AN IMPACT ASSESSMENT OF MANAGEMENT INFORMATION SYSTEM (MIS) ON THE OPERATIONS OF THE MONEY DEPOSIT BANKS IN NIGERIA. (A CASE STUDY OF FIRST BANK OF NIGERIA, PLC).

BY

DOGARI YUSUF
NSU/ADM/MBA/MGT/0042/16/17

BEING A PROJECT SUBMITTED IN PARTIAL FUFILMENT OF THE REQUIREMENT FOR THE AWARD OF MASTER OF BUSINESS ADMINISTRATION DEPARTMENT OF BUSINESS ADMINISTRATION FACULTY OF ADMINISTRATION NASARAWA STATE UNIVERSITY, KEFFI

AUGUST, 2018

DECLARATION

I hereby declare that this project has been written by me and is a record of my research work. It has not been presented in any previous application for Master of Business Administration and Management. All quotations are indicated and sources of information specifically by means of bibliography.

_____ _____

DOGARI YUSUF **Date**
NSU/ADM/MB A/MGT/0042/16/17

CERTIFICATION

This is to certify that this has been read, approved, and meets the regulation governing the award of Master of Business Administration And Management in Nasarawa State University for its contribution to knowledge and literacy presentation.

_____ _____
Dr. Ibrahim Ohida Date
(Project Supervisor)

_____ _____
Dr. J. E. I. ABBAH Date
(Head of Department)

_____ _____
Dr. Ibrahim Hassan Date
(Dean, Faculty of Administration)

_____ _____
Prof. Suleiman A. Aruwa Date
(Dean of Post Graduate Studies)

_____ _____
External Supervisor Date

DEDICATION

This work is dedicated to Almighty God who helped me throughout my years of study in the university.

ACKNOWLEDGEMENT

My sincere and profound gratitude goes to Almighty God the creator of heaven and earth for sparing my live and seeing me through this academic period.

My appreciation goes to my able supervisor Dr. Ibrahim Ohida, for his support and tolerance throughout the project work. I also want to acknowledge all my lecturers in the department for all the knowledge they impacted me.

I wish to acknowledge my supportive parent/guardians and loving siblings who gave me their total support, encouragement and prayers towards my academic pursuit, may God bless them richly and grant them their heart desires.

My thanks also go to my friends and well-wishers for their contribution inone way or the other.

TABLES OF CONTENTS

ABSTRACT

The banking industry is one of the critical sectors of the economy whose contribution to the pace of development and economic growth cannot be fully quantified. Information is the key business resource and. it is the basis on. which many organizations operate in today's business environment. Management information system 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. The main objective of this study is to assess the impact of management information system on the effi.ci.ency of Banks in Nigeria. The correlation coefficient clearly shows that management information system has significant relationship with bank operational efficiency.The hypothesis which states that Management Information System does not: significantly impact on operational efficiency of banks in Nigeria was rejected. Proper orientation should be given to employees at all levels as well as in-service training for secretaries to ensure proper and adequate use of Management Information System facilities in generating and. disseminating information for better decisions within banks and managerial style must be more decentralized and more expertise oriented.

CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

The banking industry is one of the critical sectors of the economy whose contribution to the pace of development and economic growth cannot be fully quantified. Today, globalization reveals that the preponderance of natural factors cannot equip the banking sector fully to wrestle with the exigencies of global competition, in the business environment. According to Hanna (1994) as cited in Madueme (2010) information, flexibility and fast response are the key new factors for coping with global competition and information communication technology plays a critical role in these areas for the purposes of quality enhancement. To Ayatse (2005) information is the key business resource and it is the basis on which many organizations operate in today's business environment. This fact pause the attention of banks to create management information system that could help them process routine facts and figures into information for decision-making.

Management information system (MIS) is the study of providing information to people who make choices about the disposition of valuable resources in a timely, accurate, and complete manner at a minimum of cognitive and economic cost for acquisition, processing, storage, and retrieval (Harizanova,2003). According to Bee & Bee (1999) MIS is a system that 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 tor which they are responsible. Adeola (1995) as cited in Madueme (2010) commented on the implications of the new General Agreement on Trade and Tariffs (GAT1) - the product of Uruguay round of multilateral trade negotiations by saying effective communication links and computerized system are a sine qua non for high quality service delivery. With instantaneous access to information, identified shortages in markets are quickly disseminated throughout a global network, thereby ensuring efficiency, competitiveness, strengthening of domestic service quality.

ITanna(1994) in the work of Madueme (2010) opined that information technology transforms the way people do things, increasing the amount of information available to economic agents, information intensity of processes, occupations, institutions, products and economies. It enhances workings of markets, reduces transactions and co-ordination costs within and across enterprises and institutions. This radical transformation is a boost

to efficiency because it will produce improvements in the normal way of doing things, achieve minimal wastages and reduced costs in production. With respect to exchange, efficiency occurs when it is possible to redistribute a given stock of goods and services in such a way that it benefits someone else without harming another. In line with the foregoing, efficiency in the banking sector is conceptualized as having practical indices

such as diversified product mix, positive improvements in employment structure and service delivery time for things like money transfers, clearing of cheques, checking of account balances, production of bank statements of accounts, bank alerts (debit and credit) among others have gone so long in reducing queues in the Nigeria banks. However, most scholarly works posits that the service industry is saturated and what banks are doing today is benchmarking of product/services and business processes among them. From here, it can be established that pointers of operational efficiency in banks supported by the good management information system are the same. This study therefore, to assess the impact of management information system (MIS) on the operational efficiency of Banks with particular reference to First bank of Nigeria, Lafia branch, Nassarawa State.

1.2 Statement of the Problem

The increasing development in the field of information communication technology; customer knowledge; service quality and responsiveness among others have heightened competition among firms in the global financial market and change the banking business operations because the traditional banking processes could no longer absorbed the exigencies from the global competition in the business. Infoimation flexibility and fast responses are the pointers of coping with the global competition and information communication technology, thus, establishing the need for efficient and effective computerized communication system that could help banks to process routine

facts and figures into information for decision-making. Could this kind of transformation boost efficiency of banks? Could be that efficiency in the banking industry of Nigeria is triggered by diversified product mix or among others like money transfer; bank alerts; production of statements of accounts; posting of sales and purchases in various accounts? Besides, many scholarly works in the field of service provision posits that the service industry is saturated and what banks are doing today is bench-marking of product/services and business processes within the industry. At this point, it may be established that pointers of operational efficiency in banks are supported by the good management

information system (MIS). Therefore, this study seeks to assess the impact of management information system (MIS) on the efficiency of Banks in Nigeria. To this end, First bank of Nigeria, Lafia branch is selected for study.

1.3 Objectives of the Study

The main objective of this study is to assess the impact of management information system (MIS) on the efficiency of Banks in Nigeria. Specifically, this study seeks:

i. To determine the extent to which management information system (MIS) affects cost of operations of First Bank Lafia branch.

ii. To assess the degree to which management information system (MIS) affects service

delivery of First Bank Lafia branch.

iii. To evaluate the degree to which management information system (MIS) affects communication and information transfer in First Bank Lafia branch.

iv. To determine the degree of the relationship between management information system (MIS) and efficiency of First Bank lafia branch

1.4 Research Questions

The research questions for this study are;

i. To what extent does management information system (MIS) affect cost of operations of First Bank Lafia branch?

ii. To what degree does management information system (MIS) affect service delivery of First Bank Lafia branch?

iii. To what extent does management information system (MIS) impact communication and information transfer in First Bank Lafia branch?

iv. What is the extent of the relationship between management information system (MIS) and efficiency of First Bank lafia branch?

1.5 Research Hypotheses

The below hypotheses are tested in this study:

$H_{0)}$; Management information system (MIS) does not significantly affect cost of operations of First Bank Lafia branch.

$H_{o2;}$ Management information system (MIS) does not significantly affect service delivery

$H_{0}4$- There is no relationship between management information system (MIS) and efficiency ot First Bank Lafia branch.

in First Bank Lafia branch.

$K_{o3:}$Management information system (MIS) does not significantly impact communication and information transfer First Bank Lafia branch.

1.6 Significance of the Study

This study is significant in a number of ways as follows:

i. To the bank managers, it: helped them to utilize data bases and models to solve ill-structured problems, thus, improving effectiveness of managerial and professional activities

ii. Again, to the academic cycle, this study added value to the existing body of knowledge and may trigger further studies on some researchable related issues raised but not exhausted as they might not constitute the focus of this study.

iii. Finally, to the customers, the findings and recommendations may help them to identify service value -delivery packages-and stick to them.

1.7 Scope of the Study

There is no research endeavor that has no area of coverage in an academic cycle. This study is not an exception. This study is designed to assess the impact of management information system (MIS) on the operational efficiency of banks in Nigeria. To this end, First Bank Lafia was selected for study hence companies gear up to the new market

conditions and maintain a responsible MIS that play a major role in determining their success or failure in this changing environment. The variables in the study includes MIS, cost reductions, service delivery, dwell on can give a company sustainable competitive advantage by improving production, sales and administration performance.

1.8 Operational Definition of Terms

Management information system (MIS) is basically concerned with processing of data into information which is then communicated to the various departments in an organization for appropriate decision-making. Efficiency is a measure of the deviation between actual performance and desired performance.

