In relations to the above point, Popoola (2006) reported that “there was a significant relationship between information utilization and decision-making of managers in commercial banks in

Nigeria.” According to this source, information accessibility and utilization had significant relationship with decision-making of managers in Nigeria commercial banks. In addition, Jahangir (2005) states that based on the significant role that information play in choice of decision to be made; organizations must ensure that they have good management information systems. As a notable general observation from all idea, a good MIS ensures good decision making just in the same way bad MIS drive the making of bad decisions. To finalize the above literature, information accessible and acquired by managers in organizations through various available channels such as their colleagues, telephone, Internet, reference books, memorandum, circulars, online databases and customers should have been available and usable to make good decision making in business sectors.

2.1.5.3. MIS Utilization and Decision-making

In order to improve the financial organizational capability and enhance its level of competition in the market place, financial organizations should understand the dimensions of the information management, and clearly define and develop the resources in case of human, technological, and internal operations, among others, and manage them well across the organizational boundaries. MIS provides knowledge about the relative position of the organization and basic forces at work. It provides the right information needed in decision making process and help the organizations control, planning and operational functions to be carried out effectively. It is not an exaggeration to state that MIS is the lifeblood of management in banking sector. Ajayi, I. A. and Omirin, Fadekem (2007) investigated the use of management information systems in decision-making on long-term planning, short term planning and budgeting in the commercial banks in Nigerian. This showed that MIS availability and utilization in business decision making process not considered as the options rather than as a matter of believing that for long run advantageous of the organization. However, establishing the link between management information system, planning and decision making is, at best, deception.

In related to the above paragraph, one approach by which organizations can utilize computing capability is through the development of MIS. MIS will give the banking management a new dimension in managing its knowledge and help in carrying out and maximizing the

management's initiatives in harmonizing the appropriate strategies in the short and long planning (Edmondson, 2002). In his study, Obi (2003) suggested that MIS is indispensable in the area of decision-making as it can monitor by itself the instability in a system, verify a course of action and take action to keep the system in control. We believe that banks or any organization that use MIS to enhance its service should develop effective communication channels between management and information professionals. Good communications then facilitates the task of developing relevant and appropriate information systems. Organization thus would be aware that what is required is an awareness and understanding of key principles and functions in which the design, implementation and operation of MIS are the results of rational decisions rather than haphazard development without considering the real organizational needs. MIS may be viewed as a means for transformation of data, which are used as information in decision-making, processes. Supporting this, Aiyepoku (1978) states that the decision makers personality variables; the time the decision is being made, and the environment in which the decision has to be made will affect the decision maker's use information. Therefore, MIS is a system that provides accurate, well-timed, and relevant information for manager decision making. To support this idea, Afolabi (2004) saying that quality of information use leads to better decisions by managers are available; when MIS is engenders growth and development and erroneous conceptions, views and opinions on programmers and activities of institutions and organizations are corrected then information is properly collected, used and disseminated.

Handzic (2001) also gave attention to the impact of Information availability on people's ability to process and use information in short and long term planning and in decision making tasks. He revealed that the better the availability of information produced by well designed information system, the better the impact on both efficiency and accuracy of business decision. The all information observed from above literature showed that, to create value from information, changes in decision behavior must result and consequently there must be a decision focus to the MIS. This means that MIS must be designed with due regard to the types of decisions, how decisions are taken, how the decision makers relate to the organization, the nature of the organization, its environment and so on. Acceptance and understanding of this emphasis by both managers and information professionals is the primary requisite to effective MIS design. Logically, without the established systems of getting information as MIS, it would be extremely

difficult for organizations to make their decisions. This is because they would be forced to making baseless information due to the lack of confirmed information. Technology advancement had been increased both the availability and volume of information management that needed for both planning and decision making process in business sector. Information technology (IT) can be defined as “an electronic means used for collecting, processing, saving, and publishing the information” (Duncombe and Heeks 1999). Nobody can deny that there is a clear difference between organization that adopt an appropriate information technology, and those do not, so customers of today can simply distinguish between those two groups of organizations. Today, IT is an issue reflects the importance of using the technological processed information in providing

Different needed services by people. Correspondingly, technology also has the potential to correct inaccurate reporting and flawed decision making. There are many literatures approving the positive impacts of information technology expenses on business value. Kozak (2005) investigates the influence of the evolution in information technology on the profit and cost effectiveness of the banking zone during the period between 1992 and 2003. The study indicates an optimistic relationship among the executed information technology, productivity and cost savings. From literatures presented under the above sub-title, we can easily perceive that the importance of the role of information systems development programmers to maintain consistent approach to develop, use, and evaluate MIS that revealed the appropriateness of information for manager decision making within the business institution. Therefore, there are a lot of logically evidence for financial institutions support that, MIS is used at various levels by managers to support decision making that aims to meet strategic goals and strategic objectives.

2.1.6. MIS in Banking Sector

Today we are in the era of globalization. Multinational worldwide organizations have adopted globalization as their first strategic choice. Advancement in technology has facilitated globalization too. There has been a marked improvement particularly in the area of maintenance, storage, availability and transfer of data. The world has literally shrunk to become a “global village”. For example, delivery of various existing banking services to the customer at home, office or public places using alternative delivery channels such as Phone , ATM, Mobile, Internet

and creation of new financial services & products such as utility bill payment, electronic fund transfer, etc. Traditional MIS come back into play by providing managers with routine reports on the progress of a specific solution. Support systems can range from full-blown MIS to much smaller systems, as well as project-planning software operating on personal computers. MIS play the crucial role of providing a wide range of streamlined options from which decision-makers are able to make their preferred choices (Vittal & Shivraj, 2008). Vitality, this ensures that whatever choices are made by decision makers, the outcome, more often than not, becomes positive. This, as a matter of fact, is the reason why many decision makers tend to prefer using MIS tools when making tough business choices. And as renowned concept, having good decision choices guarantees viable decisions in our businesses (Vittal & Shivraj, 2008; Jawadkar, 2006).

2.1.6.1. Risk Control Systems

For the purposes of this discussion, risk control is the entire process of policies, procedures and systems an institution needs to manage prudently all the risks resulting from its financial transactions, and to ensure that they are within the bank's risk appetite (Michael and Rudolf 2000). It also encompasses risk management, internal control and information communication among other areas. James (2004) in his research work on banking and risk management brought to light new evidence on corporate risk management by analyzing firms' choices between fixed and variable rate loans. In contrast to papers that focus on hedging using derivatives, he found strong evidence that small, young, privately held firms have a substantial 'demand for risk management'. Risk management and internal controls are means by which businesses' opportunities are maximized and potential and material losses are reduced. In relation to Islamic financial institutions, Khan and Ahmad (2001) conducted a survey of 17 Islamic banks on risk management issues. Many issues were highlighted; with the root of the problem being the inability to manage risks effectively due to a lack of relevant instruments available in an Islamic banking context. Where risk is concerned, the study highlights that the rate of return risk is considered as the most critical for Islamic banks. According to Carey (2001) risk management is "more important in the financial sector than in other parts of an economy." This sets banking as a business of risk. The Deutsche Bank Research (2008) explains that banking problems as a result

of poor risk management spans the existence of banks. The major banking risks identified by Pyle(1997) are as follows as:

- Market risk is the change in net asset value due to changes in underlying economic factors such as interest rates, exchange rates, equity, and commodity prices.
- Credit risk is the change in net asset value due to changes in perceived ability of counter parties to meet their contractual obligations.
- Operational risk results from costs incurred through mistakes made in carrying out transactions such as settlement failures, failures to meet regulatory requirements, and untimely collections.
- Performance risk encompasses losses resulting from the failure to properly monitor employees or to use appropriate methods.

Apart from the external risk issues such as changes in the market and consumer dynamics that affect banks, there are a countless of internal risk challenges that do have great impact on banks success as well. These challenges have become enormous because of the prevalence of economic, technological, social and legal interdependence. Every organization need to put in place risk management and internal control systems in order to achieve the ultimate objectives of the organization even though these (risk management and internal control) would vary for different organizations. Risk management and internal control systems are critical and fundamental to the successful operation and day-to-day running of a business. Risk affects many areas of banking activities, such as strategy, operation, finance, technology and environment. Specifically, internal risks may include loss of key staff, substantial reductions in financial and other resources, severe disruption to the flow of information and communication, fires or other physical disasters, leading to interruptions of business and/or loss of records (Annual Report, 2010).Leitch (2004) published an article on risk management versus internal control. In this article, he noted that “there is no difference between these two topics in principle.” He went on to point out that the scope of each phrase seems to be getting wider. However, there are big differences in emphasis, with many practical implications. In the researcher’s opinion, the management of risks and their control measures are inseparable. First, risks must be identified, assessed, then managed and mitigated by putting in place or implementing a strong system of

internal control. As a result of separation of ownership from control, both the corporate world and governments turn to risk management and internal controls to give calm and reassurance (Collier, 2007). An organization sets strategic and operational objectives and then manages the risks that threaten these objectives. Internal control is put in place to help manage risks and increase shareholders' value. Risks can be managed by transferring them to third parties such as an insurance company. Important elements of a sound internal control system are effective financial controls, including the management of proper accounting records. Since risks exposed to a company cannot be completely eliminated, the role of internal control is to help manage and control these risks appropriately. Therefore, a company's internal control systems play a key role in the management of risks that significantly affect the achievements of operational, financial reporting and compliance objectives (IRM, etal, 2002).

2.1.6. Marketing Management Information Systems

Marketing information system supports managerial activities in product development, distribution, pricing decisions, promotional effectiveness, and sales forecasting. Marketing functions are increasingly being performed on the Internet. A number of business firms are developing Internet market places to advertise and sell products. Customer relationship management (CRM) programs, available from some ERP vendors; help a company manage all aspects of customer encounters. CRM software can help companies collect customer data, contact customers, educate customers on new products, and sell products to customers through an Internet site. Forecasting demand can be an important result of marketing research and sophisticated software. The Internet is changing the way many firms think about marketing research. Conventional methods of collecting data often cost millions of dollars-for a fraction of These costs; firms can put up Internet information server and launch discussion groups on topics that their customers care about. These information sites must be well designed, or they won't be visited, but a frequently visited site can provide feed back worth a fortune. Firms that are viewed as credible, not just clever, will win enormous advantages. Presence and intelligent interaction, not just advertising, are the keys that will unlock commercial opportunities on-line (O.Brien and Marakas, 2006). Product development involves the conversion of raw materials into finished goods and services and focuses primarily on the physical attributes of the product. Many factors,

Including plant capacity, labor skills, engineering factors, and materials are important in product development decisions. In many cases, a computer program is used to analyze these various factors and to select the appropriate mix of labor, materials, plant and equipment, and engineering designs. Make-or-buy decisions can also be made with the assistance of computer programs. One of the most important functions of any marketing effort is promotion and advertising. Product success is a direct function of the types of advertising and sales promotion done (O.Brien and Marakas, 2006).

