THE USE OF MANAGEMENT INFORMATION SYSTEMS IN NATIONAL BOARD FOR TECHNICAL EDUCATION, KADUNA

BY

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MLS/EDUC/2313/2011 – 2012

DEPARTMENT OF LIBRARY AND INFORMATION SCIENCE
AHMADU BELLO UNIVERSITY, ZARIA

SEPTEMBER, 2015

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A THESIS SUBMITTED TO THE POSTGRADUATE SCHOOL AHMADU BELLO UNIVERSITY, ZARIA IN PARTIAL FULFILLMENT FOR THE AWARD OF MASTER OF LIBRARY AND INFORMATION SCIENCE DEGREE

SEPTEMBER, 2015

Declaration

I hereby declare that this thesis titled "The Use of Management Information System in National Board for Technical Education Kaduna." Was written by me under the supervision of Dr. Ezra Gbaje and Dr. B.S. Aduku. All literature consulted and cited were properly acknowledged.

……..……. **……..**

EGWUIBE, MARTINA OKWUCHI **DATE**

Certification

This Thesis entitled: "The Use of Management Information System in National Board for Technical Education Kaduna", by Martina Okwuchi Egwuibe meets the regulations governing the award of the degree of Master of Library and Information Science at Ahmadu Bello University, Zaria, and is approved for its contribution to knowledge and literary presentation.

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Dedication

This research work is dedicated to God Almighty, my creator and redeemer. And to my loving husband Mr. Chukwunyere Fayas Egwuibe, and to our lovely children Nnaemeka and Ugochinyere.

Acknowledgement

First and foremost I wish to express my gratitude to God Almighty, my very- present help in all things and at all times for seeing me through this work successfully. My appreciation to my Head of Department, Dr. M.I. Abdullahi, for his kind contributions. My sincere gratitude goes to my supervisor Dr E.S. Gbaje, who became a big brother to me especially when situation of life was pulling me down, took his time to tutor, guide, advice, read, thoroughly scrutinize my work and encouraged me through every stage of the work despite his tight teaching and administrative schedule. My profound appreciation goes to my second supervisor, Dr Baba S. Aduku, for his untiring efforts, encouragement, understanding and patience throughout the period of this study despite all odds.

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Abstract

The purpose of this study was to identify the barriers to the Use of Management Information System in National Board for Technical Education Kaduna for enhanced management planning and decision making and to determine the impact and consequences of the use of MIS. The study adopted the survey method of research and the instruments used for data collection were the questionnaire and unstructured interview. The target population of the study comprised of all the Management staff of the NBTE. Purposive sampling procedure was used to arrive at a total of 58 samples of the entire population of staff. The target sample was made up of 1 Chief Executive, 4 Directors, 27Deputy Directors and 26 Chiefs. The data collected for the study was analyzed and interpreted by the use of descriptive statistics, which were presented in tabular format using percentages to provide answers to the research questions. The findings revealed that majority of the management staff were above the age of 46 and majority of them are male, with master degree in different disciplines. The major barriers identified that affects the effective use of MIS in National Board for Technical Education kaduna are : Financial, Technological , Organizational and individual barriers. The study discovered that MIS impacted management/organization processes positively in the following areas: integration of information is made possible across various TVETS, access to information has been improved , improved communication networking between colleagues and other institutions, it has improved the day to day control and planning of operations, All these are linked to improving decision making but it is not to a reasonable level. The study revealed also the negative impact of the use of MIS in NBTE to include : it alters the skills required by individual to do his jobs, it reduces number of workers required for certain tasks, it sets in frustration among employee due to error in system set up as well as unfamiliarity with the new system. Finally the study revealed that majority of the management staff do not rely on the use of MIS for their information needs. The study therefore, concluded that the use of MIS by management staff of NBTE for an improved decision making is very low. In view of this number of recommendations were made, such as: adequate fund should be allocated to MIS department , top management of NBTE should give full support to adoption and implementation of MIS, constant training and education of the staff and availability of adequate facilities, and technical support for maintenance of IT systems will no doubt help to improve the MIS usage in the organization which will in turn improve information flow, hence effective decision making.

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List of Abbreviations

CD-ROM ---------- Compact Disk Read only Memory

IT ---------- Information Technology

ICT ---------- Information Communication Technology

IS ---------- Information System

MIS ---------- Management Information System

OND ---------- Ordinary National Diploma

HND ---------- Higher National Diploma

BA ---------- Bachelor of Arts

BSC ---------- Bachelor of Science

MA ---------- Master of Arts

MSC ---------- Master of Science

MBA ---------- Master of Business Administration

PhD ---------- Doctor of Philosophy

CHAPTER ONE

INTRODUCTION

1.1 **Background to the Study**

The world is in a dispensation of great change and working in an Information Age, where managers have to assimilate masses of data, convert that data into information, form conclusions about that information for planning and making decisions leading to the achievement of business objectives. The place of information in an organization sense is complex. Information is very crucial for effective running of all organization. It is a basic and important resource needed to develop other resources in any thriving organization. Information is data that have been processed into meaningful and perceivable form for use by administrators and managers in planning and decision-making. In the same vein Eyitayo et a (2006) said information is data which has been processed in such a way as to be meaningful and useful to the person who receives it. Uhegbu (2001), held the view that information is a conveyor of knowledge, a change agent, a reinforcement of ideas and opinion.