Information Technology defines an industry that uses computers, networking, software programming, and other equipment and processes to store, process, retrieve, transmit, and protect information.

Decision support system (DSS) is computer-based software that analyzes business data and presents for system users to make enhance business decisions with ease. Bank is an institution where money and other valuable things are kept.

An industry is a group of firms that produce or render similar sendees to the users.

References

Ayatse, F.A (2005). Management Information System: A Global Perspective. Makurdi: Oracle.,Business Ltd.

Bee, R. & Bee, F.(1999). *Managing Information and Statistic.* Trowbridge: Cromwell Press,

Madueme, I .S. (2.010). Evaluation of the Impact of Information CommunicationTechnoiogy on Banking Efficiency using the transcendental Lograthimic Production Function and Camel. *International Journal of Engineering Science and Technology.Voil,* NO, 1, pp. 1-6.

CHAPTER TWO

REVIEW AND RELATED LITERATURE

2.1 Introduction

This chapter considers the review of other scholarly works on the topic under review, concept of management information system, efficiency, decision support systems (DSS), contemporary approaches to management information systems, data and information, organizations and information technology, strategic business objectives of information systems, banks and information technology. Finally, the chapter considers the role of management information system and decision-making in the business arena.

2.2 Conceptual Clarification

Under conceptual clarification two basic concepts are considered: Management Information System and Efficiency.

2.2.1 Management Information System (MIS)

A good Management Information System pronounced as separate letters (MIS) is the heart of any organization and this is true for commercial banking as well According to Kumar (2006), in order to define MIS, 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 (Ai-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 macroeconomists. System, refers to "A set of elements joined together for a common objective(Kumar, 2006).More often than not, business systems normally consist of smaller systems—known as subsystems—which all function towards ensuring efficacy of the large systems. As a matter of fact, systems vary from one organization to another depending on the nature of organizational operations, size of the businesses and organizational priorities among many other salient factors.

From the forgoing, Management Information Systems refers to a system that uses information, in order to ensure apt management of businesses. According to Lucy (1997) as cited in Ayatse (2005) management information system is the combination of human and computer-based resources that results in the collection, storage, retrieval, communication and the use of data for the purpose of efficient management of operations and for business planning. Ayatse (2005) contends that management information system is seen as a means of processing data that is routine facts and figures of the organization, into information, which is often used for decisionmaking. 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 & Bee, 1999). It is an grganized approach to the study of the information needs of an organization's management at every level in making operational, tactical, and strategic decisions. MIS could be seen as a computer-based system that provides managers with the tools for organizing, evaluating and efficiently running their departments. In order to provide past, present and prediction information, an MIS includes 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. Its objective is to design and implement procedures, processes, and routines that provide suitably detailed i ©ports in an accurate, consistent, and timely manner.

In a management information system, modem, computerized systems continuously gather relevant data, both from inside and outside an organization. This data is then processed, integrated, and stored in a centralized database (or data warehouse) where it is constantly updated and made available to all who have the authority to access it, in a form that suits their purpose.

Fundamentally, all the facets of MIS run concomitantly in order to ensure overall efficiency of the whole system. Failure in one part means overall failure for the other

parts since they are all designed to function interdependently (Davenport & Short, 1990).

2,2.2 Efficiency

Efficiency is related to the ability to produce a result with minimum effort or resources. It measures how close a production unit gets to its pioducdon possibility frontier, which is composed of sets of points that optimally combine inputs in order to prod uce one unit of output. Marker and Zenios (2000) observed the drivers of bank performance are grouped into three broad categories: strategy, execution of strategy, and environment (Guide, Pati.Uo, & Christensen,2006).

Strategy is the means to achieve a goal or objective. The articulation of a strategy is a key driver for success in dynamic, competitive environments like that of the financial services industry. The main strategic choices a face concern product mix, client mix, geographical location, distribution channels, and form of organization. Choosing a product mix not only defines the strategy of the institution in providing services but is also a strategic decision in risk management—it is in effect the choice of financial, risks the institution plans to manage. Banks have adopted a strategy that gives deposits a large share in the outputs combination they offer. The intermediation ratio (claims on the private sector relative to total deposits) of banks is smaller than in other developing countries, suggesting that- Nigerian banks have difficulty transforming collected deposits into loans

to the private sector (CBN, 2007). After the two choices of product and client mix, regulatory restrictions may determine the geographical scope of the institution. The choice of location again implies strategic choices related to risk management in bank operations. Banks tend to locate their branches in more economically developed regions at the expense of rural ones. There are more businesses in areas like towns, so banks can find economic activities to finance for a profit.

A strategy can be implemented through human resource management, use of technology, and process design. Efficiency is a measure of how well management aligns technology, human resource management, and other resources to produce a given level of output. It views banks as a factory that consumes various resources to produce several products and establishes the efficiency with which this transformation takes place. The efficiency of banks can be accessed through indicators of financial soundness. The bank rating system referred to as CAMEL rating according to the Central bank of Nigeria (CBN; 2003) is designed to be used by bank supervisors in evaluating the performances of banks. It serves as an "early warning device" to detect emerging problems of banks. The rating system provides a more scientific basis for supervisory actions such as preliminary management discussions and priority scheduling of on-site examinations. Changes in those indicators are also noticeable for South African since the banking reforms of the 1990s (Guide, Patillo, & Christensen, 2006). The effort authorities made to align the regulatory framework with international standards like the Basel principles

seem to have produced improvements.

The environmental factors that explain efficiency are information client tastes, and regulation. Banks try to influence environmental factors through lobbying activities, marketing efforts, research and development. Although countries are not protected from technological changes, technological progress has been slow to spread because of factors that limit access, such as illiteracy and high costs. In Nigeria, some studies have advocated for the use of ICT in sectors. Works done by Aiwenhmobor (1991) and Ekechi (1990) have centered mostly on the need of ICT for the enhancement of internal efficiency and relationships between sectors and. organizations. Besides, many banks in South Africa offer services through the Internet, but the Internet is not widely used because of its cost but also because people are not used to this means of communication. Also the relative cost for people to access ATMs in Africa is high because they are not widely used, the cost to banks may also be high (Guide et al, 2007).

The terms data, information are frequently used interchangeably (Ayatse, 2005). The main difference is in the level of abstraction being considered. Data is the lowest level of abstraction, information is the next level Data on its own carries no meaning. For data to become information, it must be inleipieted and take on a meaning. For example, deposits in the bank are "data" bank trading profit and loss account statement in this sense refers to information". Information as a concept bears a diversity of meanings, from everyday usage to technical settings[5]. Generally speaking, the concept of information is closely related to notions of constraint, communication, control, data, form, instruction, knowledge, meaning, mental stimulus, pattern, perception, and representation

Data and information; data are symbols while information occurs when symbols are used to refer to something. It is people and computers who collect data and impose patterns on it. These patterns are seen as information which can be used to enhance knowledge. These patterns can be inteipieled as truth, and are authorized as aesthetic, and ethical criteria. Events that leave behind perceivable physical or virtual remains can be traced back through data. Marks are no longer considered data once the link between the mark and observation is broken.

Mechanical computing devices are classified according to the means by which they represent data. An analog computer represents a datum as a voltage, distance, position, or other physical quantity. A digital computer represents a datum as a sequence of symbols drawn from a fixed alphabet. The most common digital computers use a binary alphabet, that is, an alphabet of two characters, typically denoted "0" and "1". More familiar representations, such as numbers or letters, are then constructed from the binary alphabet.

Strategic Business Objectives, of Information Systems

Information systems are essential components of many businesses today. Much, of a business's investment will be in information systems and associated technologies (laudon & laudon, 2007). This is because there is a growing interdependence between a firm's ability to use information technology, and its ability to meet its corporate objectives and execute its subsequent strategies. For example, if a business decides that its strategic business objective is to become a cost leader in a particular market (i.e. be the

cheapest provider of a product or service) then it will need to exploit the possibilities of using information systems to reduce its costs to the lowest levels possible. Alternatively, if a business's strategic objective is to address a specific niche market, then it must use information systems to ensure that targeting this niche market is done in a cost effective and efficient manner. Information technologies and systems. Information systems also allow banks & to create entirely new business models that describe how e-banking deliver and sell products and services. A classic example of this is the Apple Incorporated information system store, *Apple store*, where digital downloads of music and video have replaced the old business model of selling vinyl records, tapes and compact disks. It is clear today that the old way of distributing films via video stores is now being surpassed as people have the ability to order DVDs online and have them delivered to their home address, or even to download films for instant viewing.

Decision-making

If a firm does not have accurate information with which to make its decisions, then at best it can guess, what is the best thing to do at worst; it is completely in the dark (Al-Zhrani, 2010). This can lead to over or under delivery of services, the misapplication of resources, and poor customer service and response times. All of these problems can lead to rising costs and customers defecting to alternative suppliers. It is crucial for business managers to have good information on which to base decisions and this often means good information systems. Look at the cost implication banks should adapt good

information system to avoid trial and error task that claims resources. Many companies now provide their managers with web- based real-time information on customer orders, complaints and the production cycles of their businesses (Laudon & Laudon, 2007)

Competitive Advantage

A competitive advantage, put simply, is having a method ora product or service that means that firm can do things better than competitors.Such advantages could take the form of having the ability to:

i. Charge less for products

ii. Respond more quickly to customer requirements

iii. Have a greater understanding of customer needs

iv. Deliver more tailored products and services.