2.1.7. Human Resource Management Information Systems

A human resource MIS, also called the personnel MIS, is concerned with activities related to employees and potential employees of the organization. Because the personnel function relates to all other functional areas in the business, the human resource MIS plays a valuable role in ensuring organizational success. Some of the activities performed by this important MIS include workforce analysis and planning; hiring; training; job and task assignment; and many other personnel- related issues. An effective human resource MIS will allow a company to keep personnel costs at a minimum while serving the required business processes needed to achieve corporate goals. Human resource subsystems and outputs range from the determination to human Resource needs and hiring through retirement and outplacement. Outputs of the human resource MIS include reports such as human resource planning reports, performance appraisal, job application review profiles, skills inventory reports, employee salary and benefits analysis surveys. The Internet has become a major force for change in human resource management. For example, online HRM systems may involve recruiting for employees through recruitment sections of corporate websites. Companies are also using commercial recruiting services and databases on the World Wide Web, posting message in selected Internet news groups, and communicating with application via email(O.Brien and Marakas, 2006).

2.1.8. Credit Management Information Systems

Banks by make money providing services that their customer wants and by granting they credit. There are some risks with these services and the most significant risk is credit risk. In others, while financial institutions have faced difficulties over the years for a multitude of reasons, the

major cause of serious banking problems continues to be directly related to negligent credit standards for borrowers and counterparties, poor portfolio risk management, or a lack of attention to changes in economic or other circumstances that can lead to a deterioration in the credit standing of a bank's counter parties. Kolb (1992) is of the opinion that unsound banks, that is, those with poor credit risk management systems become captive to insolvent debtors or carry a portfolio of loans to related borrowers, who have no intention of repaying their debts. Credit risk is most simply defined as the potential that a bank borrower or counter party will fail to meet its obligations in accordance with agreed terms. The goal of credit risk management is to maximize a bank's risk-adjusted rate of return by maintaining credit risk exposure within acceptable parameters. Banks need to manage the credit risk inherent in the entire portfolio as well as the risk in individual credits or transactions. Banks should also consider the relationships between credit risk and other risks. The effective management of credit risk is a critical component of a comprehensive approach to risk management and essential to the long-term success of any banking organization Kolb (1992). Therefore, the taking of credit risk is a principal function of commercial banks. How a banks approaches credit risk represents one of its important polices. The willingness of banks to take credit risk has provided a major service to market economics through out banking history. The Central Bank of Kenya (2005) suggests that banks need to establish a system that enables them to monitor quality of the credit portfolio on a day basis and take corrective steps as and when deterioration occurs.

2.1.8. Geographic Information Systems

In addition to functional systems of business such as finance, manufacturing, marketing, and human resource MIS, many firms have other functional management information systems. For examples, firms are use geographic information systems and data visualization systems for presenting data in a useful form. Using GIS technology along with global positioning system (GPS) devices to help them choose new retail store locations, optimize distribution routes, or analyze the demographics of their target audiences(O.Brien and Marakas, 2006). Increasingly, managers want to see data presented in graphical form. A geographic information system (GIS) is a computer system capable of assembling, storing, manipulating, and displaying geographically referenced information, that is, data identified according to their locations.GIS

Enables users to pair maps or map outlines with tabular data to describe aspects of a particular geographic region. For example, sales managers may want to plot total sales for each county in the states they serve (International Conferences Held, 1988).

2.1.9. Role of Management Information Systems in Commercial bank of Ethiopia

The role of the MIS in an organization can be compared to the role of heart in the body. The information is the blood and MIS is the heart. In the body the heart plays the role of supplying pure blood to all the elements of the body including the brain. The heart works faster and supplies more blood when needed. It regulates and controls the incoming impure blood, processes it and sends it to the destination in the quantity needed. It fulfills the needs of blood supply to human body in normal course and also in crisis. MIS plays exactly the same role in the organization. The system ensures that an appropriate data is collected from the various sources, processed, and sent further to all the needy destinations. The system is expected to fulfill the information needs of an individual, a group of individuals, the management functionaries, the managers and the top management. MIS satisfies the diverse needs through a variety of systems such as Query Systems, Analysis Systems, Modeling Systems and Decision Support Systems, MIS helps in Strategic Planning, Management Control, Operational Control and Transaction Processing. MIS helps the clerical personnel in the transaction processing and answers their queries on the data pertaining to the transaction, the status of a particular record and references on a variety of documents. MIS helps the junior management personnel by providing the operational data for planning, scheduling and control, and helps them further in decision making at the operations level to correct an out of control situation. MIS helps the middle management in short term planning, target setting and controlling the business functions. It is supported by the use of the management tools of planning and control. MIS helps the top management in goal setting, strategic planning and evolving the business plans and their implementation. MIS plays

the role of information generation, communication, problem identification and helps in the process of decision making. MIS, therefore, plays a vital role in the management, administration and operations of an organization.

Since the MIS plays a very important role in the organization, it creates an impact on the organization's functions, performance and productivity. With good support, the management of marketing, finance, production and personnel become more efficient. The tracking and monitoring of the functional targets becomes easy. The functional, managers are informed about the progress, achievements and shortfalls in the probable trends in the various aspects of business. This helps in forecasting and long term perspective planning. The manager's attention is brought to a situation which is exceptional in nature, inducing him to take an action or a decision in the matter. A disciplined information reporting system creates a structured data and a knowledge base for all the people in the organization. The information is available in such a form that it can be used straight away or by blending analysis, saving the manager's valuable time. MIS creates another impact in the organization which relates to the understanding of the business itself. MIS begins with the definition of a data entity and its attributes. It uses a dictionary of data, entity and attributes, respectively, designed for information generation in the organization. Since all the information system use the dictionary, there is common understanding of terms and terminology in the organization bringing clarity in the communication and a similar understanding throughout the organization. MIS calls for a systemization of the business operation for an affective system design.

A well designed system with focus on the manger makes an impact on the managerial efficiency. The fund of information motivates an enlightened manger to use a variety of tools of management. It helps him to resort to such exercises as experimentation and modeling. The use of computers enables him to use the tools techniques which are impossible to use manually. Since the MIS works on the basic systems such as transaction processing and databases, the drudgery of the clerical work is transferred to the computerized system, relieving the human mind for better work. It is observed that a lot of manpower is engaged in this activity in the organization. The study of the individual's time utilization and its application has revealed that seventy percent of the time is spent in recording, searching, processing and communication. This

is a large overhead in the organization. MIS has a direct impact on this overhead. It creates an information based work culture in the organization.

2.2. MIS: Support to the Management

The management process is executed through a variety of decisions taken at each step of planning, organizing, staffing, directing, coordinating and control. MIS aids in decision making if the management is able to spell out the decisions required to be taken. The objective of the MIS is to provide information for a decision support in the process of management. It helps in such a way that the business goals are achieved in the most efficient manner. Since decision making is not restricted to a particular level, MIS is expected to support all the levels of the management in conducting the business operations. Unless MIS becomes a management aid, it is not useful to the organization.

2.3. Factors contributing to the success of MIS in the organization

If MIS has to become successful then it should have the following features.

MIS is integrated into the managerial functions. It sets clear objectives to ensure that the MIS focuses on the major issues of the business. Adequate development resources are provided and the human & organizational barriers to progress are removed. An appropriate information processing technology required to meet the data processing and analysis needs of the users of the MIS is selected. MIS is oriented, defined and designed in terms of the user's requirements and its operational viability is ensured. MIS is kept under continuous surveillance, so that its open system design is modified according to the changing information needs. MIS focuses on the results and goals, and highlights the factors and reasons for non-achievement. MIS is not allowed to end up into an information generation mill avoiding the noise in the information and the communication system. MIS recognizes that a manager is a human being and therefore, the

systems must consider all the human behavioral factors in the process of the management. MIS recognizes that the different information needs for different objectives must be met with. The globalization of information in isolation from the different objectives leads to too much information and its non-use. MIS is easy to operate and, therefore, the design of the MIS has such features which make up a user-friendly design. MIS recognizes that the information needs become obsolete and new needs emerge. MIS design, therefore, has a basic potential capability to quickly meet new needs of information. MIS concentrates on developing the information support to manage critical success factors. It concentrates on the mission critical applications serving the needs of top management.

2.4. Factors contribution to MIS failure in an organization

Many times MIS is a failure in the organization. The common factors which are responsible for this are listed as follows. MIS is conceived as a data processing tool and not as an information processing tool and MIS does not provide that information which is needed by the managers but it tends to provide the information generally the function calls for. In this case MIS becomes an impersonal system. Underestimating the complexity in the business systems and not recognizing it in the MIS design leads to problems during implementation. Adequate attention is not given to the quality control aspects of the inputs, the process and the outputs leading to insufficient checks and controls in the MIS. MIS is developed without streamlining the transaction processing systems in the organization and lack of training on MIS to stakeholders. Failing to appreciate that the users of the information and the generators of the data are different and not identifying that both of them have to play an important & responsible role in the MIS. MIS does not meet certain critical and key factors of its users such as, response to the query on the database, inability to get the processing done in a particular manner, lack of user-friendly system and dependence on the system personnel. A belief that the computerized MIS can solve all the management problems of Planning and control of the business and lack of administrative discipline in following the standardized systems and procedures, faulty coding and deviating from the system specifications result in incomplete and incorrect information.

2.5. Advantages of MIS

The following are some of the benefits that can be attained from MIS. Organizations are able to highlight their strengths and weaknesses due to the presence of revenue reports, employees' performance records etc. The identification of these aspects can help the company improve their business processes and operations. MIS gives an overall picture of the company and acts as a communication and planning tool. The availability of customer data and feedback in the MIS can help the company to align their business processes according to the needs of the customers. The effective management of customer data can help the company to perform direct marketing and Promotion activities. MIS can help an organization to gain a competitive advantage. Competitive advantage is a firm's ability to do something better, faster, cheaper, or uniquely, when compared with rival firms in the marke

2.6. Empirical Review of the study

Through the following presentation, the researcher arranged previous studies related to the subject of study in descending order.