The development and use of MIS is a modern phenomenon concerned with the use of appropriate information that will lead to a better decision making and organizational planning, hence better results Ali et a (2011). A manager's effectiveness is largely dependent on the existence and use of information system such as a management information system. Management information system gathers, process, store and disseminate relevant information to the appropriate levels of management to support their planning and decision making. O'Brien (2003) reported that information supports every aspect of business activities and therefore provides organizations with knowledge to support their decision making responsibilities. Adebayo (2007) is of the opinion that if the relevant information required in a decision making

process or an organizational planning is not available at the appropriate time then, there is a good chance to be a poor organizational planning, inappropriate decision making, poor priority of needs and defective programming of activities.

Management information system is an ever evolving and a useful integrated user-machine for providing information, supporting operations, management, analysis and decision making functions by utilizing computer hardware, software models and database. MIS is basically concerned with processing data into information which is then communicated to the various departments, in an organization for appropriate decision making. MIS provides several benefits to organizations some of which are: it provides effective and efficient means of coordination between departments, quick access to relevant data and documents; use of less labour; quick and reliable referencing; management of day-to-day operations and day-to-day assistance in a department and improvement in organizational and departmental techniques.

Various organizations have chosen to apply this system to their organizations. Management information systems have become a major function area of business administration. According to Heven et al (2004), information systems nowadays play a vital role in the e-business and e-commerce operations, enterprise and management and strategic success of the business. Despite the role MIS play in organization, some organization up till date still find it difficult to break even as a result of series of barrier.

1.1.1 Concept of Barrier

A barrier is, generally speaking an obstacle, an obstruction, or a hindrance that may prevent an event from taking place Peng and Nunes, (2010). From the business perspective, barrier is an obstacle within the business context that prevents business objectives from being realized. In essence a barrier to MIS exploitation is any obstacle or factor that is inherent to the

business context or the system itself, and can prevent organizations from efficiently using, maintaining and improving the implemented MIS. (Rucks and Ginter; 1982, Rach and Benbasat, 2000) argued that potential benefits associated with the use of MIS may not be achieved due to issues such as technological barriers, systems barrier and organizational barrier.

National Board for technical Education as an Agency of the Federal Ministry of education specially established to handle all aspects of technical and vocational education training in Nigeria, generates a lot of data both internally and externally which the human brain can no longer comprehend hence, need a perfect working MIS devoid of barriers designed to meet all the stakeholders, management, and staff information needs for effective and efficient organizational operations, decision making and organizational planning.

1.1.2 Concept of Management Information System

Management information system is 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 can include software that help in decision making, data resources such as database, 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 the words of Alzarani (2010), MIS is an information system that generates accurate, timely and organized information so managers and other users can make decisions, solve problems and supervise activity. MIS produces fixed, regularly scheduled reports based on data extracted and summarized from the firm's underlying transaction processing systems to middle and operational managers to identify and inform structured and semi structured decision problems. Sekhar (2007) opined that MIS is a "system that collects and processes data (information) and provides it to managers at all levels

who uses it for decision making, planning, program implementation and control". In other words, MIS is aimed at proffering the management with a solution to a problem.

According to Laudon and Laudon (2004), MIS is an integral Part of organizations which represents an organizational and management solution, based on information technology, to a challenge posed by the environment. MIS is an information system that enhances management decision making. This is because it possesses decision making capability. It is therefore a dynamic concept subject to change, time and again, continually interacting with the internal and external environment of the organization and thereby provide a corrective mechanism within the system that brings about the change needed by a typical MIS. According to David and Olson, (2005); Lucas,(2000) McLeod,(2005). A MIS essentially produces information that supports the management functions of an organization. In essence, MIS is the link required to connect all the organization's components together, hence providing better operation and survival in a competitive environment. Similarly, O'Neil and Adiya, (2007) reported that organizations that do not have formal information sharing practices will fail to leverage their manager's intellectual capital for business innovation and growth. This means that MIS enables the exchange of experience which transfers the required information to the management levels to sustain competitive advantage since it affects the decision making to improve the quality of services provided. In the same vein, Barachini et al,(2009) said it is imperative that organizations should continuously motivate their employees to share valuable information so that their intellectual capital can be leveraged. MIS will give management a new dimension in managing its knowledge and help in carrying out and maximizing the management's initiation in harmonizing the appropriate strategies in the short and long term planning(Edmondson: 2002). MIS exist to

improve and enhance decision making on the issues affecting human and material resources (Adebayo: 2007).

1.1.3 The National Board for Technical Education (NBTE)

The National Board for Technical Education is one of the agencies of the Federal Ministry of Education specially established to handle all aspects of Technical and Vocational Education Training in Nigeria. It was established by Act No. 9 of 11th January, 1977. There are at present 110 approved tertiary technical institutions and 159 technical colleges under the purview of the Board with different types of ownership. The NBTE provides standardized minimum guide curricula for Technical and Vocational Education and Training (TVET). It supervises and regulates through an accreditation process, the programs offered by the technical institutions and colleges. It is also involved in the funding of the government polytechnics and monotechnics.

Vision

The vision of the NBTE is to promote quality Technical and Vocational Education and Training (TEVT) for the sustainable development, growth and leadership roles of Nigeria in Africa and global affairs. Its mission is to promote the production of skilled/semi skilled technical and professional manpower, to revitalize and sustain the national economy, reduce unemployment and poverty through the setting of appropriate quality assurance instrument for planning and decision making, sourcing and disbursing of funds and establishment of adequate linkages between TVET institutions and industry (NBTE News Letter, 2013).