It is important that businesses use information systems to deliver better performance, create superior products and respond to customers promptly. Note that a competitive advantage, once gained, must be maintained (kotler & keller, 2009). If a firm does not improve its business processes continually and exploit new opportunities when they are available, then its competitor's take-over.

The reality today for many businesses is that if they do not invest in information systems they cannot survive. Information systems are now a necessity in many business environments. For example, imagine a bank that did not offer its customers automatic

teller machines (ATMs) or online banking facilities? These information systems, once seen as a competitive advantage, are now industry necessities (Laudon & Laudon,2007).

2.5 Contemporary Approaches to Management Information Systems

An information system is a multidisciplinary field and many different theories and perspectives have been used to describe it. Disciplines such as computer science, operational research, sociology, economics, psychology and management science all contribute to our understanding of how information systems can be used and applied (laudon and laudon, 2007). The field of information systems can be subdivided into technical and behavioral

From a *technical approach,* an information system is viewed from a mathematical perspective. Mathematical models are used to study information systems and to explain how they can be applied. Using a technical perspective, management establishes theories of computability which can be used to understand how to apply information systems.

A *behavioral approach* is concerned with issues that arise with the development and maintenance of information systems. Such issues are important because without the correct people a technical solution is useless. Consider the following questions:

i. How does one integrate a new information system?

ii. How does one design an appropriate information system?

iii. How does one manage an information system?

Issues such as these cannot be explored usefully using technical models aione. The

behavioral approach does not ignore technology, but uses it as the basis for solving non-technical managerial issues related to its use in business (laudon and laudon, 2007).

Information Systems can be conceptualized in terms of three types of systems: transactional Processing Systems (TPS), Management Information Systems (MIS), and Expert Systems (Laudon *Sc* Laudon, 2007). MIS has several subsets such as Decision Support Systems, Executive Information Systems. The role of MIS in decision support is best discussed in the context of the subset referred to as Decision Support System (DSS).

According to Keen (1978), the concept of decision support system has evolved from two main areas of research: The theoretical studies of organizational decision making done at the Carnegie Institute of Technology during the late 1950s and early 1960s, and the technical work on interactive computer systems, mainly carried out at the Massachusetts Institute of Technology in the 1960s. It is considered that the concept of DSS became an area of research of its own in the middle of the 1970s, before gaining in intensity during the 1980s. In the middle and late 1980s, executive information systems (EIS), group decision support systems (GDSS), and organizational decision support systems (ODSS) evolved from the single user and model-oriented DSS.

According to Sol (1987) the definition and scope of DSS has been migrating over the years. In the 1970s DSS was described as "a computer based system to aid decision making". Late 1970s. the DSS movement started focusing on "interactive computer-based

systems which help decision-makers utilize data bases and models to solve ill-structured problems". In the 3.980s DSS should provide systems "using suitable and available technology to improve effectiveness of managerial and professional activities", and end 1980s DSS faced a new challenge towards the design of intelligent workstations.

In 1987 Texas Instruments completed development of the Gate Assignment Display System (GADS) for United Airlines. This decision support system is credited with significantly reducing travel delays by aiding the management of ground operations at various airports, beginning with OTiare International Airport in Chicago and Stapleton Airport in Denver Colorado.

Beginning in about 1990, data warehousing and on-line analytical processing (OLAP) began broadening the realm of DSS. As the turn of the millennium approached, new Web-based analytical applications were introduced.

The advent of better and better reporting technologies has seen DSS start to emerge as a critical component of management design. Examples of this can be seen in the intense amount of discussion of DSS in the education environment.

DSS also have a. weak connection to the user interface paradigm of hypertext. Both the University of Vermont PROMIS system (for medical decision making) and the Carnegie Mellon ZOG/KMS system (for military and business decision making) were decision support systems which also were major breakthroughs in user interface research.

Furthermore, although hypertext researchers have generally been concerned with information overload, certain researchers, notably Douglas Engelbart, have been focused on decision makers in particular of analyzing an organizational (or business) data and then presents it in a way that helps the user to make business decisions more efficiently and effectively. It is basically an informational application which depends on the information already input while answering to a given query. For example, a decision support system could provide:

i. Comparative sales figures for one week/month and the next

ii. Projected revenue figures based on new product sales assumptions

iii. Consequences of different decision alternatives, given past experience

Sometimes there is an overlap between the broad categories of IS and a DSS could be capable of presenting information graphically through an expert system or artificial intelligence (AI). Usually the DSS is used by all levels of people within a business organization. Top level management uses DSS for strategic decisions; middle management uses it for tactical decision while first line supervisor's uses it for day-to-day operational decisions. Therefore, the process of decision-making in any business is an inherently vital aspect not just for organizations but also for individuals who greatly rely on these decisions for their survival in the highly competitive arena of entrepreneurship (Al-Zhrani, 2010). More importantly, Management Information System (commonly abbreviated as MIS) has been an increasingly used tool in the

institutionalization and making of decisions. DSS are a subset of MIS, for intelligent decision making. However, despite the immense benefits that result from using MIS in decision making, some critics have, reportedly, been slowly—but surely—asserting that MIS poses surmountable detrimental effects to organizations and should thus be used sparingly or avoided if possible (Demetrius, 1996).

Basically, a sound MIS is the key to achieve sustainability as it helps in providing the right type of information in achieving sustainability. It helps in reducing default, optimal rotation of portfolio, establishing sustainable interest rates, improving operational efficiency, generating reports at various levels for various stakeholders and reviews the progress (laudon & laudon, 2007).

2.7 Organizations and Information Technology

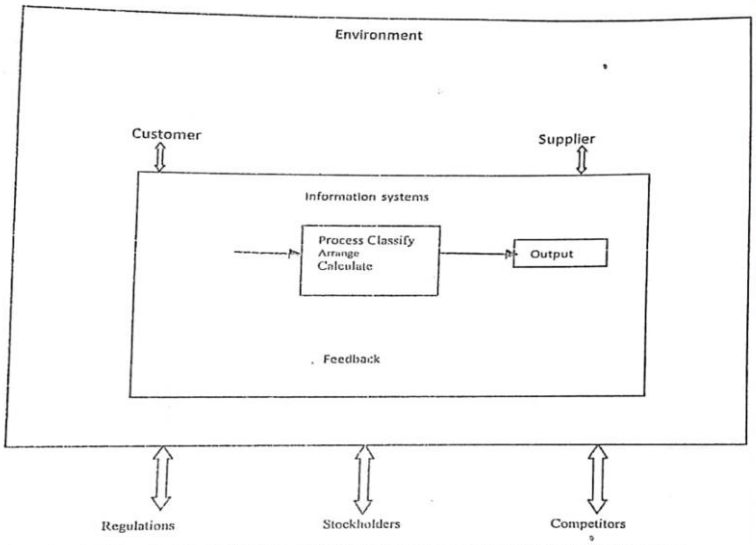
In order for a firm to achieve its business objectives it will need significant in information technology (Laudon & Laudon, 2007). Such investment will be in hardware, software, data management and telecommunications technologies. The strategic objectives and 'business processes of the organization will, in part, be impacted by the information systems available to it.

An information system can be defined as a set of related and connected software and hardware components that are used to collect or retrieve, then process and store, and finally to distribute, information (Laudon & Laudon, 2007). This information is used to

support decision making processes and provide controls on the business processes an organization undertakes. Information systems are also used to analyze problems, make predictions, and create new products and services, and coordinate business communications. Information systems can be key resources when a firm wants to find out who significant people in an organization are, what skills or services they can provide, and how firm can contact them. In sum, this is a two-way relationship because businesses rely on information systems to help them achieve their goals, and information systems are also products of the businesses that produce them. Therefore businesses shape information systems, and information systems shape businesses.

An information system shown in the environment in which the organization must operate:

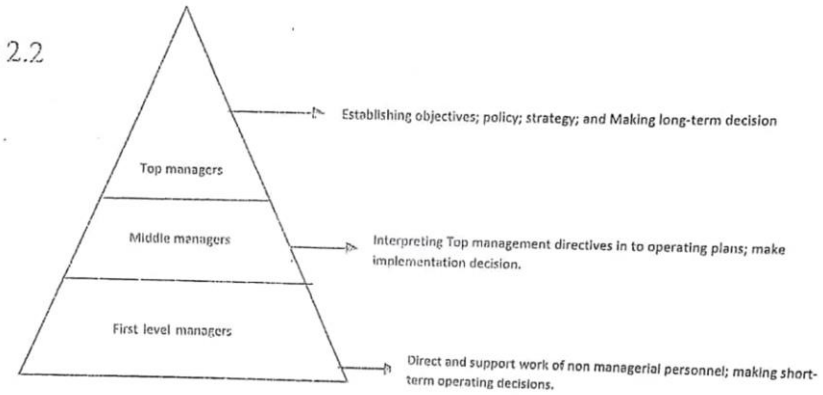
Figure 2.1



Source:http://www.londoninternational.ac.uk/current_students/programme_resources retrieved on 28/02/2012.

oday most organizations rely on information systems which have become an integral part of their operations. Key elements of any organization are its people, structure, business processes, politics and culture. For example, an organization's structure may be composed of different levels and specialties. These structures may define divisions of labor, authority and responsibility. Or they may be used to address particular business requirements, thus:

Figure 2.2



Source: Ayatse, F.A (2005). Management Information System: A Global Perspective. Makurdi: Oracle Business Limited.