The study of (Shah, 2014), title is "Impact of Management Information Systems (MIS) on School Administration: What the Literature Says", increased use of information technology in educational administration quickly because of its efficiency and effectiveness. In the early stages of its development, and management information systems (MIS) main purpose and use to improve the efficiency of the activities of the school office. It was used to store students and staff data. The most attention is being focused on data entry and tabulation, rather than focusing on transferring data or analysis. It has been identified on the value of management information through the stages of integration. The most comprehensive review of the literature of the positive impact of management information systems at the school administration and management, including the possibility of better access to information, and management more efficient and increasing the use of school resources, reduce workload, and improve time management, and improvement in the quality of the reports. There are a number of inhibitors to the use of management information systems and clear in the literature. Foremost among these is the lack of time, lack of confidence or skills, lack of training, lack of top management support, and the lack

of technical support. MIS can provide administrators and teachers the necessary information to plan an informed, policy making and evaluation. MIS has changed the school management in the areas of leadership and decision-making, and workload, human resources management, communication, and responsibility, and planning. These systems can help the school principal in determining the objectives of the school, and the formulation of strategic plans, and the allocation of resources, and evaluate the performance of staff, as well as organizational success. Study of (Kushwah&Bhargav, 2014), title is "Service Quality Expectations and Perceptions of Telecom Sector in India", companies that harsh stand on their feet are the ones that will be able to clearly differentiate themselves on the basis of quality of service. Telecommunications companies in need of a good understanding and perceptions of the quality of customer service and expectations. "Quality of service expectations and perceptions of the telecom sector in India," the study attempts to analyze the gap in the quality of service of the telecommunications sector in terms of customer perceptions and expectations with respect to mobile phone services. It is important to explore and map the differences that indicate that there is room to improve on behalf of the mobile phone service providers. The primary data collection with the help of a unified service survey, a sample of 500 people has access to mobile phone services to telecommunications service in New Delhi, capital of India. Data were collected with a statistical tool to test the 'Z' analysis. The study revealed that there is a statistically significant gap between customers' expectations and perceptions of mobile phone services, with the arithmetic average of the expectations being 6.4413, from 5.8393 perceptions. The study concludes that in light of the intense competition in the global business arena, where companies enjoy on the survival and development on the basis of the size rather than the margin, and the quality of service is an essential item in the marketing of the service. This means that operators will have to focus on reducing the gap in customer perceptions and expectations about the quality of their service if they are to compete globally. To this end, we must telecommunications companies continuously evaluate and re-evaluate how customers perceive their services and the implementation of appropriate corrective actions to keep existing customers and acquiring new customers.

Study (Jane..et..al, 2013) entitled " Management Information System as a Technique in the Administration of Secondary Schools in ABA Zone South East Nigeria", this paper has investigation information management system as a tool in secondary schools in the ABA

Education Management District, southeast Nigeria. The descriptive study to determine the extent of the official high school use of management information systems management tool. Has been selected a sample of 44 principals and 210 teachers representing 44 and 10 percent of school principals and teachers of the 100 principals and 2,100 teachers were selected through a stratified random sample representation. A 2-part 0.15 item used a 4-point Likert scale tool for collecting data to answer questions 2 research and to test the null hypothesis 2 at 00:05 possibility. It has been validated instrument by a team of experts in the Department of Educational Administration, UNIPART, Nigeria, reliability and value of $p = 0.85$ is generated. Means was used to answer the research questions. Been applied t-test to test the null hypothesis 2. The results indicate that the administration results-oriented and quick execution of tasks constitute the general administrative performance of the secondary school principals. He concluded that the proper implementation and application of management information system will be profitable to the administrator, the teacher, the student, and the community as a whole. Recommended among others that the government, the Ministry of Education, and the Board of Secondary Education schools equipped with the retrieval and dissemination of information storage Study of (Navaz, 2013) Title is "Concepts and Applications of Management Information Systems", this study investigate in management Information System (MIS) is an integrated system to provide information to support the planning, organization, control function in this covers the functions of middle management of the administrative and special reports. Management information systems (MIS) are generally automated information that is used within organizations, systems, and includes all the information and communication channels organized. Information system is all items in the collection and dissemination of data and related information, and Usually involves changes in the hardware channels, software, people, data, and information and communication. The study showed no differences in terms of gender, age, Operating system, including data collection, data processing and transforming raw data into valuable storage and retrieval of information and data sets, such as administrative reports.

Study of (Karim, 2011) Title is " The Significance of Management Information Systems for Enhancing Strategic And Tactical Planning ", this study investigate in management information systems (MIS) is a key factor to facilitate the achievement of the efficiency of decision-making in the organization. This paper explores the extent to implement systems to make successful

decisions in two of the selected financial organizations and administrative information. Research examined whether the selected financial institutions in Bahrain vary regarding the use of the leadership of management information systems for the purposes of making strategic and tactical planning decision. Conditioning research and quantitative research designed to examine two hypotheses. It was distributed to a total of 190 questionnaires equally to those who work in the various administrative levels in the selected organizations. Search Results showed that the MIS was used primarily to enhance the strategic planning in the financial institutions. Regression analysis revealed that the tactical planning and found to have no effect on the decision-making, while the strategic planning have a clear impact on the effectiveness of decision making in both organizations and the study showed no differences in terms of gender and experience variable.

The study of (Tripathi, 2011), title is " Role of Management Information System (MIS) in Human Resource " , In today's organizations is the human resources as one of the key resources for business organizations. Transaction processing layer management information systems in the human resources function to deal with routine activities such as recording attendance and salary accounts. It also includes operational level activities maintaining personnel records, which is used as a basis for strategic layers. With the increasing importance of human resources management and increase the size of the organizations, and maintenance of personnel data and generate the appropriate reports are critical aspects in any organization. Therefore, more and more organizations computerized human resource management systems (HRMS). This paper is an attempt to design and implementation of management information systems for the organization of work and show how they help in making administrative decisions concerning the management of a private function for senior management

The Study of (Reddy..et..al, 2009) Title is " Management Information system to help managers for providing decision making in all organization " , this study investigate in provides management information system (MIS) information on the administrative activities of the organization. The main purpose of this research is, MIS provides accurate and timely information necessary to facilitate decision-making and enable organizations planning and control the executive and the tasks to be carried out effectively process. Management Information System (MIS) is mainly concerned with the processing of data into information and

then is transferred to different departments in the organization to take the appropriate decision. MIS is a subset of the overall planning and monitoring, which covers the application of human beings, techniques, and procedures of the organization's activities.

The study of Kasasbeh (2007) title is "The role of information technology in improving corporate performance: A Case Study Jordanian Free Zones Corporation": This study aimed to determine the role of information technology improving the efficiency of the performance of the Free Zones Corporation Jordan during the period 1996 - 2005, The study found the following results: Received an improvement in all elements of information technology, with the difference in the rates of improvement, No significant correlation between the size of the investment, hardware, software, and workers in the field of information technology with all the effectiveness of the institutional performance indicators except for the goal of return on cost. No impact for each of the size of the investment, hardware, software, and workers in the field of information technology at all effective institutional performance indicators except for the goal of return on cost. Information System is a mechanism to ensure that the information available to managers in the shape you want, and when they need it. the study of (Robey, 1979) title is "User Attitudes and Management Information System Use ", Industrial sales force study showed several specific positions must be positively related to the use of existing information system on your computer. Results support and extend previous findings suggest a model for the use of the information system based on the theories of the expected work incentives.

2.7. Conceptual Framework of the Study

According to O'Brien and Marakas (2006), using information systems to support business decision making has been one of the primary thrust of the business use of information systems. Hence, information systems are classified into business operation support systems and management decision support systems. Management information systems are one of the modern components of management decision supporting systems, which provide pre-specified information about the performance of the organization. The modern components of MIS are the function of business systems like management systems, human resource systems, and marketing systems (O'Brien and Marakas, 2006). However, MIS are not necessarily a specific of functional systems, but instead it is created based upon the business need (Linda banks, Demand

Media, 2003). In the case of financial institutions, DSS, HRIS, CMIS and MMIS are considered as modern components of MIS that help management decision making process. According to Ajayi and Omirin (2007) the availability of management information systems are directly or indirectly influencing the managers' decision making process and all over services at financial institutions.

Figure 1.1 presents modified current available MIS being developed, and as factors affecting Banking service making at selected branches for this study. Each of the components of variable has been discussed in the previous literature.

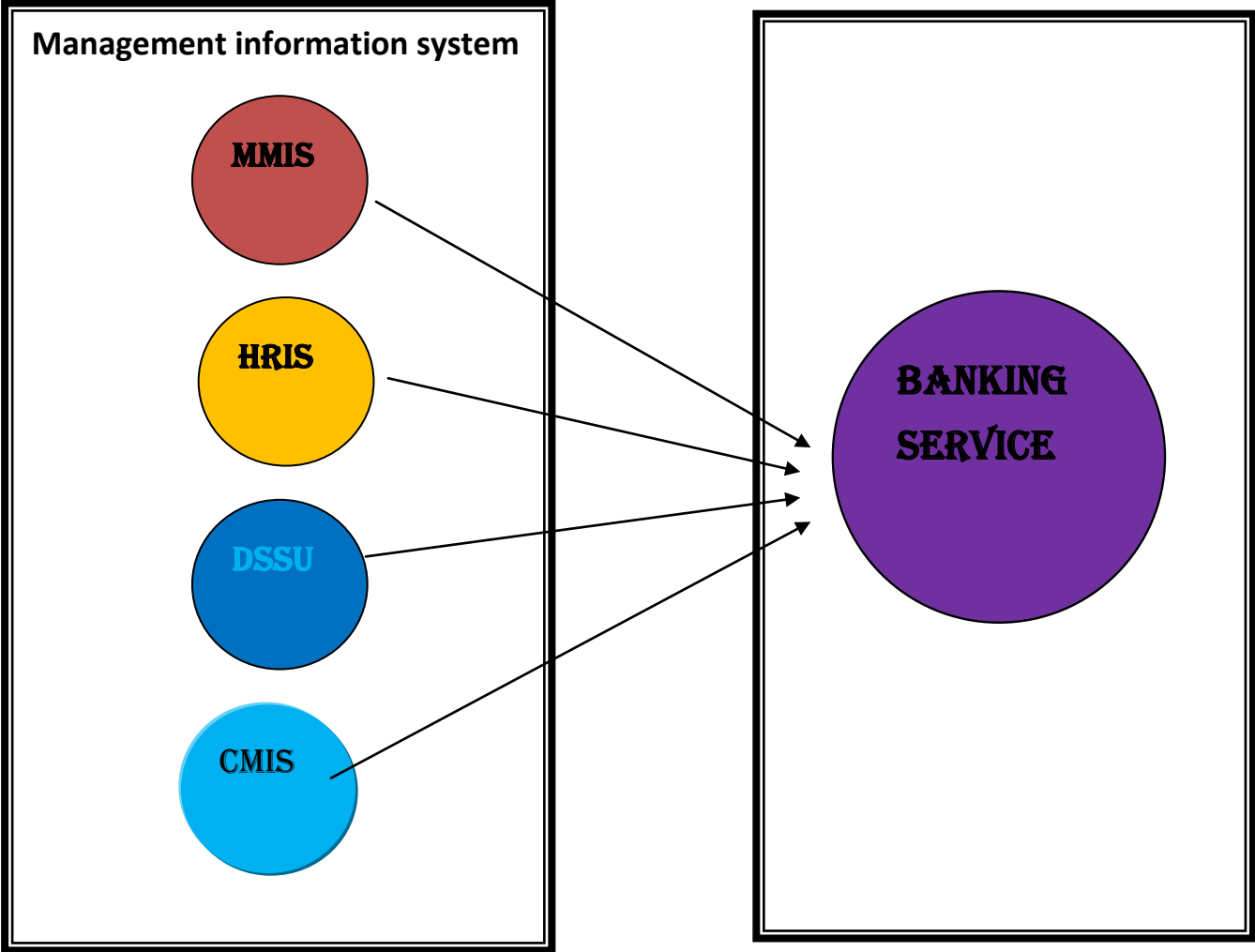


Figure 1.1 Conceptual Frame work of the study

(Source: Ajayi and Omirin, 2007)