1.2 Statement of Problem

Barriers pose serious problems to organizations as they rely on their employees to adapt to changes that will improve staff performance and productivity, however, the adaptation is usually slow, often difficult and sometimes even unsuccessful.

Management effectiveness is largely dependent on the existence and use of information for planning and decision making in an organization, therefore if the relevant information required in a decision making process or an organizational planning is not available at the appropriate time then, there is a good chance to be a poor organizational planning, inappropriate decision making, poor priority of needs and defective programming or scheduling of activities. The development and use of MIS in the modern organization became necessary as an efficient information management system creates, processes, and disseminates information that is critical to organizational performance. It ensures that information is available to the managers and other users in the form they want it and when they need it. This is why timely information is particularly central to effective decision making in an organization. Similarly, Reedy et al (2009), reported that information system is the mechanism to ensure that information is available to the managers in the form they want it and when they need it.

In a specialized setting like the NBTE a lot of data are being generated both internally and externally on a daily basis. Its proper transformation and dissemination on daily basis is very crucial. The NBTE is a large scale organization in terms of size, area, coverage, varieties of activities and functions, and also diverse manpower requirements. It is therefore, natural that such large organization should adapt an information system (MIS) devoid of any barrier to facilitate information generation, management, and use by the staff, management and the stakeholders.

Despite the roles MIS play in supporting managers in information provision for an improved planning and decision making function, the level of awareness and use of this system by management of NBTE appears to be very minimal. Preliminary investigation by the researcher revealed that information generation, process, storage and dissemination are carried out majorly through manual system. This made the researcher to ponder whether it is as a result of poor utilization of the management information system which leads to delay in information accessibility?.

It is against this backdrop that this study is being undertaken to determine the use of MIS in NBTE Kaduna, to identify the barriers to the use of MIS, to determine the impact of the use of MIS on the management work processes and to determine the extent of management reliance on MIS for their information needs.

1.3 Research Questions

For the purpose of this study, the following questions are set:

1. What are the barriers to the use of Management Information System in NBTE?
2. What is the impact of the use of MIS on management work processes?
3. To what extent do you rely on MIS for your information need?

1.4 Objectives of the study

The objectives of this study are:

1. To identify the barriers inhibiting the use of MIS in NBTE.
2. To determine the impact of MIS use on management work processes
3. To determine the extent to which management rely on MIS for their information need

1.5 Significance of the Study

This study is important because it tends to identify the barriers to effective use of MIS in National Board for Technical Education, Kaduna. It provides the management and stakeholders' knowledge on the roles MIS play in organization. MIS is basically concerned with the process of collecting, processing, storing and transmitting relevant information to support management in their challenging role of decision making. However, this can only be achieved if the stakeholders, management and staff fully appreciate the role and importance of MIS and challenges the organization is bound to face failure to adequately accept and utilize MIS. Preliminary interview section with some of the managers of NBTE indicates that currently no evaluative work has been done as regards to the organization's MIS utilization in NBTE Kaduna. Therefore, the outcome of this study will result into recommendations to address the challenges identified at the end of the study.

The findings will reflect the type of barriers that hinders adequate utilization of MIS and how organization can overcome them. It will create a general awareness on how the use of MIS is beneficial in the management of NBTE operations and organizations in general. The study is of significant value to researchers and scholars in the Library/ Information Science discipline in ABU Zaria, Nigeria and the world at large.

1.6 Scope of the Study

The study focused on the use of MIS in National Board for Technical Education Kaduna. It aimed at identifying the barriers (organizational, system, individual or national barrier) that hinders effective use of MIS in NBTE, and to find out the consequences of the use of MIS on management. Due to the limitations placed on the researcher by time and finance, it will not be

possible to extend the study to other branches of the NBTE offices other than the Kaduna Head Office. The study was limited to National Board for Technical Education branch in Kaduna.

1.7 Operational Definition of Terms

The following terms are operationally defined for their usage in the study.

Barrier : Any obstacle or factor that is inherent to the business context or the system itself, and that can prevent organizations from efficiently using, maintaining and improving the implemented system.

Data: They are facts obtained through reading, observation, counting, measuring, weighing, etc which are then recorded. It is derived from both internal and external sources.

Information: Data that have been processed into a meaningful and useful content/form and communicated to a recipient who uses it to make decisions?

.

Information System : A complete system designed for the productions, collections, organization, storage, retrieval and dissemination of information in an organization.

Management Information System : An Information System that uses formalized procedure to provide management at all levels with appropriate information based on data generated from both internal and external sources to support them in their decision making and planning functions.

System : A system is an assembly of parts or components connected together in an organized way.

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CHAPTER TWO
REVIEW OF RELATED LITERATURE

2.1 Introduction

This chapter seeks to present the review of the literature related to the subject matter of this study to effectively review literature, the following sub-headings have been adopted.