In a highly structured organization, a pyramid structure observed in above which authority and responsibility rise upwards. In such a structure, the upper levels will consist of managerial staff whilst the lower level consists of operational personnel It is the responsibility of senior management to make strategic decisions about products and services. Middle management then devises and carries out programs and plans to meet the strategic needs defined by the senior management. Operational management is

responsible for the monitoring of the daily business activities that are organized by middle management plans and undertaken by workers. These functions are co-ordinate through a set of business processes. Such processes define a set of rules for accomplishing these functions as a series

of tasks. An organization's culture may also have an influence on how it utilizes information systems.

The culture of an organization may be understood to be a fundamental set of assumptions about the way things are achieved and what things are valued. This culture will nearly always be found in the way the information systems in that organization are designed and used.

2.8 Management Information System and Decision-Making

Management Information System (MIS) is basically concerned with the process of collecting, processing, storing and transmitting relevant information to support the management operations in any organizations. Thus, 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. According to Alabi (1997) the search could be through:

i. Undirected viewing—this involves a general exposure to information where. The search could be that the viewer has no specific purpose in mind.
ii. If conditioned viewing-—the directed exposure does not involve active search to a more or less clearly identified area or type of information, ill. Informal search—this is a relatively limited and unstructured effort to obtain specific information for a specific purpose. The information wanted is actively sought,
iii. Formal search—this is a deliberate effort, usually following a pre-established plan, procedure or methodology to secure specific information relating to a specific issue.

Jahangir (2005) states that based on the significant role that information plays in choice of decision to be made, organizations must ensure that they have a. good management information system. As a notable general observation, a good MIS ensures good decision making just in the same way bad MIS propel the making of bad decisions. Study *in* (2010) supports the above observation by saying that the quality of managerial decision-making depends directly on the quality of available information and the managers should therefore cultivate an environment that encourages the growth and viable sprouting of quality information.

Essentially, before deciding on which MIS strategy to use, it is vital to ensure that the choice made is fully compatible with your current system. This will not only help iri avoiding erratic choices but it will also save you the time and money that would have

been otherwise wasted by that person (Rhodes, 2010; Jahangir, 2005). In addition to that, it is noteworthy for the MIS strategy or tool used to be in line with the decisions that are to be made. In other words, there should be a connecting point between the decision to be made and the MIS to be used by individual or corporate business owners (Jarboe, 2005). As a key consideration, Management Information Systems is a highly complex and delicate arena that calls for a lot of caution to be taken by its managers. It is for this reason that it is recommendable for organizations to ensure that they carefully select the individuals who are placed to control the systems. The more cautious and professional a person is, the better the person gets an assurance of positive prospects of in MIS with regards to decision making and other related areas of business (Lingham, 2006). Having clearly delineated that, what then are some of the scholarly arguments, facts, opinions and observations made by various macroeconomists with regards to the roles of management information system in improving decision making?

To begin with, MIS provides a fitting platform for good decision making (Kumar, 2006).Essentially, without the established systems of petti m? information in MIS, it would be extremely difficult for organizations to make their decisions. Organization would be forced to make baseless information due to the lack of confirmed information. Moreover, MIS normally lays a firm foundation for the establishment of concrete decisions through its systematic tools, timely information and adequate managerial policies and regulations.

Furthermore, Management information Systems' statutes regarding businesses act as guidelines to business owners when making critical decisions about their businesses. As a result, managers and key decision makers are bridled from overstepping their boundaries 01 exceeding their business mandate. This is very crucial as it helps in keeping businesses checked and balanced thus ensuring that only proven decisions are considered while the untried ones are thwarted. Movie importantly, the capacity to guide decision-making facilitates progress and improvement of the operations in a company (Lomgham, 2006; Chambers, 1964).

In addition, most MIS programs are endowed with the capacity to give real-time updates of the occurrences in company or system. By real-time, scholars simply refer to immediate updates of occurrences in a system. These immediate updates help mangers to take necessary actions as soon as is deemed appropriate-—especially during the discoveiy and management of crises. This augments progress and improvement in company operations through timely decision-making. This is important for companies in the modern-day generation where any slight lapse in decision making can lead to very huge losses (Allen, Heurtebise, & Turnbull, 2010).

Consequently, the manager or system operator can use the time and resources he/she would have used in monitoring or fixing problems for other key uses. By routinely programming a management information system, the business is bound to make positive progress since time and resources can be easily channeled into rightful business paths

(Allen, Heurtebise, & Turnbull, 2010).

Closely related to the above point, Jahangir (2005) says that some MIS allow multiple users to access the same content all at the same time without any discrepancies. This potentiality boosts accountability from the business operators since multiple people can access a particular content and verify whether they are consistent or whether they are not. As a matter of fact, most organizations tend to suffer due to poor accountability from those charged with the mandate to manage certain details. This safeguard action of some MIS is what macroeconomists refer to as the "gate-keeping" role of MIS in decision making and overall well-being of the organization.

Principally, the record keeping and data-basing tool of MIS definitely ensures that decisions are made viably while businesses run smoothly. In contributing to the arguments regarding role of MIS in improving decision making,

Rhodes (2010) also adds that Management information systems give managers quick access to information. 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.

Instead, the machines are able to be programmed to do things on our behalf (Jarboe, 2005). Of course this offers a huge plus in decision-making since managers are

relieved of making some decisions-especially the technical ones which can be best interpreted and solved by the automated system. This is based on the alleged observation that auto systems may sometimes be faulty and thus require frequent periodic monitoring (Demetrius, 1996). So in order not to fell a victim of over-relying on automated systems, Jahangir (2005) advises 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. By blending the duties of these two extremes, Jahangir states that, this will ensure that both ends of the organization continue to actualize together while maximizing the potential for each side through check and balances of operations done by the management. As a result, businesses and the decision-making process are improved through its systematic and orderly formula of operating (Jawadekar, 2006).

2.9 Management Information Systems and Bank Operational Efficiency

Today's business environment is very dynamic and undergoes rapid changes as a result of technological innovation, increased awareness and demands from customers. Business organizations, especially the banking industry of the 21st century operates in a complex and competitive environment characterized by these changing conditions and highly unpredictable economic climate. Information and Communication Technology (ICT) is at the centre of this global change curve. Laudon and Laudon, (2007) contend that managers cannot ignore information systems because they play a critical role in

contemporary organization. They point out that the entire cash flow of most fortune 500 companies is linked to Information System.

The application of information and communication technology concepts, techniques, policies and implementation strategies to banking services has become a subject of fundamental importance and concerns to all banks and indeed a prerequisite for local and global competitiveness. ICT directly affects how managers decide, how they plan and what products and services are offered in the banking industry. It has continued to change the way banks and their corporate relationships are organized worldwide and the variety of innovative devices available to enhance the speed and quality of service delivery.

Agboola et al (2001) discussed the dimensions in which automation in the banking industry manifest in Nigeria. They include:

i. Bankers Automated Clearing Services: This involves the use of Magnetic Ink Character Reader (MICR) for cheque processing. It is capable of encoding, reading and sorting cheques.

ii. Automated Payment Systems: Devices used here include Automatic Teller Machine (ATM), Point of Sale (POS), Plastic Cards and Electronic Funds Transfer.

iii. Automated Delivery Channels: These include interactive television and the Internet.

Agboola (2001) studied the impact of computer automation on the banking services in Lagos and discovered that Electronic Banking has tremendously improved the services of some banks to

their customers in Lagos. The study was however restricted to the commercial nerve center of Nigeria and concentrated on only six banks. He made a comparative analysis between the old and new generation banks and discovered variation in the rate of adoption of the automated devices.

Aragba-Akpore (1998) wrote on the application of information technology in Nigerian banks and pointed out that IT is becoming the backbone of banks' services regeneration in Nigeria. He cited the Diamond Integrated Banking Services (DIBS) of Diamond Bank Limited and Electronic Smart Card Account (ESCA) of All States Bank Limited as efforts geared towards creating sophistication in the banking sector. Ovia (2000) discovered that banking in Nigeria has increasingly depended on the deployment of Information Technology and that the IT budget for banking is by far larger than that of any other industry in Nigeria. He contended that On-line system has facilitated

Internet banking in .Nigeria as evidenced in some of them launching websites. He found also that banks now offer customers the flexibility of operating an account in any branch irrespective of which branch the account is domiciled.