CHAPTER THREE

RESEARCH METHODOLOGY

Research is a systematic investigation that is used to find the answers for questions raised, where as methodology is a system of rules that are explicit and built up on which the research is based and against which the claims for knowledge are usually evaluated (Nachamias, 1996). Research is conducted based on theory which is extracted from deep literature study and it helps to interpret and collect the data. The theory basically serves as a foundation to conduct the research. Research methodology defines the systematic and scientific procedures used to arrive at the results and findings for a study against which claims for knowledge are evaluated (Cooper & Schindler, 2006; Saunders, 2000). A methodology is therefore shaped by the perspectives the researcher chooses to approach a study.

3.1. Research Design

Research Designs are the plans and the procedures for research that span the decisions from broad assumptions to a detailed methods of data collection and analysis. This plan involves several decisions and they need not to be in the order in which they make sense to me and the order of their presentation. The over all decision involves which design should be used to study for the topic. Informing this decision should be the world view assumptions the researcher brings to the study; procedures of enquiry and specific methods of data collection, analysis and interpretation. The selection of the research design is based on the nature of research problem or issue being addressed, the researcher's personal experience, and the audiences for the study (Cress well, 2003). Based on this research is a systematic inquiry aimed at providing information to solve problems. So that, In order to solve the problem or answer the research questions

appropriate methodology should be designed in order to show how research questions will be answered in the most rigorous method.

This study employed more of quantitative case study method to answer the research questions and use some qualitative information to know the current conditions of Commercial bank of Ethiopia with regard to enhancing banking service. This quantitative approach were applied to Identify the role of MIS for enhancing banking service. Some qualitative information were gathered from the organization by using semi-structured interview.

3.2. Target population and sample

The study was undertaken to examine the role of Management information system enhancing banking service within 18 selected grade 4 branches under East Addis Ababa District. Due to the homogeneity of the population, the study selects 89 managerial staffs (Branch managers and Customer service Managers). In order to answer the research questions of this study a sample of 89 managerial staffs were selected through judgmental sampling techniques from 18 selected Grade four branches to fill the questionnaire.

3.3. Sample size and sampling Technique

One of the pivotal aspects to find out the role of management information system in banking service requires the calculation of sample size. It is naturally neither practical nor feasible to study the whole population in any study. Hence, a set of participants is selected from the population, which is less in number (size) but adequately represents the population from which it is drawn so that true inferences about the population can be made from the results obtained. A sample is a set drawn from the population” (Keller, 2009). There are several ways in which potential participants can be selected for inclusion in a research study, and the manner in which participants are selected is determined by several factors, including the research question being investigated, the research design being used, and the availability of appropriate numbers and types of study participants (Geoffrey, 2005).

As the non-probability sampling is applied, so the researcher uses a sample based on convenient and judgmental sampling techniques. This judgmental sampling method relies on managerial staff of the bank, since they are more familiar with the study. The total population were used as a sample due to the small in number of the population and they are cost effective to collect data from them.

3.4. Data Sources

In this study, both primary and secondary sources were used for this research work provided that enough information could be obtained. The primary sources were used to get first-hand information collected from managers and customer service managers of commercial bank of Ethiopia under East Addis Ababa District working at the grade 4 branches. Questionnaires were designed and interview of respondents were also collected for this study. The essence of obtaining such data is to ensure that the exact information wanted for this study were obtained. The allotting of the questionnaires proved very useful in the crafting of a comprehensive, easy to understand and respond to final version that was used in the research. The secondary sources were used to strengthen the primary sources include books, journals, and articles. The Internet were also used to avoid the inadequacies of the data and extensively review as references.

3.5. Instruments of Data Collection

Questionnaires', interview, and document analysis were the main data gathering instruments. This is because of the need to collect adequate data .Therefore, employing multiple data collection instruments helps the researcher to combine, strengthen and amend some of the inadequacies of the data (Cress well, 2003).

3.5.1. Questionnaires

Questionnaires were used to collect relevant and first-hand information from key informants such as managers and functional departments in the banks. The Items of the questionnaire was mainly close-ended questions and accompanied by some open ended ones. The questionnaire were developed focusing on literature review in the context of Ethiopia to collect data regarding

the extent of MIS availability, utilization and its role for enhancing banking service. The reason why a questionnaire was used is that it is easier to handle and simpler for the respondents to answer within a short period of time (Koul,2008). The questionnaire employs the Likert scaling technique. It is a widely used rating scale which requires the respondents to indicate a degree of agreement or disagreement with each of a series of statements or questions (Albaum, 1997). This rating scale is easy to construct and administer and respondents readily understand how to use the scale (Malhotra and Birks, 2003, pp. 305)

The questionnaire contains three sections; I ,II and III. Section I has questions on personal profile (age, gender, field of specialization organizational position and year of experience) , section II includes questions on MIS availability (Human resource information system, marketing information system ,information technology and internal control system), and section III contains human, material, technical and administrative requirement of the CBE. (promptness, attitude and competence), and the rating of the service performance. The questionnaire was constructed in English, by believing that the respondents are literate and they are not being confused by the language. Pilot test was conducted using 20 questionnaires to identify and eliminate potential problems associated with question content, wording and format. Based on the feedback received from pre test participants, few changes were made on the questionnaire before it was administered to the sample.

3.5.2. Interview

Structured interview was used to collect data from MIS department. The interview Was also developed adopting the literature in Ethiopian case to accompany the data collected through questionnaire. The reason why semi structured interview were employed is that to obtain answers to carefully phrased questions (Koul, 2008). Using this instrument is important to get thick data about the study.

3.5.3. Document Analysis

Document analysis was also used to gather necessary information about the role of MIS enhancing banking service. This is to strengthen the data obtained through questionnaires and interview. Due to this reason, journals, books, and articles has been referred because they are

important sources of data to explore the influence of MIS on banking operation and in large business organizations. Supporting this, Boynton (1994) has noted that document analyses are important and relevant sources of data, and useful in yielding information and exploring the influence of MIS practice.

3.5.4. Measurement of Variables

the study were employed structured questionnaire, with general information which includes; gender, age, educational qualification, total years of service, field of specialization, organizational position and the extent of participating in decision making process. Five point Likert scales was used to measure dependent variables, which ranges from Strongly-Agree (5) to Strongly-Disagree (1) level of agreement, in all cases. The independent variables also ranges from never available(1) to highly available (5) ,from not automated(1) to fully automated(5),from very less importance(1) to highly importance(5) and from very less influence to to very high influence(5).The researcher was used about 42 structured Questionnaires to measure the independent variables (Human resource management information, Marketing management information system, Decision making support system and computerized management information system) causes the dependent variable (all over Banking service). There were also semi-structured interviews were conducted or MIS department. The questionnaire were developed focusing on literature review .The independent variables were adapted from (Akram Jalal Karim,2011,and Samuel Gemechu,2013) studies and the dependent variable is adapted from (Muhammad Ridhwan,2014) studies.

3.6. Method of Data Analysis

Different statistical techniques were employed on the basis of the basic questions stated and on the nature of the data collected. Consequently, the data collected from the respondents were analyzed quantitatively and qualitatively. In analyzing the quantitative data, respondents were categorized and frequencies will be tallied. The analysis made using the data collected through the research questionnaire is considered at 5% level of significance. For interview, the responses

were analyzed by using content analysis method. In using this technique, first summary sheets were prepared and the content of the response was analyzed. The documents such as journals, books, and articles were also used in data analysis. To this end, analysis and interpretations were made on the data obtained through questionnaire, interview and document analysis. According to the SPSS package, simple linear regression is used to model the value of a dependent scale variable based on its linear relationship to one or more predictors. The Model summary table reports the strength of the relationship between the model and the dependent variable. “R” value indicates the strength of relationship with larger values indicating stronger relationship and “R²” is the proportion of the variation in the dependent variable explained by the regression.

3.7. The study variables

The study variables relies on management information systems i.e marketing management information system ; human resource management information system and Management decision support system (independent variable),all over banking service (dependent variable), Sex, age ,educational back ground, field of specialization, year of experience(Demographic variables).

3.8. Test of Reliability and Validity

Cronbachs alpha is a coefficient of reliability. It is commonly used as a measure of the internal Consistency or reliability of a psychometric test scores for a sample of Respondents. It was first Named by Lee Cronbach in 1951, as he had intended to continue with further coefficients. The Researcher adopts the questionnaire rather than pre testing. since the validity and reliability of the study has been tested so far. In order to verify the stability of the questionnaire was conducted test (Cronbach's alpha) to measure the stability of the measuring instrument reaching internal consistency of the proportion of the questionnaire ($\alpha = 82.8 \%$) which is an acceptable percentage for the purposes of the study. Through previous procedures to ensure the veracity of the study tool and determine the sample study, questionnaires were distributed to the sample in question, and then unloaded the study sample on a computer answers, and analyze data using statistical analysis system (Statistical Package for Social Sciences -SPSS. Ver22).

3.9. Ethical considerations

In order to keep the confidentiality of the data given by respondents, the respondents were not required to write their name and assured that their responses were treated in strict confidentiality. The purpose of the study was disclosed in the introductory part of the questionnaire. Furthermore, the researcher tried to avoid misleading or deceptive statements in the questionnaire. Lastly, the questionnaires were distributed only to voluntary participants.