2.2 Barriers to the use of Management Information System in NBTE

2.3 Impact of the use of MIS on management work process

2.4 Extent of Reliance on MIS for Information Need by Management of NBTE

2.5 Summary of Review

2.2 Barriers to the Use of MIS in NBTE

2.2.1 Management Information System

As firms began to computerize in the 1950s, the first applications were in the area of transaction processing. Transaction processing systems are computerized systems that perform and record the daily routine transactions necessary to the conduct of business such as sales order entry, shipping, order tracking, accounts payable, and material movement control Laudon and Laudon (1997). These systems were designed to facilitate data collection and to improve the efficiencies of organizations transactions. Soon, there- after with advances in programming languages, databases, and storage, systems oriented toward providing performance information to managers emerged. Management information systems (MIS) are computer based information systems that provides manager with reports, and in some cases, with on-line access to the organizations current performance and historical records. MIS primarily serve the functions of planning, controlling and decision making at the management level. Generally, they condense

information obtained from transaction processing systems and present it to the management in form of routine summary and exception reports. It goes without saying that all managerial functions are performed through decision making for taking rational decision, timely and reliable information is essential and is procured through a logical and well structured method of information collecting, processing and disseminating to decision makers.

National Board for Technical Education is an Agency that comprises of four departments and additional eight units. The Agency supervises and coordinates the activities of all the technical and vocational education training in Nigeria. These activities require them to constantly generate and have access to information to be able to carry out meaningful planning and decision making. They generate a lot of raw data from both internally and externally by virtue of their functions, their clients are scattered all over the country (students, Lecturers, contracts, staff, suppliers, parents etc). As a result, coordination is not made easy because they find it difficult to have quick access to information and if they do, it is often inaccurate. MIS is developed to solve this problem. MIS goal is to provide relevant information for managerial control and planning. Research have shown that despite the role MIS play in managerial planning and control in an organization, information systems implementation and use still suffers from barriers which hinders the acceptance of change in an organization.

Management information system is one of those information systems that use 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 and planning. Sekhar (2007), posited that MIS is "a system that collects and processes data (information) and provide it to managers at all levels who uses it for planning and decision making, program implementation and control. This means MIS is aimed at proffering

the management with a solution to a problem. According to (David and Olson, 2009; Lucas, 2000, McLeod, 2005), A management information system essentially produces information that supports the management functions of an organization. The use of MIS promotes development and improves organizational planning and decision making. It brings changes in today's business environment, it speeds up information delivery, facilitates research, learning etc.

MIS has assumed all the more important role in today's environment because a manager has to take decisions under two main challenges: Firstly, because of Liberalization and Globalization, in which organizations are required to compete not locally but globally, a manager has to take quick decisions, otherwise his business will be taken away by his competitors Saklhivel (2014). This has further enhanced the necessity for such a system. Secondly, in this information age wherein information is doubling up every two or three years, a manager has to process a large voluminous data, failing which may end up taking a strong decision that may prove to be very costly to the company. In such a situation managers must be equipped with some tools or a system, which can assist them in their challenging role of decision making Saklhivel (2014). It is because of the above reasons, that today MIS is considered to be of permanent importance, sometimes is regarded as the centre of an organization. Such system assist decision makers in organizations by providing information at various stages of decision making and thus greatly help the organizations to achieve their predetermined goals and objectives. On the other hand, MIS which is not adequately planned, analyzed, designed, implemented or poorly maintained may provide or developed inaccurate, irrelevant or obsolete information which may prove fatal for the organization. In other words, organizations today just cannot survive and grow without properly planned, designed, implemented and maintained MIS.

Planning and Decision Making Structures

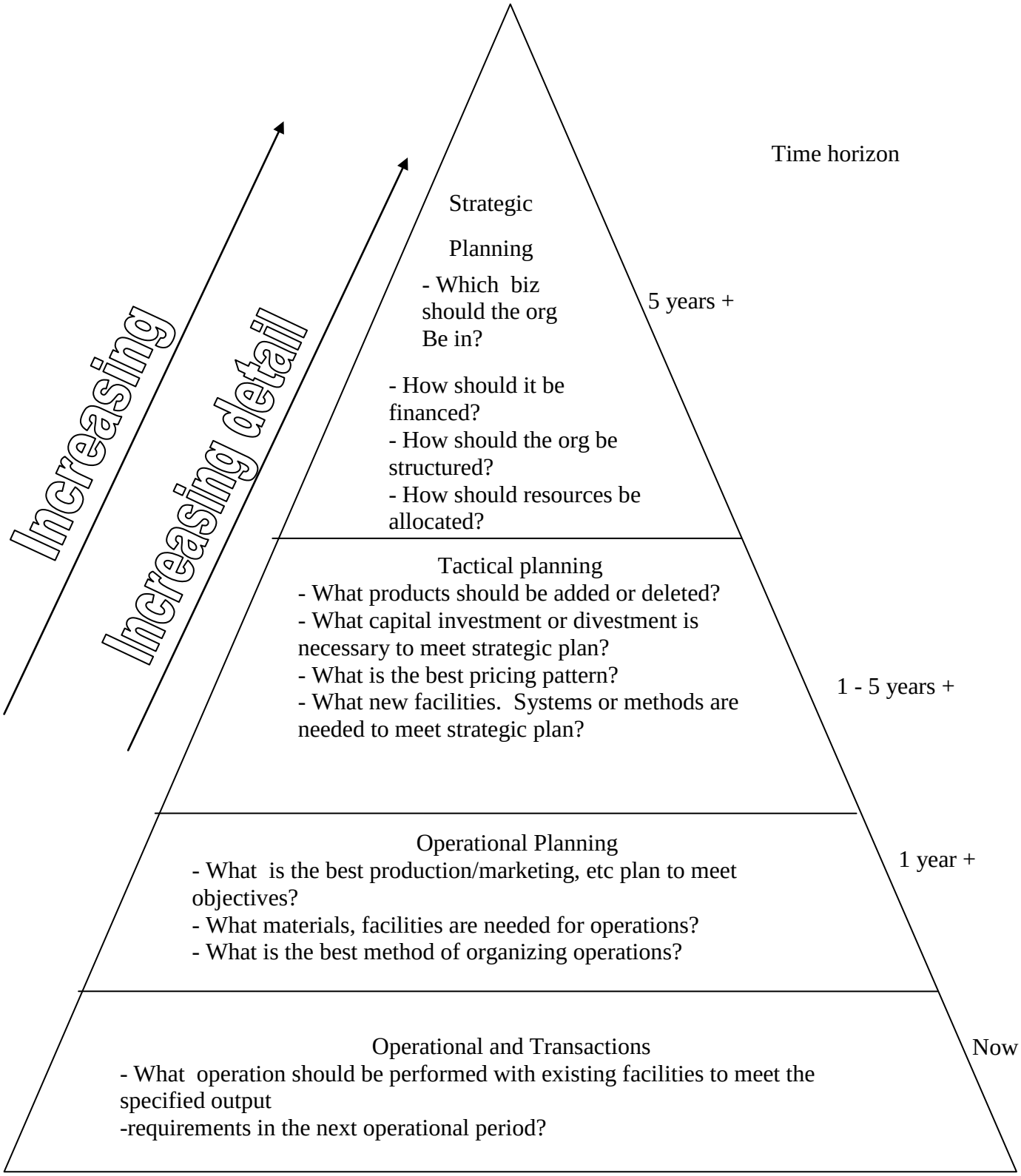
Every organization's management makes decision, prepare plans, and controls activities by using information which is obtained from two major sources namely: formal and informal sources such as face-to-face conversations, telephone calls, social contacts and so on.