Woherem (2000) discovered that Nigeria banks since 1980s have performed better in their investment profile and use of ICT systems, than the rest of industrial sector of the economy. An analysis of the study carried out by African Development Consulting Group Ltd. (ADCG) on IT diffusion in Nigeria shows that banks have invested more on IT, have more IT personnel, more installed base for PCs, LANs, and WANs and a better linkage to the Internet than other sectors of the Nigerian economy. The study, however

pointed out that whilst most of the banks in the west and other parts of the world have at least one PC per staff, Nigerian banks are lagging seriously behind, with only a PC per capital ratio of 0.18 (Woherem, 2000). This study carried out a more comprehensive evaluation of the response of Nigerian banks to the adoption of ICT. The study covered 36 out of the 89 banks in the country as at the end of 2005. A total of 216, 180 and 36 questionnaires were administered to the employees, customers and Head of Systems Units of the 36 selected banks respectively. Out of these, 90.28%, 77.78% and 97.22% were respectively retrieved. Three categories of variables that relate to the adoption and implementation of information technology devices were used for the study. These are:

i. Nature and Degree of adoption of innovative technologies

ii. Degree of utilization of the identified technologies:

iii. Impact of the adoption of IT devices on hanks operation

The first variable refers to how banks have made new products and services available to customers. These services include computerized credit ratings, programs that determine when cheques should be made available to customers and daily calculation of accounting balances.

2.10 Chapter Summary

This chapter dwell on the impact of MIS on operational efficiency of banks in Nigeria hence the traditional banking processes could no longer absorbed the exigencies

from the global competition in the business. Information flexibility and fast responses are the pointers of coping with the global competition and information communication technology, thus, establishing the need for efficient and effective computerized communication system that could help banks to process routine facts and figures into information for decision-making. This study in its wise sense observed gaps in the adaption of MIS in the following ways:

i. The goals of MIS may be narrow or conflicting, which employees would be uncertain about decisions that they would take in order to actualize the goals of the organization,

ii. Employees of the banks may not have definite knowledge of the MIS and technological supports to run the applications in a way to harness MIS goals and organizational goals.

iii. This study emphasis efficiency of banks on how well management aligns technology, human resource management, and other resources to produce a given level of output without pointing indicators of financial soundness of banks.

iv. Fundamentally, all the facets of MIS run concomitantly in order to ensure overall efficiency of the whole system. Failure in one part means overall failure for the other parts since they are all designed to function interdependently (Davenport & Short, 1990).

Chapter References

Adam (1998). Financial Intermediation and Economic Growth: Evidence from Nigeria. *Journal of Economic Management*, Vol. 5, *No.2*, Pp.25-48,

Al-Zhrani, S. (2010). Management Information Systems Role in Decision-Making During Crises: Case Study. *Journal of Computer 'Science,*Vol.6,N0.11, pp. 1247-1251.

Agboola, A. A. (2001) .Impact of Electronic Banking on Customer Services m Lagos, Nigeria in *Ife Journal of Economics and Finance*, vol. 5, NO. 1&2 Akinuli, O.M. (1999). Information Technology in Nigeria's Banking Industry : Operational Applications, Problems and Future Challenges. *CBN Bullion*, Vol.23, No.3, Pp.71-75.

Alabi (1997). Management Information System (MIS) and Effective Control in Nigerian Universities: A Case Study of University of Ilorin. Papei piesented *for* Post-graduate seminar on Productivity, Effectiveness and Efficiency in Education, .University of Ilorin.

Alien, B., Heurtebise, A., & Turnbull, J. (2010). Improving Information Access. *Business Management US.* Retrieved October *2^* 2010 from http://www.busmanagement.com/article/Improving-information-access/

Aragba-Akpore, S. (1998). The Backbone of Banks' Service Regeneration. *Money watch*, July 22, p23.

Awenhmobor, A (1991). Computers in Banking NDIC Quarterly Void, pp.4 Bee, R. *Sc* Bee, F.(1999). *Managing Information and Statistic*\ Trowbridge: Cromwell Press. Benue State University Library, Makurdi, 2012, Central Bank of Nigeria Report, 2007.

Chambers, R. J. (1964). The role of Information Systems in Decision Making. Management Technology, vol. *4,N0.1 ,pp. 15-25.*

Davenport, T. H,, & Short, J. E, (1990). The New Industrial Engineering: Information Technology and Business Process Redesign. *MIT SloanManagement Review.* Retrieved February2, 2012 from http://sioanreview.mit.edu/the-magazine/:articles/1990/summer/3141 /the- newindustrial-engineering-information-technology-and-business-process- redesign/2/,

Demetrius, K. (1996), The role of expert systems in improving the management of processes in total quality management organizations. *SAM Advanced management Journal.* Retrieved Februar http://www.allbusiness.com/management/591381-l.html.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

In this chapter, the method or procedures undertaken for the study are revealed in order to expose the structure or plan of the research and it serves as a guide to the researcher in achieving this research objectives. According to Kerlinger (1973) as cited in Agburu (2007) research methodology is the plan, structure and strategy of investigation concerned so as to obtain answers to research questions and to control variance.

3.2 Research Design

The concept research design simply refers to the specification of the relevant procedures for collecting and analyzing information, which would help solve the research problem at hand (Agburu, 2007). It points the procedures and methods for obtaining the required data so as to focus the study along its intended objectives. For the purpose this research, the experimental research technique is adopted since this research investigates the effects of management information system on banks efficiency in Nigeria with reference to first bank of Nigeria. This method of research is suitable in management sciences owing to the fact that the variables can be manipulated.

3.3 Population of the Study

Babbie (1973) as cited in work of Agburu (2007) defines population as the theoretically specified aggregation of survey elements. The concepts element here refers to variables like employees, cost, and bank efficiency. Population could be the totality of items, people or things under consideration. The Oxford Advanced Learners Dictionary of Current English (2000) defines population as 'the number of people living in a place, country, etc. or a special section of them. Akpa and Angahar(1999) view the term population as "the universe, aggregate of the entire group whose characteristics are to be studied." The population for this study comprised of 8 management staff in operations with 7 supporting staff, 4 marketing managers with 8 marketers, .and contract staff, which comprises of 5 drivers/dispatch riders, 5 cleaners, 6 security men, and 3 gardeners, which gives a sum of 43 staff of first bank of Nigeria, Lafia Branch.

3.4 Sampling Technique

Kothari (1979) as cited in Agburu(2007) defined Sample as that part of the universe which is selected for the purpose of investigation. The method or process of selecting the sample from a given population is called sampling technique (Agburu, 2007). Mason (1999) explains that an alternative for measuring or interviewing the entire population is to take a sample from the population. This would have been put to test to determine whether the empirical evidence from the sample does or does not support the statement concerning the population. But due to the small size of the concerned

population, this cannot be proven here in this work and the purposeful sampling technique is adopted.

The sample size has to do with the magnitude of such a portion of the population selected for study. The sample size for this study comprised of 43 staff (8 management staff in operations with 7 supporting staff, 4 marketing managers with 8 marketers, and contract staff, which comprises of 5 drivers/dispatch riders, 5 cleaners, 6 security men, and 3 gardeners respectively) of first bank of Nigeria, Lafia branch, which all were examined clue to the small size of the population.

3.5 Methods of Data Collection

In a bid to address the research problem, the data used for this work were collected through primary and secondary means. The primary source includes questionnaires; observations; and personal interviews. Questionnaires were cross-checked by members of the class of Master of Business Administration, set.2009 and the project supervisor, which the researcher purposely administered to the staff of first bank of Nigeria totaled 43, due to the small nature of the sample size. The Secondary data were collected from articles, textbooks, journals, previous researches, bulletins, and Benue University Library. The internet also helped a lot as various websites were visited several times to get more information.

3.5.1 Instruments of Data Collection

In order obtain valid and reliable data; the researcher used a combination of data

collection instruments: questionnaire, interview and personal observation. For the simple fact that no one instrument is capable of providing the desired data, these tools were deployed on account of their validity and reliability. The data collection tools adopted is briefly explained below:

Questionnaire

A questionnaire: is a set of questions designed to obtain written responses from the respondents. It may be structured or unstructured (open/closed). This research made use of structured questionnaires which is administered to the respondents by the researcher personally. A five-point Likert type scale was used in the questionnaire.

Personal Interview

This is a process by which the investigator or interviewer elicits oral information from the interviewee in a face to face manner. In the course of this research, face to face interviews were conducted. This enabled the researcher to capture data not reflected in the questionnaire method. Personal observation in the course of the administration of the questionnaire and in the process of the interviews, the behavior and actions directors carefully watched and this provided some precious source of primary data.

3.6 Validity and Reliability of the Data Collection Instrument

In order to establish the validity of the research instrument, the researcher ensures that the instrument had items reflecting what could be considered as representative behavior of the management information system and banks efficiency in Nigeria with

particular reference to first bank of Nigeria. Experts in measurement and evaluation are consulted and the research instruments are considered to be in line with the variables of the study.