CHAPTER FOUR

DATA ANALYSIS, PRESENTATION, AND DISCUSSION OF THE RESULTS

This chapter deals with the description of the sample population, presentation, analysis and interpretation of the data based on the information obtained from the questionnaire, interview, and documents. The chapter consists of two parts. The first part is concerned with the description of the characteristics of the respondents of the sample population. The second part is concerned with the analysis and interpretation of the data.

4. General Information

Based on the sampling procedure described in chapter three, eighteen grade four branches in EAA District were included in the study. The sample consists of a total of 89 commercial bank of Ethiopia managerial staffs were participated. In addition to this, all MIS department were interviewed .On the part of the questionnaire answered by respondents, a total of 89 questionnaires were distributed and all questionnaires were returned with a return rate of 100%. i.e all distributed questionnaires has been collected .This high return rate adds to the validity of the study. The interview was held with those bodies and document analysis data were used as additional information. Thus, the analysis was made on the basis of the information obtained from the questionnaire. Document analysis like; journals, books, and articles were seen because they are important sources of data to explore the influence of information technology management practice on management information systems uses in large business organizations like CBE. . MIS enables the exchange of experiences, which transfer the required information to

the management levels to sustain competitive advantage since it affects the decision making to improve the quality of services provided. This was to strengthen the data obtained through questionnaire and interview.

4.1 General information of Respondents

Table 4.1.1 sex

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid male	67	75.3	75.3	75.3
female	22	24.7	24.7	100.0
Total	89	100.0	100.0	

The result of the study in Table4.1.1 above revealed that out of the 89 respondents 67(75.3%) and 22(24.7%) of the banks managers were males and females respectively. Hence, this indicates that the great majority of the banks managers in the sample areas of the study were males showing that the work environment was male dominated at the management level in commercial Bank of Ethiopia East Addis Ababa District. The reasons for this state of affairs could be that the women generally do not want to take banking as a career, inadequate child-care facilities at work, career interruptions, male work cultures and discriminatory attitudes in the work place. The prejudice of their male colleagues may also be the only psychological constraint to career progression women may encounter in the banking industry.

Table 4.1.2 Age of Respondents

	Frequency	Percent	Valid Percent	Cumulative Percent
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Valid	below 25	10	11.2	11.2	11.2
	26upto35	30	33.7	33.7	44.9
	36upto45	26	29.2	29.2	74.2
	46upto55	16	18.0	18.0	92.1
	above56	7	7.9	7.9	100.0
	Total	89	100.0	100.0	

Table 4.1.2 shows that 11.2% of the banks managers were 25 years and below, 33.7% of the banks managers were between 26 and 35 years and 29.2% of the banks managers were between 36 and 45 years. The rest of the banks managers, 18%, and 7.9% were between 46 and 55 years, and 56 years and above respectively. This shows that the vast majority of the banks managers were more matured to make decision in CBE East Addis Ababa District, if relevant information has been avail.

Table 4.1.3 Field of specialization

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Accounting and Finance	11	12.4	12.4	12.4
Banking and Finance	15	16.9	16.9	29.2
Business administration	10	11.2	11.2	40.4
management	27	30.3	30.3	70.8
Marketing management	21	23.6	23.6	94.4
Others	5	5.6	5.6	100.0
Total	89	100.0	100.0	

As appears in Table1.3.Among respondents,12.4% were Accounting and finance , 11.2% business administration. The rest managers' i.e. 16.9%, 30.3%, 23.6% and 5.6 % were banking and finance , Management ,marketing management, , and others respectively. Among respondents, 94.4% have a business major, while 5.6% have a major of other than business. This indicates that the majority of managers in Commercial Bank of Ethiopia have a business major. Generally, these proportions indicate that the above 94% of respondents have the ability to understand the Items introduced to them, and are able to provide the reasonable answers for these Items.

Table 4.1.4 Educational Background.

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Doctorate degree	2	2.2	2.2	2.2
Master degree	9	10.1	10.1	12.4
Ba degree	78	87.6	87.6	100.0
Total	89	100.0	100.0	

Table .4.1.4 also shows that 87.6 % of respondents have the first university degree and the rest, 10.1 % and 2.2 of them have Master's and Doctorate Degree. These proportions can also be considered as a good evidence for respondents' ability to understand the Items of the questionnaire, and to provide the appropriate answers. As per the policy and procedure of, commercial of Ethiopia managers are expected to have at least first degree holders in business and business related field of study. This situation may have an influence to foster the organizational performance of the activity, which in other way influences the banking service effectiveness of decision making.

4.1.5 organizational position

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid branch manager	19	21.3	21.3	21.3
customer service manager	70	78.7	78.7	100.0
Total	89	100.0	100.0	

The Table 4.1.5 also shows that most respondents occupy an administrative position in commercial Bank of Ethiopia. The analysis reveals that 21.3 % of them are Branch Managers and the remaining 78.7 are customer service managers. This indicates that most respondents are required to take decisions, and their answers for the Items of the questionnaire are based on their experience and on their practices of the decision Making process. This high proportion of decision makers among respondents adds more Reliability to the questionnaire.

Table 4.1.6 Years of experience

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid above 20 years	2	2.2	2.2	2.2
15 up to 19	3	3.4	3.4	5.6
10 upto 14	4	4.5	4.5	10.1
9 upt o 13	14	15.7	15.7	25.8
5 up to 9	51	57.3	57.3	83.1
less than 5	15	16.9	16.9	100.0
Total	89	100.0	100.0	

The above Table also reveals that about 2.2 % ,3.4%,4.5%,15.7%,57.3%,16.9% of respondents have twenty and above year experience ,15 up to 19 ,10 up to 14 ,9 up to 13,5 up to 9, and less than 5 respectively. This means that, most respondents have enough experience, so they have the ability to answer the Items of the questionnaire, because when an employee practices his job for a longer period, he/she becomes more knowledgeable with the methods used in the job

performance and he/she will be more familiar with the terminology of his job. This result supports the reliability of the study.

Table 4.1.7 participation for decision making

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid all times	25	28.1	28.1	28.1
most times	50	56.2	56.2	84.3
some times	14	15.7	15.7	100.0
Total	89	100.0	100.0	

Table 4.1.7.1 reveals that about 28.1% among them participate all the time in the decision making process, about 56.2% participate most of the times, and about 15.7% participate sometimes.. In general, it can be said that most respondents are decision makers, so they participate in the decision making process. Therefore, the proportion of these ratios support the confidence of the study findings.

4.2. Descriptive Analysis

4.2.1. Availability of MIS in Producing Information Report for Enhancing banking service.

To determine the availability of MIS requirements in decision-making of the respondents, they were asked to score each of the four provided list of specific MIS that bank managers may require in decision-making on the 5- point ordinal variables, that is very highly available=5,

highly available=4, low available =3, occasionally available =2 and never available=1. U Study (2010) saying that the quality of managerial decision-making depends directly on the quality of available information obtained from organization information systems and the managers should therefore cultivate an environment that encourages the growth and viable sprouting of quality information. Therefore, presentation and analysis of this sub-section took frequencies, and Percentages data scores of the specific MIS availability in decision-making of respondents are obtained from Table 2 as follows:

Table 4.2.1 Availability of MIS, HRIS IT, internet and intranet systems

Variables Valid	Respondents Response	CATEGORY					Total
		Never Available	Occasionally Available	Low Available	Highly Available	Very Available	
HRIS	NO.	2	3	17	32	35	89
	%	2.2	3.4	19.1	36	39.3	100
MRIS	NO	0	4	6	50	29	89
	%	0	4.5	6.7	56.2	32.6	100
INR& INTRAS	No	1	9	10	55	14	89
	%	1.2	10.1	11.2	61.8	15.7	100
IT	No	1	3	7	43	35	89
	%	1.1	3.4	7.9	48.3	39.3	100
Total	No	4	19	40	180	113	356
	%	1.12	5.3	11.24	50.6	31.74	100

As it can be seen from Table4.2.1 above based on the given alternatives ordinal criteria evaluates specific MIS availability from total of 89 respondents, marketing information system and internet & intranet system which accounts for 50(56.2%), and 55(61.8%) respectively .these

were high level of available percentage scores. In addition, the Table also shown that 17(19.1%), was human resource information systems, and these has been high percentage low level of availability scores. Where as information technology was very highly available which accounts for 35(39.3%). The above table also shows that the total 356 entire ordinal of Items used to measure the availabilities of each specific MIS replied by each respondents were counted as, 113(31.74%),180(50.6%), 40 (11.24), 19(5.3), and 4(1.12%) are respectively very high available, high available, low available, occasional available and never available percentage scores. From this result, we find that the highest percentage of score, i.e,50.6% was represents high ordinal level of availability. These scores imply that majority of respondents agreed that there is high level availability of MIS in commercial bank of Ethiopia since more than 50% of respondents agreed that MIS were available in CBE. Beside this, the analysis of data obtained from the interviews made with MIS department confirms that there are some amounts of MIS available in commercial bank of Ethiopia. But it does not mean that the available MIS and fully providing managers with the information they need for the decision making.

4.2.2. The Availability of Computerized MIS in Producing Information Report for enhancing banking service.

Computerized MIS is any kinds of a system processing data to produce the summary of internal and external quality of information for end users. “Information used by managers decision must be certifiably free of specific type of errors since the organization is subject to data quality control assessment conducted by auditors at anytime during operations” (Kaplan and Krishnan, 1998). To be useful, Computerized MIS should be accurate and fast while processing information, and in providing management with the essential accurate information within a reasonable time. In addition, MIS must be supported by information technology to provide management with efficient information for the purposes of planning, organizing, leading, and controlling, or for an appropriate link must be available between the MIS and other applied information systems in the organization. To determine the availability of Computerized MIS requirements in decision-making of the respondents on the 4- point category of variables, that is used fully automated =4,used partial automated =3, manual used =2 and not used=1. Therefore, presentation and analysis of this sub-section took frequencies, and percentages data score of the specific MIS available in decision-making of respondents are obtained from Table 3

Table 4.2.2: Availability of Computerized MIS for enhancing banking service in the Commercial Bank of Ethiopia under EAAD.