Planning and decision making have primarily been management tasks that occur at every level of management. Although, the type of planning and decision making differs, it cut across all levels. The emergence of MIS has led to new vistas in organizations especially for their information management needs. The fulcrum upon which an effective MIS oscillates is a carefully conceived, designed, and executed database. This is the heart of every MIS in any organization's environment. Some of the characteristics of MIS will include:

- an information focus, designed for managers in an organization;
- structured information flow;
- an integration of data processing; and
- an inquiry and report generation.

Planning and decision making are intimately related managerial functions. They heavily depend on information flows within and outside the environment. Planning is the managerial process of deciding in advance what is to be done and how it is to be done. Planning is not an end to itself, its primary purpose is to provide guidelines necessary for decision making and resulting action throughout the organization. Planning is done on both a formal and informal basis and the planning process uses information from both internal and external sources, Finlay (2000). According to Lucey (2005), all levels of management make plans but naturally the type of planning done at each level varies in scope and time scale. Planning has a natural hierarchy and must commence at the strategic or top level of the organization.

Figure 2.1 shows an outline of the three major levels of planning with indicative time horizons



Source: Lucey 2005

Decision making according to Alvani (2012) is choose a way between different paths. Decision making is all about making choice from alternatives. It is an integral part of management and occurs in every function and at all levels. Williams (1996) stated that decision making comprises four principal phases. See figure 2.2 below.

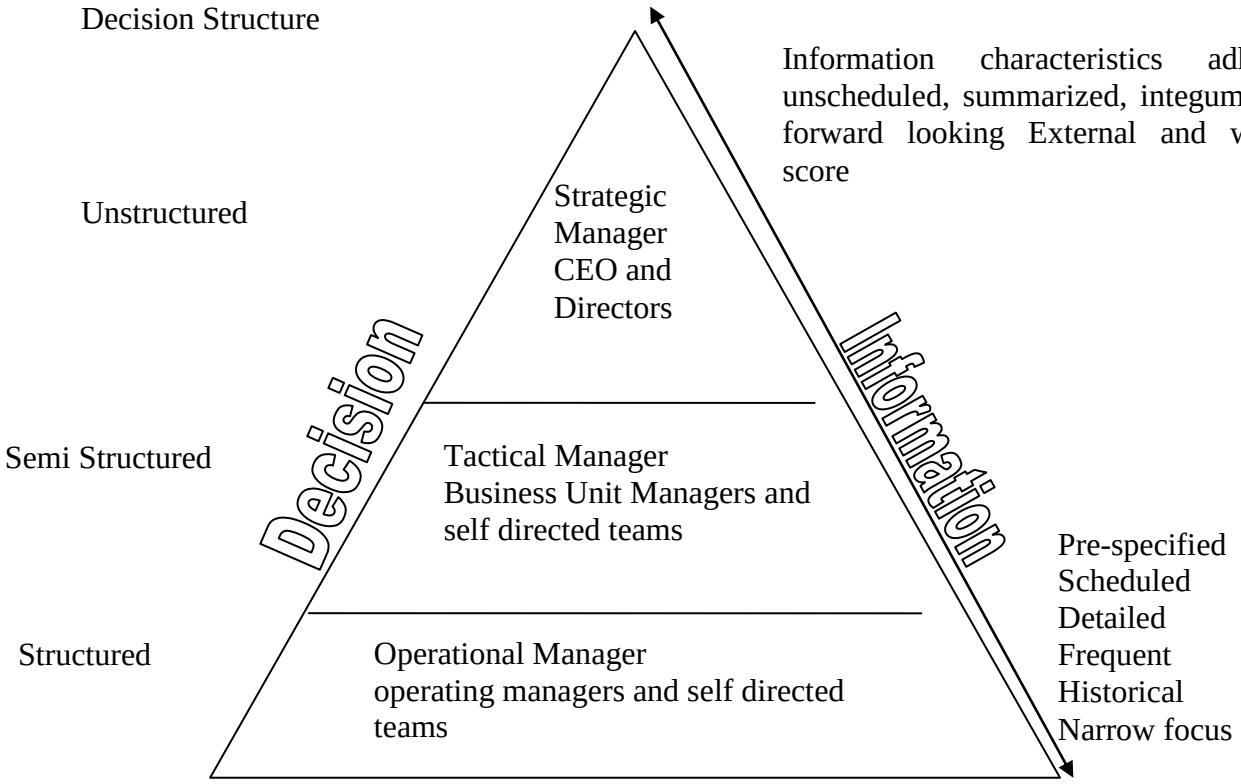
Phase 1	Intelligence – Searching the environment for condition calling for decision
Phase 2	Design – Inventing, developing and analyzing possible courses of action. This involves processes to understand the problem, to generate solutions and the testing for solicitations for feasibility.
Phase 3	Choice – Selecting an alternative of course of action from those available. A choice is made and implemented.
Phase 4	Review – assessing past choices