3.7 Administration of Bata Collection Instrument

In order to bring out the responses from the respondents, the researcher had face-to-face administration of questionnaires to the entire employees of First Bank Pic Lafia branch. This was success because the population (43) for study was not large,

3.8 Data Presentation and Analysis Technique

Data collected from the field survey were analyzed using simple percentages. The supervisor and other experts in measurement and evaluation have recommended Product Movement Correlation Coefficient, hence it involves the use of all values, and t-distribution was used for the test. The model formula is denoted below:

Where:

$$r = \frac{n\varepsilon xy - \varepsilon x\varepsilon y}{\sqrt{[n\varepsilon y^2 - (\varepsilon y)^2]\,[n\varepsilon x^2 - (\varepsilon x)^2}}$$

X -- Independent Variable

Y = Dependent variable

(Source: Agburu, J. L (2007:148) Modern Research Methodology, 2nd ed. Makurdi: Aboki Publishers)

3.9 Limitations of the Methodology

The objectivity of the methodology adopted here in this study is not doubt but to an extent it is been limited by certain conditions hence all things could not be equal The methodology suffered from the below limitations:

i. It assumes a linear relationship between the variables even though it may not be there.

ii. It may be possible that the respondents do not understand the concept, MIS and bank efficiency for which he/she answered the questionnaire for the researcher to input them and generate information.

iii. It is tedious to compute

iv. The values for the making statistical inferences can be twisted.

3 .10 Chapter references

Agburu, J. I. (2007). *Modern Research Methodology.* Makurdi: Kujoma Publishers Ltd.

Akpa and Angahar, P. (1999). *Essentials of Research Methodologjr* Makurdi: Aboki Publishers.

Benue State University Library, Makurdi, 2010.

Francis, A (2004). *Business Mathematics and Statistics.* London: Thomson Mason, J. (1999).

Statistical Techniques in Business and Economic. London Irwin McGraw Hill Ltd.

CHAPTER FOUR

DATA PRESENTATION, ANALYSIS AND DISCUSSION OF FINDINGS

4.1 Introduction

This chapter of the study focused on the presentation and analysis of data collected through the questionnaires; primary and the secondary data. However, the chapter is broadly broken into two parts: the first part dealt with data presentation and analysis while the second part has covered the discussion of findings obtained from the test of the research hypotheses. Practically, 43 questionnaires were distributed to the respondents, the staff First Bank Pic Lafia Branch. The researcher observed that 40 questionnaires were carefully completed and returned to the researcher, given the total response rate of 93%. 6.9% constituted the respondents, who had not returned administered questionnaires to the researcher. .

4.2 Data Presentation and Analysis

The responses obtained-from the field study by the researcher are presented and analyzed by using simple percentages in a tabular form and the formulated hypotheses in chapter one were tested below-by the use of a numerical statistical technique called least square, which is used to determine the value of *y* on *x* regression line .i.e. the relationship between two or more values.

4.2.1: Responses as to whether Management information system (MIS) reduces cost of operations of Banks (Q1&2)

Employees Cadre			Response s	a		%
	SA	A	u	D	SD	
Management Staff	12(30%)	-	-		"*	30%
Non Management Staff	20(50%)	2(5%)			6(15%)	70%
Total	32	2			6	

Source: Field Study (2018)

From the table 4.2.1 above, it is obviously shown that management staff 12 (30%) and non management staff 20(50%) of First Bank Lifia have strongly agree that management information system reduce cost operations to a high degree, non management staff 2(5%) have agree ordinary while 6(15%) of non management have strongly disagree. Based on the response rates obtained in above, the researcher concluded that management information system (MIS) reduces cost of operations.

4.2.2: Responses as to whether management information system (MIS) aid banks to deliver services to customers (Q3)

Employees Cadre			Responses			%
	SA.	A	u		SD	
Management Staff	10(25%)	2(5%)	'		-	30%
Non Management Staff	10(25%)	12(30%)			("6(15%)	70%
Total	2.0	14			6	

Source: Field Study *(2018)*

Table 4.2.2 above shows that management staff of (25%) and non management staff 10(25%) of First Bank Lafia have strongly agree that management information system (MIS) aid their bank to render services to the internal and external customers, management staff of 2(5%) and non management staff i 2(30%) have agree ordinary while 6(15%) of non management have strongly disagree and the rest of the options were not ticked. Based on the response rates obtained in above, the researcher concluded that management information system (MIS) aid banks to render services such as check clearing, debit and credit alerts, printing of statement of accounts, sorting of account balances.

4.2.3: Responses as to whether management information system (MIS) aid communication and information transfer (Q4)

Employees Cadre	Responses					%
	SA	A '	U	D	SD	
Management Staff	6(15%)	6(15%)	:			30%
Non Management Staff	10(25%)	10(25%)	2(5%)		6(15%)	70%
Total	16	16	2		6	

Source: Field Study (2018)

The result in table 4.2.3 above shows that management staff 6(15%) and non management staff 10(25%) of First Bank Lafia have strongly agree that management information system (MIS) aid communication and information transfer within and among customers of the bank, management staff of 6(15%) and non management staff 10(25%) have agree ordinary while 6(15%) of non management have strongly disagree and 2(5%) of non management staff were undecided and the rest of the options were not ticked. Based on the response rates obtained in above, the researcher concluded that management information system (MIS) aid communication and information transfer within and among customers of the bank such as calls within the banks, money transfer, debit or credit alerts, account balance messages to internal and external customers.

4.2.4: Responses as to whether Management information system (MIS) relates to bank efficiency (T>5&6)

Employees Cadre			Responses			%
	SA	A	u	D	SD	
Management Staff	12(30%)			-	-	30%
Non Management Staff	20(50%)	2(5%)			6(15%)	70%
Total	32	*n*			6	

Source: Field Study (2018)

Table 4.2.4 shows that management staff 12 (30%) and non management staff 20(50%) of First Bank Lafia have strongly agree that management information system (MIS) and bank operational efficiency are highly related to bank operational efficiency, non management staff 2(5%) have agree ordinary, while 6(15%) of non management have strongly disagree. Based on the response rates obtained in above, the researcher concluded that management information system (MIS) and bank operational efficiency are significant related.

Hypotheses Test

The hypotheses for this study are tested below using a parametric statistic, Product Movement Correlation Coefficient as specified in chapter three of this study and the

formula is denoted below:

$$r = \frac{n\varepsilon xy - \varepsilon x \varepsilon y}{\sqrt{[n\varepsilon y^2 - (\varepsilon y)^2][n\varepsilon x^2 - (\varepsilon x)^2]}}$$

Decision Rule: Reject the null hypothesis if the calculated / is greater or equal to critical value of *t* at 0.05a 3df (2.353)

Hypothesis one test

H_{ol}:Management information system (MIS) does not significantlyaffect cost of operations of First Bank Lafia branch.

In order to test hypothesis one (H_0i), responses of question three was used, see the table below:

Employees Cadre	Responses				
	SA	A	U	D	SD
Management Staff (x)	10	2	-	-	-
Non Management Staff (y)	10	12	-	-	6

Source: Field Study (2018)

X	Y	X^2	Y^2	XY
10	10	100	100	100
2	12	4	144	24
0	0	0	0	0
0	0	0	0	0
0	6	0	36	0

Source: Field Study (2018)

$\sum X=12$, $\sum Y=28$, $\sum X^2=104$, $\sum Y^2=280$, $\sum XY=124$, $n=5$

$$r = \frac{n\varepsilon xy - \varepsilon x \varepsilon y}{\sqrt{[n\varepsilon y^2 - (\varepsilon y)^2]\,[n\varepsilon x^2 - (\varepsilon x)^2}}$$

$$5x124 - 12x28$$

$$r = \frac{1416 \times 576}{\sqrt{\quad}}$$

$$r = \frac{}{864}$$

$$r = \frac{}{903}$$

The correlation result of 0.95 denotes that management information system (MLS) does significantly affect cost of operations of First Bank Lafia branch. The t~ distribution is applied below:

Decision Rule: Reject the null hypothesis if the calculated *t* is greater or equal to critical value of *t* at 0.05a 3df (2.353), the calculated value of *I* = 9.5 is greater than the tabulated value , thus, the researcher rejected the null hypothesis and concluded that management information system (MIS) does significantly affect cost of operations of First Bank Lafia branch.

Hypothesis two test

H,,2:Management information system (MIS) does not significantly affect service delivery in First Bank Lafia branch.

In order to test hypothesis one (IT_{o2}), responses of question one and two were used, see the table below:

Employees Cadre	Responses				
	SA	A	U	D	SD
Management Staff (x)	10	2	-	-	-
Non Management Staff (y)	10	12	-	-	6

Source: Field Study (2018)

X	Y	X^2	Y^2	XY
10	10	100	100	100
2	12	4	144	24
0	0	0	0	0
0	0	0	0	0
0	6	0	36	0

Source: field study (2018)

$\Sigma X = 12, \Sigma Y=28, \Sigma X^2 = 104, \Sigma Y^2 = 280, \Sigma XY = 124, n=5$

$$r = \frac{n\varepsilon xy - \varepsilon x \varepsilon y}{[n\varepsilon y^2 - (\varepsilon y)^2\ [n\varepsilon x^2 - (\varepsilon x)^2]}$$

$$r = \frac{5 \times 124 - 12 \times 28}{5x280-28x28\ [5x104-12x12]}$$

$$r = \frac{620-336}{1400-784][520-144}$$

$$r = \frac{}{\sqrt{616x376}}$$

$$r = \frac{284}{481}$$

r = 0.59

The correlation result of 0.59 denotes that management information system (MIS) does affect service delivery of First Bank Lafia branch. The t- distribution is applied below:

$$t = 0.59\sqrt{\frac{5-2}{1-0.76}} \quad \text{since } (r2 = 0.76)$$

$$t = 0.59\sqrt{\frac{3}{0.24}}$$

t = 0.59x3.5

t = 2.065

Decision *Rule:* Reject the null hypothesis if the calculated *i* is greater or equal to critical

value of *t* at 0.05a 3df (2.5S3), the calculated value of *t* = 2.065been equal to the tabulated value with no significant disparity, the researcher therefore rejected the null hypothesis and concluded that management information system (MIS) does affect service delivery of First Bank Lafia branch.