Variables	Respondents	CATEGORY				Total
		Valid	Manually Used	partially automated	Fully automated	
HRIS	NO.	2	1	15	71	89
	%	2.2	1.1	16.9	79.8	100
Internal control system	NO	3	6	62	18	89
	%	3.4	6.7	69.7	20.2	100
Marketing information system	No	1	8	27	53	89
	%	1.1	9	30.3	59.6	100
Total	No	6	15	104	142	267
	%	2.25	5.61	38.96	53.18	100

The above Table 4.2.2 demonstrates that the percentage scores of availability computerized MIS That simplifies the operation of banking service for the respondents. Among the Items used for enhancing banking service for the respondents, human resource information systems and marketing information systems were fully automated which covers 79.8% and 59.6% respectively. The above table also depicts that the internal control system have more percentage of manual operation. Based on information indicated in the table, it is found that the highest Percentage of the entire category of items used to measure the availabilities of automated MIS in commercial bank of Ethiopia is 53.18%. These value indicates that the majority of available MIS used in banking operation for the respondents were fully automated in commercial banks of Ethiopia. In the same way, the analysis of data collected from MIS department through interview shows that there was most fully automated MIS available for the entire banking operation. Thus, it can be said that the current information technologies developed in commercial bank of

Ethiopia were on good progress for adopting the emerging advanced technologies. To this end, the analysis of data obtained through interview also showed that the automated MIS were critical important and plays decisive role for enhancing banking service and it enable the bank to generate high market share from the industry.

4.2.3. Time Range For Mostly Available MIS Were Used in Management Decision Making

Similarly, respondents were provided with a list of three specific sources of MIS. They were asked to rate their utilization of each sources type of MIS in time range on their decision making as a 5-point category; for long term used=5, for middle term used=4, for both middle and short term used=3, for short term used =2, and never used=1. Thereafter, percentage (%), and numbers of frequency (No.) scores were computed for each sources type to determine the extent to which time ranges of decision making used by the respondents.

Table 4.2.3: Percentage Scores of Specific MIS in which Time Range Decision Making of the Respondents Used.

Variables Valid	Respondents Response	CATEGORY					Total
		Not Used	Used for short term	Middle and short term	Middle term	Long term	
HRIS	NO.	1	7	18	25	38	89
	%	1.1	7.9	20.2	28.1	42.7	100
MRIS	NO	0	3	4	61	21	89
	%	0.0	3.4	4.5	68.5	23.6	100
IT	NO	1	11	48	17	12	89
	%	1.1	12.4	53.9	19.1	13.1	100
TOTAL	No	2	21	70	103	71	267

As it is described in the above Table 4.2.3, the results of specific MIS in which time ranges of respondents decision were calculated i.e human resource information systems and marketing information systems have high percentage scores for long term decision making process; 42.7%, and 23.6%, respectively . The Table also shows that information technology and marketing information systems: 53.9% and 68.5 have high percentage of middle and short term planning, and middle term planning respectively. Based on this Table, the specific MIS used in time range of decision making was also rated by each group of Items. Then, we find that the highest percentage score of the entire category of Items 38.58% were revealed that the majority of specific MIS available are used for the category of middle term planning decision activity. This finding supports the theories of MIS importance in middle or short term decision made, at middle, and operational level of management used. MIS provide routine reports and summaries of transaction- level data to middle and operational-level managers to provide answers to structured and semi-structured decision problems (O.Brien and Marakas, 2006). This theory gives good reason for the appropriate utilization of MIS available in middle and short term planning in commercial bank of Ethiopia under East Addis Ababa District.

4.3. The MIS Reporting Alternatives Used in Management Decision Making

According to O'Brien, and Marakas, 2006, Management information systems provide a variety of information products to managers' decision making. The major reporting alternatives used in MIS are; periodic scheduled, exceptional, demand (responses) and push reporting . The most alternative reporting used for management information systems was periodic scheduled method. It is the traditional form of providing information to managers' uses a pre-specified format designed to provide managers with information on regular basis. Thus, to determine the reporting alternative specific source of MIS used in management decision-making in commercial bank of Ethiopia, the respondents were asked to rate in which reporting alternatives each of the three list of specific sources MIS used in managers decision making on a 5-point category; for not used=1, for push report =2, for exceptional report =3, for demand report =4, and for periodic report =5, Thereafter, percentages (%), and numbers of frequency (No.) scores were computed for each

sources to determine in which reporting alternatives the most prevailing sources of MIS used by the respondents.

Table 4.3.1: Percentage Scores of Specific MIS Reporting Alternatives Mostly Used in Banking service.

Variables Valid	Respondents Response	CATEGORY					Total
		Not Used	Push reportin g	Exceptiona l reporting	Demand reportin g	Periodic scheduled report	
HRIS	NO.	5	10	16	41	17	89
	%	5.6	11.2	18	46.1	19.1	100
MRIS	NO	0	9	37	23	20	89
	%	0.0	10.1	41.6	25.8	22.5	100
IT	NO	3	9	8	49	20	89
	%	3.3	10.1	9	55.1	22.5	100
TOTAL	No	8	28	61	113	57	267
	%	2.99	10.49	22.85	42.32	21.35	100

As it is also shown in Table 5 above the percentages scores of the reporting alternative MIS used in management decision-making in commercial bank of Ethiopia were calculated. The high percentage scores 22.5%, for both marketing information systems and information technology. are used for periodic scheduled alternative reports category in management decision making. The Table also shows that 46.1%% and 55.1% are as regard to marketing t information system and information technology respectively have high percentage score were used for demand alternative reports category, whereas human resource information system have 5.6% high percentage score not used for managers decision making processes. From the same Table above the overall percentage of the alternative reporting for MIS were also rated by each group of Items. As we obtained the highest percentage score of the total group of Items is 42.32%

revealed that the majority of available MIS were used for demand reporting alternative category in management decision making at commercial bank of Ethiopia in Addis Ababa District. There for They more typically produce fixed and regularly scheduled reports based on data extracted and summarized from the firm's underlying transaction processing systems. Generally, the findings of these reports contradicts the idea of Kostetsky 1996, Which says that The main objective of MIS is helping decision makers by accurate and time based information periodically that enable them in making the right decisions in turbulent environment.

Table 4.3: Percentage Scores for importance of MIS for enhancing banking service

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid less importance	4	4.5	4.5	4.5
moderate importance	14	15.7	15.7	20.2
high importance	38	42.7	42.7	62.9
Very high importance	33	37.1	37.1	100.0
Total	89	100.0	100.0	

.Table 6 describes that out of 89 respondents,4.5%,15.7%,42.7%, and 37.1% said that MIS is less importance, moderate importance, high importance and very high importance for banking service respectively. based on the above data we can conclude that MIS has high importance for the entire operation of the bank and facilitate service excellence. It is also remarked that banking sectors was one of the blood vessels of the country's economy which is indicate the levels of national development growth in one country. To sustain and compute within the industry, it is advisable to have a plan to develop modern MIS like core banking system to integrate all main function of banking operation.

4.4. Reliability Test

The study used Cronbach alpha to assess the internal consistency of the research instrument. Cronbach's α (alpha)[1] is a coefficient of reliability. It is commonly used as a measure of the internal consistency or reliability of a psychometric test score for a sample of examinees. The result of reliability test for the questionnaire is shown in the following table. As it is indicated in the table, the test result is between 0.82 and 0.94. Therefore, based on the test, the results for the items are reliable and acceptable, since The result of 0.7 and above implies an acceptable level of internal reliability.

Table 4.6 Reliability Test

Item	No. of Item	Cronbach alpha
Human resource management information system	4	0.828
Marketing management information information system	5	0.846
Decision Support System	5	0.853
Computerized management information system	9	0.917
Banking Service	19	0.946

4.5. The correlation of MIS attributes with banking service.

Correlation analysis helps to gain insight into the direction and strength of correlation between variables. Correlation coefficients take values between -1 and 1 ranging from being negatively correlated (-1) to uncorrelated (0) to positively correlated (+). The sign of the correlation coefficient defines the direction of the relationship. The absolute value indicates the strength of the correlation. Correlation analysis was undertaken before conducting the regression analysis.

In this study Table 4.5 presents the summary of the correlation analysis in matrix form. Please see the following appendix for full statistical result. Correlation analysis was incorporated to describe the strength and direction of the linear relationship between the two independent variables and the dependent variable (Pallant, 2001). Management information system (Human resource Information system, marketing information system and decision making process) , which are the independent variables and all over banking service are dependent variables. Previous studies underpinned the importance of conducting correlation tests before the regression testing, the correlation between variables thus necessary (Coakes and Steed, 2007). The result of the correlations is presented in the following table.

Table 4.5. Correlation of MIS and banking service

		marketing Information Sytem	Human resource Information system.	decision support system	Over all Bankink service
marketing management Information System	Pearson Correlation Sig. (2-tailed) N	1 89	.728** 89	.668** 89	.523** 89
Human resource management Information system.	Pearson Correlation Sig. (2-tailed) N	.728** 89	1 89	.615** 89	.468** 89
decision support system	Pearson Correlation Sig. (2-tailed) N	.668** 89	.615** 89	1 89	.661** 89
Over all Bankink service	Pearson Correlation Sig. (2-tailed) N	.523** 89	.468** 89	.661** 89	1 89

** . Correlation is significant at the 0.01 level (2-tailed).

As shown in the above table, the magnitude of the relationship ranges from a low of 0.468 (between Human resource management information system and overall banking service) to a

high of 0.728 (between Human resource management information system and marketing management information systems) .As the detail of the of the correlation analysis shows in table4.7, the statistical significance (p-value) is higher than the minimum of 0.01 which shows that the degree of association is highly significant. The results of correlation reveals that Marketing information system, Human resource management and decision making support system (r= 0.523, r=0.468, r=0.661, p < 0.01)found to be strongly and positively correlated with all over the banking service.

4.6. Linear Regression Assumptions

Linear regression is an analysis that assesses whether one or more predictor variables explain the dependent (criterion) variable. First, linear regression needs the relationship between the independent and dependent variables to be linear. It is also important to check for outliers since linear regression is sensitive to outlier effects. The linearity assumption can tested with scatter plots.

Table 4.6. Test of multi co linearity

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	.784	.431		1.821	.072		
	marketing Information Sytem	.159	.162	.126	.984	.0038	.392	2.552
	Human resource Information system.	.039	.139	.034	.284	.004	.440	2.272
	decision support system	.598	.120	.556	4.977	.000	.519	1.927

a. Dependent Variable: Over all Bankink service

4.7.Simple linear Regression analysis

This regression analysis was conducted to know how much the independent variable explains the dependent variable. It is also used to understand by how much each independent variable (human resource information system, marketing information systems and decision support systems) explains the dependent variable of all over banking service . the following are The results of the regression analysis .

4.7.1 Simple linear Regression analysis of Marketing information system and banking service

The Results of regression analysis for Marketing information system and banking service can be seen in table 4.7 The result shows that marketing information system has the power to explain banking service. based on this the results of correlation of marketing information system and banking service and R Square (0.523) are taken into account. The regression analysis model summary indicates that marketing information system which is entered into the regression model on SPSS has relationship with banking service with correlation coefficient of 0.723. The R square is the explained variance and it is actually the square of the multiple R (0.723)². Therefore, it is accounts for 52 percent of marketing information system can explain the dependent variable banking service. As it is indicated in table 4.7,marketing information system was considered as predictors for banking service and reported high level of significance $p < 0.01$.