Source: William, L.C (1996) Business Decisions

Decision making is based on information. Information is the trigger to knowing there is a problem. Information is needed to define and structure the problem, to explore and choose between the alternative solutions and to review the effects of the implemented choice. No wonder Chukwu (2005), recognized information as " a receivable resource that is not depleted once applied, but remains available for further use elsewhere. He added that, the information produced at the right time and in the right hands of people can help to ensure the effective use of other resources. According to O Brien and Markus (2011), the levels of management decision making that must be supported by information technology in a successful organization (independently of it size, shape and participants) are often shown as a managerial pyramid.

Figure 2.3 Show the levels of management decision making.

Levels of management Decision making



Source: O' Brien and Markus (2011)

The tactical level of management occupies an intermediate position between the two extremes with some of the characteristics of both. An organization's MIS can perform one of two functions with respect to decision making, Lucey (2005).

- It supplies information, explores alternatives, and provides support where the manager takes the decision or.
- The MIS takes the decision itself. This is only appropriate with routine operational decisions where the rules are known. Philip (2007), asserted that MIS is basically concerned with the process of collecting, processing, storing and

transmitting relevant information to support the management operations in any organization. He further stressed that the main idea behind the MIS is to keep a continuous supply of information flowing to the management.

AIM OF MIS IN ORGANIZATIONAL PLANNING AND DECISION MAKING

It is inherent to state that planning and decision making is an integral part of any business. This is because majority of operations in an organization revolve around plans and decisions made by the management and other key stakeholders in the organization. Planning and decision making have rightly been called the primary management tasks and these tasks occur at every level of management. Planning is the process of deciding in advance what is to be done and how is to be done. Effective planning and decision making are inextricably linked, for without decisions and actions the planning process is a sterile exercise. In order to provide appropriate information, MIS designers must be aware of the types of decisions made at the various levels of an organization. H.A. Simon (1977) classified decision making into programmed decisions which are those that are routine and repetitive and where the decision rules are known. Conversely, non programmed decisions are novel and unstructured and the nature of the problem and decision rules are complex and little understood. In other words there should be a connection point between the decision to be made and the MIS to be used by individual or corporate business owners because damage caused by poor decision is irreparable, as a result of lack of relevant, timely and up to date information to support managers in their decision making functions. Hence, information systems have an important and key role to play in organization. (Reedy et al, 2009), are of the view that information system is the mechanism to ensure that information is available to the managers in the form they want it and when they need

it. Jerboa (2005), having clearly delineated that, what then are some of the aims of MIS in improving management planning and decision making?

- MIS provides a fitting platform for good decision making (Kumar, 2006). Essentially, without the established systems of getting information in MIS, it would be extremely difficult for organizations to plan and make decisions. This is because they would be forced to making baseless plans and decision due to lack of confirmed information. MIS normally lay a firm foundation for the establishment of concrete decisions through its systematic tools, timely information and adequate management policies and regulations.
- Most MIS performs multiple tasks. This potential to multiple tasks increase efficiency in a company since several business operations can be conducted simultaneously with special regards to planning and decision making, the capacity to multi-task ensures that decisions are made speedily when compared to those systems which can only handle one task at a time.

  Closely related to the above point, Jahangir (2005), says that some MIS allows multiple users to access the same contents all at the same time without any discrepancies. This potentiality boosts accountability from the business operators. As a matter of fact, most organization tends to suffer due to poor accountability from those charged with the mandate to manage certain details. This safeguard action of MIS is what macro economists refer to as the" gate keeping" role of MIS in decision making and the overall well being of the organization.
- MIS play the role of record keeping or institutionalization of data bases that can easily keep confidential or invaluable information. In essence, decision making often calls for the reading of certain past work (Jahangir, 2005).