Hypothesis three test

HO3; Management information system (MIS) does not significantly impact communication and information transfer in First Bank Lafia branch.

In order to test hypothesis one (H_{o3}), responses on question four were used, see the table below:

Employees Cadre	Responses				
	SA	A	U	D	SD
Management Staff (x)	6	6	-	-	-
Non Management Staff (y)	10	10	2	-	6

.Source: Field Study *((2018)*

Y	X^2	Y^2	XY
10	36	100	60
10	36	100	60
2	0	4	0
0	0	0	0
6	0	36	0

Source: Field Study (2012).

$\Sigma X = 12, \Sigma Y=28, \Sigma X^2 = 72, \Sigma Y^2 = 240, \Sigma XY = 120, n=5$

$$r = \frac{n\epsilon xy - \epsilon x \epsilon y}{\sqrt{[n\epsilon y^2 - (\epsilon y)^2\ [n\epsilon x^2 - (\epsilon x)^2]}}$$

$$r = \frac{5 \times 120 - 12 \times 28}{\sqrt{5x240-28x28\ [5x72-12x12]}}$$

$$r = \frac{620-336}{\sqrt{1200-784][360-144}}$$

$$r = \frac{}{416x216}$$

$$r = \frac{264}{299}$$

r = 0.88

The correlation result of 0.88 denotes that management information system (MIS) does significantly impact communication and information transfer in First Bank Lafia branch. The t- distribution is applied below:

$$\frac{5\text{-}2}{1\text{-}0.93} \quad \text{since } (r2 = 0.93)$$

$t = 0.88\sqrt{}$

$t = 0.88\sqrt{\frac{3}{0.07}}$

$t = 0.88x6.5$

$t = 5.72$

Decision Role: Reject the null hypothesis if the calculated *t* is greater or equal to critical value of / at 0.05cx 3df (2.353), the calculated value of *t* = 5.72 is greater than the tabulated value, thus, the researcher rejected the null hypothesis and concluded that management information system (MIS) does significantly impact communication and information transfer in First Bank Lafia branch.

Hypothesis four test

There is no relationship between management information system (MIS) and efficiency of First Bank Lafia branch.

In order to test hypothesis one ($H_0$4), responses on question five and six were used, see the table below:

Employees Cadre	Responses				
			U		
Management Staff (x)			-		
Non Management Staff (y)			-		

Source: Field Study (2018)

X	Y	X^2	Y^2	XY
12	20	144	400	240
0	2	0	4	0
0	0	0	0	0
0	0	0	0	0
0	6	0	36	0

$\Sigma X = 12, \Sigma Y=28, \Sigma X^2 = 144, \Sigma Y^2 = 440, \Sigma XY = 240, n=5$

$$r = \frac{n\varepsilon xy - \varepsilon x\varepsilon y}{\sqrt{[n\varepsilon y^2 - (\varepsilon y)^2\ [n\varepsilon x^2 - (\varepsilon x)^2]}}$$

$$r = \frac{5 \times 240 - 12 \times 28}{\sqrt{5x440-28x28\ [5x144-12x12]}}$$

$$r = \frac{1200-336}{\sqrt{2200-784][720-144}}$$

$$r = \frac{144-576}{\sqrt{\quad\quad}}$$

$$r = \frac{864}{903}$$

$$r = 0.95$$

The correlation result of 0.95 denotes that management information system (MIS) is positively related to operational efficiency of First Bank Lafia branch. The t~ distribution is applied below:

$$t = 0.95 \frac{5-2}{1-0.97} \text{ since } (r2 = 0.97)$$

$$t = 0.95 \sqrt{\frac{3}{0.03}}$$

$$t = 0.95x100$$

$$t = 9.5$$

Decision Role: Reject the null hypothesis if the calculated *t* is greater or equal to critical value of *t* at 0.05a 3df (2.353), the calculated value off = 9.5 is greater than the tabulated

value, thus, the researcher rejected the null hypothesis and concluded that there is a perfect relationship between management information system (MIS) and operational efficiency of First Bank Lafia branch.

4.3 Discussion of Findings

This research work had assessed the impact of management information system (MIS) on the operational efficiency of Banks in Nigeria with particular reference to First Bank of Nigeria, Lafia branch, Nassarawa

State. In light of the above experimentation, it is noted that the study revealed a number of interesting findings.

The correlation coefficient of 0.95 clearly shows that management information system (MIS) had significant impact on cost of operations of First Bank Lafia branch. The coefficient determination (r) of 0.97, t- *clistrihution* result of 9.5 reveals 97% impact of the independent variable, management information system (MIS) on the variability of cost of operations of First Banks Lafia branch. MIS makes arrangements that bring borrowers and lenders of financial resource together and more efficiently too than if they had to relate directly with one another (Adam, 1998; Ojo, 2007)

Again, finding in Ho_2 indicated that the correlation coefficient of 0.59 clearly shows that management information system (MIS) had significantly aid First Bank Lafia branch in service delivery. The coefficient determination of (r) of 0.76, t-*distribution* result of 2.065 reveals 76% impact of the independent variable, management information system (MIS) on the variability of service delivery First Banks Lafia branch. Many successful financial institutions 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 (Lederer and Mendelow, 1988).

Laudon & Laudon, (1991) contend that managers cannot ignore information Systems because they play a critical role in contemporary organization. They point out that the entire cash flow of most fortune 500 companies is linked to information System. The application of information and communication technology concept, techniques, policies and implementation strategies to banking services has become a subject of fundamental importance and concerns to all banks and a prerequisite for local and global competitiveness. ICT directly affects the various management functions of planning, organizing and the nature of services offered in the banking industry. It has continuously changed the way banks organized their corporate relation worldwide with the variety of innovative devices available to enhance the speed and quality of services delivery.

Also- the result of correlation coefficient of 0.88 clearly shows that management

information system (MIS) had significant, impact communication and information transfer in First Bank Lafia branch. The coefficient determination (r^2) of 0.93, t-*distribution* result of 5.72 reveals 88% impact of the independent variable, management information system (MIS) aided communication and information transfer among bank internal and external customers. Irechukwu (2000) itemized some bank services that have been revolutionized through the use of ICT as including account opening, customer account mandate, and transaction processing and recording. Information and communication technology has provided self- service facilities (automated customer = service machines) from where prospective customers can complete their account opening documents direct online. It assists customers to validate their account numbers and receive instruction on when and how to receive their cheque books, credit and debit cards. ICT products in use in the banking industry include automated teller machine, smart cards, telephone banking, electronic funds transfer, electronic data interchange, electronic home and office banking.

Lastly, finding in Ho_4 indicated that the correlation coefficient of 0.95 clearly shows that management information system (MIS) had significant relationship with bank operational efficiency. The coefficient determination of (r^2) of 0.97, *X-distribution* result of 9.5 reveals 76% relationship of the independent variable, management information system (MIS) and operational efficiency of First Banks Lafia branch. Ovia (2005) opined that the revolution in information communication technology (ICT) has made the banking

sector changed from the traditional mode of operations to presumably better ways with technological innovation that improves efficiency. KIT can enhance efficiency via its use and in recent times banks have been encouraged by the rapid decline in the price of ICT gadgets. The banking business is becoming highly 1C 1 based due to its inter-sectoiai link, it appears to be reaping most of the benefits of revolution in technology, as can be seen by its application to almost all areas of its activities (Akinuli, 1999). A broad opening has been experienced around the world foi banks and they are currently taking due advantage of these innovations to provide improved customer services in the face of competition and faster services that enhance productivity (Akinuli, 1999; Ovia,2005).

4.4 Chapter Reference

Adam (1998). Financial Intermediation and Economic Growth: Evidence from Nigeria. *Journal of Economic Management*, Vol.5, *No.2,*
Pp.25-48.

Akinuli, O.M. (1999). Information Technology in Nigeria's Banking
Industry: Operational Applications, Problems and Future Challenges. *CBN Bullion,* Vol.23, No.3, Pp/71 -75.

Irechukwu, G., (2000). *Enhancing the Performance of Banking Operations through Appropriate Information Technology: Information Technology in Nigerian Banking Industry.* Ibadan: Spectrum Books.

Lederer, A.L. & Mendelow, A.L. (1988). Convincing Top Management of the Strategic Potential of Information Systems. *MIS Quarterly,*
Pp. 525-34.

Laudon, D.P. and Laudon, UP. (1991). *Business Information System: A Problem Solving Approach.* New York: HBJ College Publishers

Ovia, J. (2005). Enhancing the Efficiency of the Payment System in Nigeria *CBN Bullion*, Vol. 29, Mol, Pp8-18.