Table 4.7. Regression Analysis of Marketing information system and all over banking service

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.723	.523	.517	.207

a. Predictors: (Constant), marketing Information System

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	4.068	1	4.068	95.289	.000 ^b
	Residual	3.714	87	.043		
	Total	7.783	88			

a. Dependent Variable: Over all Banking service

b. Predictors: (Constant), marketing Information System

4.7.2. Regression Analysis of Decision support system and all over banking service

The Results of regression analysis for Decision support system and banking service can be seen in table 4.8 The result shows that Decision support system has the power to explain banking service. based on this the results of correlation of Decision support system and banking service and R Square (0.526) are taken into account. The regression analysis model summary indicates that Decision support system which is entered into the regression model on SPSS has relationship with banking service with correlation coefficient of 0.725. The R square is the explained variance and it is actually the square of the multiple R (0.725)². Therefore, it is accounts for 52 percent of marketing information system can explain the dependent variable banking service. As it is indicated in table 4.8, Decision support system was considered as predictors for banking service and reported high level of significance $p < 0.01$.

Table 4.8 Regression Analysis of Decision support system and all over banking service

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.725 ^a	.526	.520	.206

a. Predictors: (Constant), decision support system

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	4.090	1	4.090	96.352	.000 ^b
	Residual	3.693	87	.042		
	Total	7.783	88			

a. Dependent Variable: Over all Bankink service

b. Predictors: (Constant), decision support system

4.7.3. Regression Analysis of Human Resource Information system and all over banking service

The Results of regression analysis for human resource information system and banking service can be seen in table 4.9. The result shows that human resource information system has the power to explain banking service. based on this the results of correlation of human resource information system and banking service and R Square (0.665) has been considered. The regression analysis model summary indicates that human resource information system which is entered into the regression model on SPSS has relationship with banking service with correlation coefficient of 0.815. The R square is the explained variance and it is actually the square of the multiple R (0.815)². Therefore, it is accounts for 81 percent of human resource information system can explain the dependent variable banking service. As it is indicated in table 4.9, human resource information system was considered as predictors for banking service and reported high level of significance $p < 0.01$.

Table 4.9. Regression Analysis of Human Resource Information system and all over banking service

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.815 ^a	.665	.661	.173

a. Predictors: (Constant), Human resource Information system.

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	5.173	1	5.173	172.467	.000 ^b
	Residual	2.610	87	.030		
	Total	7.783	88			

a. Dependent Variable: Over all Bankink service

b. Predictors: (Constant), Human resource Information system.

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
		1	(Constant)	-.235		
	Human resource Information system.	1.047	.080	.815	13.133	.000

a. Dependent Variable: Over all Bankink service

4.4. Regression Analysis of Computerized management information system and all over banking service

The Results of regression analysis for computerized management information system and banking service can be seen in table 4.10. The result shows that computerized management information system has the power to explain banking service. based on this the results of correlation of computerized management information system and banking service and R Square (0.526) are taken into account. The regression analysis model summary indicates that computerized management information system has relationship with banking service with correlation coefficient of 0.725. The R square is the explained variance and it is actually the square of the multiple R (0.725)². Therefore, it is accounts for 52.6 percent of human resource information system can explain the dependent variable banking service. As it is indicated in table 4.10, computerized management information system was considered as predictors for banking service and reported high level of significance $p < 0.01$.

Table 4.10. Regression Analysis of computerized management information system and all over banking service

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.725 ^a	.526	.520	.206

a. Predictors: (Constant), computerised MIS

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	4.090	1	4.090	96.352	.000 ^b
	Residual	3.693	87	.042		
	Total	7.783	88			

a. Dependent Variable: Over all Bankink service

b. Predictors: (Constant), computerised MIS

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-.173	.427		-.406	.686
	computerised MIS	1.035	.105	.725	9.816	.000

a. Dependent Variable: Over all Banking service

Generally, the research questions were answered by using a sample of 89 respondents. From the analysis it is clearly indicated that the measure of correlation between MIS variables as it is indicated in the correlation analysis is positive. As it is indicated in the regression analysis, the independent variables which are included in the dimension of MIS have the power to explain the dependent variable of banking service. The results of ANOVA demonstrate that Banking service differs among the various independent variables. Within the independent variables, human resource management information systems has prominent influence on banking service.

This indicates that how much human resource plays crucial role and they are the most valuable asset of the organization.

4.8. Discussion of the results

This discussion is very important to provide more clarification on the above results. This research is related with management information system dimensions in banking service , specifically in commercial bank of Ethiopia East Addis Ababa district. the objective of this study is to examine the role of management information in commercial bank of Ethiopia .

In to ays competitive environment, banks should develop good management information system with in the entire operation in order to survive and succeed. This research have identified four dimensions of management information system namely, human resource information system, marketing management information system, decision support system and computerized management information system. The correlation between decision support system and all over banking service is the highest of all correlation results of management information system dimensions which accounts for 0.661.

Human resource management information system, marketing management information system, and decision support system play a decisive role when an organization wants to implement MIS in their organization. They are interrelated, and they work in an integrated way. When an organization decides to implement MIS in their organization, they need to look carefully whether their MIS implementation goal is aligned with their organization goal or not. Their top management must support the project plan, and they also equip themselves with the required IT knowledge. They must acknowledge that a properly designed MIS can help them significantly in their decision making process. They can achieve their overall organization goal and they also can manage their people with the support of Management Information Systems. They allocated the necessary resources for the MIS implementation. Also, they train their users with the necessary knowledge so that their organization efficiency will improve significantly. based on the analysis of simple linear regression analysis, human resource management information system significantly influence the banking service. This indicates that how much human resource plays crucial role for the well being of the entire banking operation.

In concluding, these three variables jointly play a vital role in MIS implementation, and an organization will achieve numerous benefits with it. This paper supports the finding of Shuddha Chowdhury and Salahuddin (2017)entitled that “Factors influencing the implementation of management information system in organizations.

CHAPTER FIVE:

SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATIONS

5.1. Summary of Major Findings

The purpose of the study is to assess the role management information systems enhancing banking service in Commercial bank of Ethiopia under East Addis Ababa District, as factors influencing Banking service Such as human resource information systems, Marketing information system, Internet/Intranet information systems, Decision support system and information technology. The basic questions of this study focused on: 1) the extent to the availability of MIS, and whether it automated, 2) the primary purposes the current MIS used regards to the time ranges of managers decision making, 3) at what time interval MIS produce report needed for management decision support, 4) importance of specific MIS available for decision making .The analyses of descriptive statistics (frequencies, percentages, and cumulative percentages results) were computed. In essence the study of MIS is not only about the use of computers, it is about the provision and use of information relevant to the user. It has been observed that from the literatures, MIS is generally thought of as an integrated, user-machine system providing information to support operations, management and decision-making functions in an organization. As a matter of fact, an MIS is a special purpose system useful for management in an organization. Thus corporate establishments like Banking industry in general Commercial Bank of Ethiopia in particular, needs relevant and timely MIS for effective strategic decisions to be taken within the industry. Such decisions taken within the banking industry help greatly in establishing a competitive advantage over other banks operation within the same industry. Based on the results of quantitative and qualitative data analysis, the major findings were summarized as follows:

- Regarding to the availability of MIS in commercial bank of Ethiopia, one of the findings in this study is that the most prevailing MIS highly available in decision making of the managers were marketing information system and internet/intranet systems, whereas information technology and human resource information systems are relatively low

available compared to the availability of marketing information system and internet/intranet systems. This high availability of marketing information systems is the reason for the existence of different products that Commercial bank of Ethiopia offer via intensive advertising and various promotion and marketing strategies. This indicates that the higher the marketing information systems, the higher customer base (market share) in the industry. Beside this high availability of marketing information systems, The high availability of internet and intranet brings operational excellence and it enables the bank to have delighted customer. The more delighted customer that the bank has, the high public confidence and the high profit generated from the sector. To sum up the availability of MIS in Commercial Bank Of Ethiopia, the secret of being leading bank in Ethiopian Banking industry is that the high availability of marketing information system and internet/intranet systems.

- Among the Items used for enhancing banking service for the respondents, human resource information systems and marketing information systems were fully automated which covers 79.8% and 59.6% respectively. The Percentage of the entire category of items used to measure the availabilities of automated MIS in commercial bank of Ethiopia is 53.18%. These value indicates that the majority of available MIS used in banking operation were fully automated in commercial bank of Ethiopia. In the same way, the analysis of data collected from MIS department through interview shows that there was most fully automated MIS available for the entire banking operation. Thus, it can be said that the current information technologies developed in commercial bank of Ethiopia were on good progress for adopting the emerging advanced technologies. This is because technology is used in relation to the ratio of the number of customers served and socio cultural environment in which banks are operating. To this end, the analysis of data obtained through interview also showed that the automated MIS were critical important and plays decisive role for enhancing banking service.

- In this study, it was found that majority sources of MIS used in decision making for planning strategy in medium and short term at respect to middle and operation levels of management in commercial bank of Ethiopia are appropriately utilized.

- Based on detail of the correlation analysis shows in table4.7, the statistical significance (p-value) is higher than the minimum of 0.01 which shows that the degree of association is highly significant. The results of correlation reveals that Marketing information system, Human resource information system, information technology and decision making process ($r= 0.624$, $r=0.434$, $r=0.635$, $r=0.723$, $p < 0.01$)found to be strongly and positively correlated with all over the banking service.

5.2. Conclusion

Based on the major findings, the following conclusions were drawn:

- Even though the findings of this study shows that the majority of specific MIS requirement for enhancing banking service were, human resource information systems, Marketing information systems, and Internet/intranets , whereas internal control systems , which provide information for management decision making are low available,. This means not all types of MIS are fully available in commercial bank of Ethiopia.
- MIS available in commercial bank of Ethiopia are not fully computerized. The only current information technologies developed in banks are mostly used for transaction processing systems.
- MIS available currently in commercial bank of Ethiopia are used at their appropriate place, that is, in medium and short term decision plan. Utilization of appropriate information at appropriate time and place will lead to better planning, better decision making and better results.
- Majority of MIS available in commercial banks such as human resource information systems, and information technology systems were used demand reporting alternatives.
- All banking service in general ,The management decision making processes in particular are highly influenced by the availability and utilization of MIS in managers' decision making processes in commercial bank of Ethiopia. However, the respondents responds that the importance of MIS that provide variety of information to achieve an organization's goals and objectives are supported by effective management decision making was not bring expected result.
- Commercial bank of Ethiopia exerts the maximum effort to overcoming these traditional methods of banking operation by providing information and making high availability of information for managers' decision support though development of modern and advanced information technology to automate the entire core banking system.
- The availability and utilizations of marketing information systems, human resource information systems, , information technology and Internet and intranets systems are

highly important in management decision making processes in commercial bank of Ethiopia. Like to this they are highly influence the management decision making processes in commercial bank of Ethiopia.