- MIS gives managers quick access to information. This includes interaction with other decisions support systems, information inquiries, cross-referencing of external information and potential data mining techniques. These systems can compare strategic goals with practical decisions, giving managers a sense of how their decisions fit organizational strategies (Rhodes, 2010).
- MIS programs are endowed with the capacity to give real-time updates of the occurrences in a company or system. By real time, scholars simply refer to immediate updates of occurrences in a system. These immediate updates help managers to take necessary actions as soon as is deemed appropriate especially during the discovery and management of crisis. This is important for the companies in the modern-day generations where any slight lapse in decision making can lead to very huge loss (Allen etal, 2010).
- MIS ensures that appropriate data is collected from the various sources, processed and sent further to all the needy destinations to support their planning and decision making functions.
- MIS improves company securities by programming the system to perform certain routine checks, the program ability of most MIS saves a lot of priceless time and resources for owners. In other words through program ability, the business managers can program the systems to automatically discover certain deficiencies and even solve them.
- MIS generally play the role of information provision to support managers in all levels and other employees to handle the problem from problems recognition stage to the solution implementation and evaluation, also provide information and feedback to prepare necessary reports to improve the work efficiency.

The benefits of information systems to any organization are enumerated by (Arash etal, 2013) to include:

- Improving productivity
- Improving Effectiveness
- To gain competitive advantage

A successful organization relies heavily on information systems to improve its work in one hand and on the other hand achieving its goals and benefits. Management information systems help in solving both structured and unstructured problem environments. Management information systems provides accurate and timely information necessary to facilitate the decision making process and enable the organization planning, control and operational functions to be carried out effectively. No wonder Uhegbu (2001) held the view that information is a conveyor of knowledge, a change agent, a reinforcement of ideas and opinion. Ajayi and Omrin (2007), are of the opinion that MIS is generally thought of as an integrated system providing information to support operations, management and decision making function in an organization. In the same vein, solved assignment (2011), said MIS is an integrated system of man and machine for providing information to support operations, management and decision making functions in the organization.

In this modern information era, effective use of MIS in the management of NBTE operations is very paramount as it provides a fitting platform for good decision making, handles information from all sources whether they are internal to an organization or external from any kind of source like human being or computer. Based on the significant role that information plays in choice of decision making and planning to be made, organizations must ensure that they have a good MIS Jahangir (2005). The quality of managerial decision making depends heavily

and directly on the quality of available information and managers should cultivate an environment that encourages the growth and viable sprouting of quality information Ustudy (2010).

Relevance of MIS to Management

- MIS satisfies the diverse needs of management through variety of systems such as query system, analysis system, modeling system and decision support system.
- MIS helps in strategic planning, management control, operational control and transaction processing. MIS helps the clerical personnel in the transaction processing and answers the queries on the data pertaining to the transactions, the status of a particular record and reference on a variety of documents.
- MIS helps the junior management personnel by providing the operations data for planning, scheduling and control, and help them further in decision making at the operational levels to correct an out of control situation.
- The MIS helps the middle management in short term planning, target setting and control the business functions. It is supported by the use of the management tools of planning and control.
- MIS helps the top management goal setting, strategic planning and evolving the business plans and their implementations.
- The MIS plays the role of information generation, communication, problem identification and helps in the process of decision making. The MIS, therefore, plays a vital role in the management, administration and operation of an organization.

2.2.2 Barrier

There are many barriers within organization that restrain, distract, limit and bound the effective use of information management system. Reducing these barriers requires understanding their context, identifying the problems associated with each, and developing appropriate procedures for dealing with them. Organization rely on the employees to adapt to changes, however the adaption is usually slow, often difficult and sometimes even unsuccessful. This is because there are Barriers to the acceptability of change in an organization. Barrier is an obstacle, an obstruction, or a hindrance that may prevent an event from taking place Peng and Nunes (2010). Barrier in the business context is the obstacle that prevents business objectives from being realized. According to (Oxford University Dictionary, 2015), barrier could also mean a circumstance or obstacle that keeps people or things apart or prevent communication or progress. In essence a barrier to MIS utilizations is any obstacle or factor that is inherent to the business context or the system itself and can prevent organization from efficiently using, maintaining and improving the implemented MIS or systems. That is why (Rucks and Ginter, 1982; Reich and Benbasat, 2000) reported that potential benefits associated with the use of MIS or any other system in an organization may not be achieved due to barriers such as: cultural barriers, system barriers, individual barriers or organizational barriers.

The essence of adapting new technology in the administration of organization in this information era is to improve work and work productivity, especially as it relates to management functions whose basic responsibilities are to make decisions and plan strategies through which organizational goal and objective can be achieved. Unfortunately, there are so many barriers that are hindering the use of MIS in some organizations which have deterred such organizations from achieving the aims and roles of MIS. (Business dictionary, 2015) defined barrier as an obstacle

in a work place that prevents effective exchange of ideas or thoughts. It went further to identify some of these barriers to include:

- Status difference
- Gender difference
- Cultural difference
- The organizational environment

Use on the other hand means to put to some purpose. That is, the user of a system puts the system to its purpose. According to Bikku (2002), users are all the important factors without which an information system loses its whole purpose. Today, dramatic changes have occurred in the field of IT (MIS) and its progress has been so pervasive that it has created changing trends in different areas. The most important features of IT are :high speed data processing, extremely high accuracy and high speed access to information, up to date electronic exchange of information, high quality, very cheap and declining cost (Salehi et al, 2010). Therefore, it has become very necessary to understand who the users of an information system are, their information needs and their functions to enable management provide the right kind of information system that can be put to use by the employee or target users.