Ojo, J.A.T. (2007). Financial Sector lVIaladaptation, Resource Curse and Nigeria. Development Dilemma. *Public Lecture*. Covenant University, Ota, Ogun State.

CHAPTER FIVE

SUMMARY, CONCLUSION, LIMITATIONS AND RECOMMENDATION

5.1 Summary

This study assessed the impact of management information system on the operational efficiency of banks in Nigeria with particular reference to First Bank Pic, Lafia branch. It was discovered that MIS reduced the operational cost, significantly aid service delivery, communication and information transfer among-internal and external customers of First Bank Pic, Lafia Branch, thus, improved efficiency of banks. MIS is a broad opening that has been experienced around the world for banks and they are currently taking due advantage of these innovations to provide improved customer services in the face of competition and faster services that enhance productivity (Akinuli, 1999; Ovia,2005).

5.2 Conclusion

Based on the findings of this study, MIS do significantly impact operational efficiency of banks in Nigeria as it used for decision making on cost reduction, quality service delivery, communication and information transfer actors and players in the financial industry. Woherem (200) claimed that only banks that overhaul the whole of their payment and delivery systems and apply ICT to their operations are likely to survive and prosper in the new millennium. The banking industry in Nigeria has witnessed tremendous changes linked with the developments in management information and ban

efficiency over the years.

5.3 Limitations of the Study

A study of this nature, being canted on the present economic, political and social conditions could not be free a number of limitations.

First, most respondents are reluctant to cooperate, for the fear disclosing the true position of their business base. Others were apprehensive of the researcher's intention suspecting that he/she may sell their business's information to their competitors.

Besides the time frame for study is not enough to carry an extensive study reveals almost all the variable in the study. The researcher also encountered some problems in gathering data for the study because of extensive knowledge of respondents to present accurate data for experimentation. The above mentioned predicament limited the availability of valid data needed for the investigation.

5.4 Recommendations

In line with discoveries in the above, following recommendations are made:

i. Banks should increase investment in information communication technology to create an efficient and diversified management information system for goal attainments.

ii. More favorable and important policies should be initiated by the regulatory bodies to encourage banks in acquisition of better communication components.

iii. Banks should assemble and utilize of management information system gadgets.

iv. Proper orientation should be given to employees at all levels as well as in-service training

for secretaries to ensure proper and adequate use of MIS facilities in generating and disseminating information for better decisions within banks. Managerial style must be more decentralized and more expertise oriented.

v. Further research work on MIS in the service industry should involve employee efficiency in both manufacturing and service industries.

BIBLIOGRAPHY

Adam (1998). Financial Intermediation and Economic Growth: Evidence from Nigeria. *Journal of Economic Management,* Vol. 5, *No.2* Pp.25-48. . , . .

Al-Zhrani S (2010). Management Information Systems Role in Decision-Makmg ' During Crises: Case Study. *Journal of Computer Science,Vol.6(NOA* I, pp. 1247-1251

Agburu, J. 1. (2007). *Modern Research Methodology.* Makurdi: Kujoma Publishers Ltd. _

Aeboola A. A. (2001) .Impact of Electronic Banking on Customer cervices m *Lagos, Nigeria in Ife Journal of Economics and Finance, vol. 5, NO. 1&2*

Akinuli, O.M. (1999). Information Technology in Nigeria's Banking Industry: Operational Applications, Problems and Future Challenges. *CBN Bullion,* Vol.23, No.3, Pp.71-75.

Akpa and Angahar, P. (1999). *Essentials of Research Methodology.* Makurdi: Aboki Publishers.

Alabi (1997) Management Information System (MIS) and Effective Contiol in Nigerian Universities: A Case Study of University of Ilorin. Paper presented for"Post-graduate seminar on Productivity, Effectiveness and Efficiency m Education, .University of Ilorin.

Allen, B., Heurtebise, A., & Turnbull, J. (2010). Improving Information Access. *Business Management US.* Retrieved October 2, 2010 from http://www.busmanagement.com/article/Improving-information-access/

Aragba-Akpore, S. (1998). The Backbone of Ranks' Service Regeneration. *Money watch,* July 22, p23.

Awenhmobor, A (1991). Computers in Banking NDIC Quarterly Vol.I, pp.4 Bee, R. *Sc* Bee, F,(1999). *Managing Information and Statistic.* lrowbndge. Cromwell Press.

Benue State University Library, Makurdi, 2012.

Central Bank of Nigeria Report, 2007

Chambers, R. J. (1964). The role of Information Systems in Decision Making. Management Technology, *v,p/.4,N0.1 ,pp. 15-2ɪ.*

Davenport, T. 11, & Short, J. E. (1990). The New Industrial Engineering: Information Technology and Business Process Redesign. *MIT Sloan Management Review.* Retrieved February2, [2012]Rom

http ://sloanrevie w .mi t.edu/the-magazine/articles/1990/summer/3141 /the-newindustrial-engineering-information-technology-and-busmess-process-redesign/2/.

Demetrius, K. (1996). The role of expert systems in improving the management of processes in total quality management organizations. *SAM Advanced management Journal.* Retrieved Febiuaiy2, 2012

http/www .allbusiness.com/management; 5 91381-1 .html. likechi, A (1990). Role of Private sectors in Economic Development of Developing Countries. *First Bank of Nigeria,* Quarterly review.

Guide, A-M., C. Patillo, & J. Christensen (2006). Africa Faces Many Obstacles in Developing Financial Systems. *Finance and Development, Africa Makes Its* Move.

Barker P. T. ,& Zenios, S. A. (2,000). *Performance of Financial Institutions, Efficiency, Innovation, Regulation* .Cambridge, UK: Cambridge University Press.

Kumar P. K. (2006). Information System—Decision Making. *IndianMBA.* Retrieved October 2,2010 from

http://vAVw.indianmba.eom/F acuity __Coi.umn/f Co 07/fc307.htmi. lrechukwu, (}., (2000). *Enhancing the Performance of Banking Operations through Appropriate Information I ech.nologyinformation Technology in Nigerian Banking Industry.* Ibadan: Spectrum *Books.* . . .

Jahangir, K. (2005). Improving organizational best practice with information systems. *Knowledge Management Review.* Retrieved October 2, 2010 from

http ://f indar tides. com/p/articl es/mi __qa5 3 62/is_2005 01 /ai_n21371132/.

Jarboe K. P. (2005). Reporting Intangibles: A Hard look at Improving Business Information in the U.S. *Athena Alliance.* Retrieved October 2, 2010 from

http://www. athenaalliance.org/apapers/Reportinglntangibies.htm.

Jawadekar. (2006). Management Information Systems: Texts and cases. New York, NY: McGraw Hill.

Laudon, D.P. and .Laudon, J.P. (1991). *Business Information System: A Problem Solving Approach.* New York: HBJ College Publishers.

Laudon, K. & J.P Laudon (2007). Management Information Systems: Managing the Digital Firm. New-Jersey: Pearson Prentice Flail.

Lederer, A.L. & Mendelow, A.L. (1988).Convincing Top Management of the Strategic Po tential of Information Systems. *MIS Quarterly,* pp 525-34. Lingham L °(2006). Managing a Business/ Management Information system. *All Experts.* RetrievedOctober 2, 2010

http ://en. allexperts. com/q/Man aging-Business-10 8 8/management Information-system.htm

Madueme I S. (2010). Evaluation of the Impact of Information Communication Technolopy on Banking Efficiency using the transcendental Lograthmuc *Production Function and Camel,* International Journal of Engineering Science and Technology.*Vol.2, N0.1, pp.1-6.*

Mason, J. (1999)- *Statistical Techniques in Business and Economic. London: Irwin McGraw Hill Ltd.*

Ojo J.A.T. (2007). Financial Sector Maladaptation, Resource Curse and Nigena. Development Dilemma. *Public Lecture.* Covenant University, Ota, Ogun

Osuala, E. C. (2001). *Introduction to Research Methodology.* Onotsha. *Africana-Fep Publishers Ltd,* . ... .

Ovia, J. (2005). Enhancing the Efficiency of the Payment System m Nigeria. *CBN Bullion,* Vol. 29, N o l , Pp8-18

Ovia J (2000). From Banking Hall to E-Platform. *Financial Standard* Januaiy Rhodes, J. (2010). The Role of Management Information Systems [m] Decision Making. *eHow.* Retrieved October 2, 2010 horn http://www.ehow.com/facts__7147006_role informationsystems-decision- making, litmi.

I J S t u d y in (2010). Management Information System and Decision Making. Retrieved October 2, 201.0 from http://wvAv.ustudy.in/node/1009.

APPENDIX II

Research Questionmiire, 2012

Employee of First Baok.Plc, Lafia Branch, kindly indicate your response to the following by ticking (4) the corresponding box.

KEY:

Strongly Agree	SA
Agree	A
Undecided	U
Disagree	D
Strongly Disagree	SD

Ql. Management information system (MIS) help your organization to reduce cost ol its operation.

Q2. If yes, to what extent

a. High
b. Moderate
c. Low

Q3. Management information system (MIS) aid organization to render fast and quality services to bank customer s such as check