- Finally, the study result shows that there is significant influence of management information system on banking service in case of commercial bank of Ethiopia.

5.3. Recommendations

In order to improve the capability of Commercial bank of Ethiopian and enhance its service, the bank should understand the dimensions of management information system, and clearly define and develop the resources in case of human, technological and internal operations among others, and manage them in appropriate manner across the all branches. However, it is difficult to assure the wellbeing of the bank and not easy to make linkage between management information systems, and banking service.

Based on the findings and the conclusions drawn, the following recommendations are forwarded.

- The study has revealed that some of specific MIS that are most important for manager's decision making like, internal control systems are low available. Therefore, the banks should make high availability of such systems for management decision making in order to alleviate uncertainty or risk associated with their business operations and performance.
- Lack of fully computerized Management information systems greatly affects management decision making effectiveness in Commercial bank of Ethiopia. Since the MIS of the bank are not fully automated, it is not able to provide a report for management decision, due to the failure of accessing accurate, flexible, and efficient in retrieving the available information, that provide decision makers with correct and timely information. this information helps decision makers in predicting the future so that they can take better decisions as well as using as a tool for distinctive competition advantages though developments of computerized MIS. Hence, Commercial bank of Ethiopia East Addis ababa District are recommended that great effort must be exerted to set directions in which all levels of management to get accurate, relevant and timely information in their decision making processes.
- The prevailing information technology used in commercial bank of Ethiopia practices more for transaction processing system. Thus, banks should have work with their information system to extend further utilization of information technology for their management decision support to get full advantage of current technology. This includes a data warehouse, regulatory and generic reporting systems and a universal banking core system.

- Since effective decision making process cannot be fully realized without MIS development, research has to be undertaken and the banks have to promote the importance of quality of information at management level and it is advisable to have professional support and guidance. Research work is also a key activity which solves many of the problems associated with management decision making process and guarantees the banks performance improvement. Therefore, the banks are recommended to pay due attention and devote their time, resource and energy to make important MIS development and research works a reality at the management level.
- It is highly recommended that MIS is the lifeblood of any organization and Commercial bank of Ethiopia that they should realize the importance of MIS. Beside this there must be committed to seek formal or organized information before taking decisions. And also MIS designers must be aware the type of decisions to be made at various levels of the organization supported by perfect MIS rather than haphazard development without considering the real organizational needs.
- The organization management does not always recognize the information needed, while the information professionals often do not comprehend and are aware of management in order to produce relevant information for the managers they serve. To be successful, MIS should be designed and operated related to organizations, management and technical factors. The study encourages the organizations' top management to participate in enhancing MIS and make an effective contribution to system design. The information specialists (including systems analysts, designer, IT personnel, accountants and operations researchers) should cooperate and become more conscious and aware of managerial functions needs so that more effective MIS is developed. Finally, to enhance MIS, banks or any organization that use MIS to enhance its decision making processes should develop effective communication channels between management and information professionals. Good communications then facilitates the task of developing relevant and appropriate information systems. It is no simple checklist to automatically produce the perfect MIS. Organization thus would be aware that what is required is an awareness and understanding of key principles and functions in which the design, implementation and operation of MIS are the results of rational decisions rather than jumbled development without considering the real organizational needs.

5.4. Directions for further research

The paper in the special issue point out a research for enhancing Banking Service is examined as a central focus of study. A critical area of study is the role of MIS for banking service. there was some challenges to implement all MIS like marketing information system, human resource management information system, and decision making support system to make computerized and fully automated. My paper will help future researchers to investigate more thoroughly on the mentioned variables discussed in this paper and they can make further contribution on this topic. My work will provide a good baseline for them. I hope the future researcher will address this challenges and bring sound results. In future research, it would be interesting to measure the role of management information System enhancing banking service .Further research should also involve a nationwide survey covering samples from the whole population of Commercial bank of Ethiopia. Future studies can benefit by including detail analysis of other dimensions like financial information system, accounting information system and geographic information systems.

The findings of this study may not be generalized to the whole banking industry or to other types of organizations in the country. Generalization of the present findings should, therefore, be examined in future research in Ethiopian commercial banks and other organizations with balanced gender, and more heterogeneous samples. Furthermore, researchers might further examine which management information system might continuous influence banking service.

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Appendix A

DEBRE BIRHAN UNIVERSITY
COLLEGE OF BUSINESS AND ECONOMICS
DEPARTEMENT OF MANANENET
MASTER OF BUSINESS ADMINISTRATION

Questionnaire to be filled by Managers

Dear manager,

The purpose of this questionnaire is to collect primary data for conducting a study on the topic, **The role of management information system enhancing banking service in case of Commercial Bank Ethiopia under East Addis Ababa District** as Partial fulfillment of the requirement of Master of Business Administration (MBA) Program in Debre Berehan University. In this regard, I kindly request you to provide me reliable information that is to the best of your knowledge so that the findings from the study would meet the intended purpose. I strongly assure you of confidential treatment of your answers and would like to extend my deep-heart thanks in advance for being a volunteer to devote your valuable time in filling these questionnaires.

Directions:

- No need to write your name.
- Answer by putting a tick mark “√” in box or by writing in the space appropriate.
- In case you have ambiguities on any of the questions, please do not hesitate to contact me.

PART I. PERSONAL PROFILE

1. Sex: Male Female

2. Age: Below 25 25-35 35-45 45-55 Above 55

3. Field of specialization: Accounting and Finance Banking Business Administration management marketing management Others

4. Education Background: Doctorate degree Master degree BA degree
Diploma secondary school

5. **Organizational Position:** Branch manager Customer Service Manager

6. **Years of Experience:** 20 years or more 15 to 19 years 10 to 14 years
5 to 9 years Less than Five Years

7. **The Extent of Participation in the banking operation and Decision Making Process:**

All time Most time some time Rarely Do not participate

PARTII. Questions on MIS for Enhancing banking service

1. Please rate the following criteria related to present availability of Management Information System producing information report for management decision making in your bank on a scale of 1-5. Tick which is most applicable.

Where 1- Never available

2- Occasional available

3- Low available

4- Highly available

5- Very available

	1	2	3	4	5
a) Human resource information systems	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Marketing information systems	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Internet and intranets systems	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Information technology	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

f) If you have any general comment on the availability of MIS, write it here

2. Rate the following criteria related to the availability of computerized MIS

Producean outputs that simplify the banking service on ascale of 1-4.

Tick whichever is most applicable.

Where 1- Not used

2- Manually used

3- Used Partial automated

4- Used fully automated

	1	2	3	4
a) Human resource information systems	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Internal control systems	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Marketing management information systems	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

d) If you have any general comment on the availability of computerized MIS ,

write it

here _____

3. Rate the following criteria related to in which time range mostly management Informationsystem available are used for Decision making processon a scale of 1-5. Tick Whichever is most applicable?

Where 1- Not used

2- Used for short-term

3- Used for middle and short-term

4- Used for middle-term planning

5 - Used for Long term planning

	1	2	3	4	5
a) Marketing information systems	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Human resource information systems	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Information technology	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

4. Rate the following criteria related to under in which reporting alternative Categories of MIS provide information products to management decision makingon a scale of 1-5. Tick whichever is most applicable.

Where 1- Not used

2- Push Reporting

3- Exception Reports

4- Demand Reports

5- Periodic Scheduled Reports

	1	2	3	4	5
a) Marketing information systems	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Human resource information systems	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Information technology	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

d) If you have any general comment on this question, write it

here _____

5. The importance of MIS enhancing banking service in your bank?

- 1- Very less Importance
- 2- Less Importance
- 3- Moderate Importance
- 4- High Importance
- 5- Very high Importance

6. Does Utilization of available MIS influencing for management decision making in your bank ?

- 1- Very less Influence
- 2- Less Influence
- 3- Moderate Influence
- 4- High Influence
- 5- Very high influence

PART III. Questions on all over Banking services

Please specify how far you agree that the following factors. by marking “√” in the square applicable to the statement.

phrase	Strongly Agree(5)	Agree (4)	Neut ral (3)	Dis agree(2)	Strogly Dis agree(1)
1-fit hardware specifications with business requirements					
2- available media devices (Modems) with Appropriate speed.					
3- Characterized by the ability of storage devices used high-check business needs.					
4-Bank is updated database constantly.					
5-bank database linked to all the computers in various departments.					
6-protection for bank data base systems are available					
7- Bank systems, users can get help from outside experts.					
8-assess the efficiency of the system is tailored to the needs of work by specialists.					
9-Exposure management information systems link to the most important information directly.					
10-Is to make sure the information is correct constantly					
11-Characterized by information provided by high precision system.					
12-System provides concise information to the user if requested					
13-The Bank is working to develop its goals and services consistently.					

14-Bank relies on scientific methods and tools for the purpose of improving the quality.					
15-The Bank has a special section to research and development					
16-It is to develop and improve the service provided by the Bank.					
17-Bank seeks to achieve the wishes and expectations of the public.					
18-Bank is able to use effective promotional methods to bring the largest number of customers.					
19-The Bank is exploring the wishes of the public regularly.					

Many thanks in advance for your cooperation.

Appendix B

DEBRE BIRHAN UNIVERSITY

COLLEGE OF BUSINESS AND ECONOMICS

DEPARTEMENT OF MANANENET

MASTER OF BUSINESS ADMINISTRATION

Dear Sir/Madam,

Interview guide questions for Management Information system (MIS) Department.

This interview guide is designed to provide feedback on your bank's **for the role Of management information system enhancing banking service in case of commercial bank of Ethiopia under East Addis Ababa District** for Partial fulfillment of the requirement of Master of Business Administration (MBA) Program in DebreBerhan University. You are assured that any information given will be handled confidentially.

1. How do you see the role of management information system on manager's Decision making in banking sector in respect of its contributions to the Achievement of organizational objective?
- 3 Do you think that MIS is available in your organization to enhance banking service?
- 4 How the availability and use of relevant and timely information by the managers in your organizations could foster banking service?
- 5 Do you have plans to change your IT systems significantly to improve Management Information system / Reporting?
- 6 What are the main purposes of current information technologies developed in your bank?
- 7 What positive or negative effect, do you think that MIS has on banking service in general management decision making in particular ?

MANY THANKS FOR YOUR COOPERATION!