2.2.3 Barriers/Organizational Change

The changes in organizational life range from routine operational improvements to major radical and transformational changes. Examples of the latter include: business mergers and acquisition, business (territorial) expansion, cultural changes, management, or information implementation, process improvement or re-engineering and restructuring of organizational

units, such as downsizing, technology changes, Total quality Management (TQM) drives change smith (2002).

According to various studies, organizational change attempts frequently fail, which makes them events with potential strong negative consequences for individuals as well as business (Thomas, 1992 and Smith, 2002). Although the rate of failure varies by type of change, it stays relatively high especially with large scale changes. Thus 50-80% of mergers and acquisitions never produce anticipated outcomes, 70% of re-engineering projects are unsuccessful and over a 50% failure rate applies to business expansions, re-structuring (eg downsizing) and TQM driven changes. All these turns organizational change into an event and strong negative consequences for individual and business smith (2002). The odds of successful change management depend on numerous influential factors: Methodological determinant, the complexity of change and social aspects. These aspects are dominant and comprise top manager commitment and open communication Ringer (1999), and employees' reaction to change, especially resistance (Carnall 1990; Burns 1992; Coulson Thomas, 1992; Kolter, 1996). The organizational members' reactions to change vary depending on the character of transformation and the value that people place on satisfying different individual needs Carnall (1990). Individuals or groups can react very differently to change**:** from passively resisting it, silencing its advocates, refusing to engage in joint problem solving, refusing to seek common ground, sabotaging, and aggressively trying to undermine it, or to sincerely embrace it (Kolter, Schlesinger, 2008; Agocs, 1997).

Resistance to change is mentioned in management literature as an inevitable consequence of organizational change initiatives and listed among the most crucial inertial forces against any transformation (Carnall, 1990; burns 1992; Coulson Thomas, 1992; Kolter, 1996). This could be

attributed to uncertainty of the future as a result of change, people in general are not motivated to change unless there are compelling reasons to do so and the destination state to which the organization moves is indeed beneficial to individuals and the whole organization. Therefore any change attempts encounter resistance. According to Peter (2006) "people don't resist change, they resist being changed". Employees' resistance to change is attributed to various causes including habit and inertia. It could be as a result of fear of the unknown and anxiety resulting from individual perception of consequences of the change process, such as absence of the skills they will need after the change, and losing power of position.

Studies have shown that in the current internalized and globalized business environment, the cross-cultural aspect of change management should not be over looked. People from different cultural backgrounds vary in terms of their receptiveness to new ideas and every culture differs in its selection of approach to decision making and problem solving as well as to change – managing Hess (2009).

2.2.4 Barriers to Effective Use of MIS

Every company has its own unique personality, just like people do. Researchers have generally agreed that organizational information system implementation occurs (either individually or in combination) to improve efficiency, effectiveness and to bring about transformation. Management information system is an integrated structure of databases and information embracing all organization levels of a company which facilitate the optimum transfer of information to meet corporate objectives. Chisenga (2004), pointed out in his study, that there are some challenges to the use of information system such as: lack/inadequate personnel, and lack of fund. Okiy (2005), highlighted poor level of computer literacy, poor level of computer facilities, poor level of internet facilities among policy makers, and poor/inadequate

telecommunication facilities. According to Herrmann (2011) he indentified four different barriers that hinders change acceptance in any organization as follows:

- **Barriers in Technology**: High-end and elegant software solutions could make life easier in many regards. Software for data under change, archiving, information sharing communication , work flow management and so on could be quick and easy solutions to restructuring information management. Technological solutions typically requires budget, however, this can easily become a giant constraint. Even if free software is available, there is often a lack of hardware; lack of bandwidth and lack of it literacy when it comes to handling the software, thus making cost rise even higher than comparable pay software. By this an organization can be caught in a technological trap owned by a long gone decision for special software. Reversing this old decision once the software has been implemented could become impossible due to finance or reputational reasons or because of lack of skills.
- **Barriers in content**: This has to do with individual skills example, maps only make sense if people know how to read them. To work with digital or analogue audio files as well as video files, people must have the experience or know-how on using a suitable media player.
- **Barriers to routines and procedures**: Here some processes and procedures claim to exist in ideal situation but in reality they are not. Some works are carried out without planning which may lead to inventing the wheel again and again. This could be due to a culture of last minute or hands on crisis management.
- **Barriers in Organization**: A knowledge sharing culture in an organization that is badly role modeled by those highest in the organizations hierarchy can hinder adoption of information systems. High thinking staff may consider themselves to be more important

than others by not following rules. In hierarchically structured organizations, staff is deeply influenced by line managers' behavior. Thus, if the high ranking member of the organization are unreliable or don't follow up on activities or do not care middle and low ranking staff will not either. According to Ferguson (1990) head of organizations could explicitly be telling everybody to use and support the organization new system but may not apply this instruction to his or herself. This singular act will encourage or strengthens the culture of saying but not

taking it serious or not practicing what you preach.

According to Evgeniou and Cartwright (2005) as the amount of data increases, organizations need to consider how to manage and use their information successfully. They have also identified three different types of barriers to information management as thus:

- . Behavioral barriers: these are barriers mainly due to behavioral characteristics of managers, decision makers, and researchers.
- Process barriers: these are barriers mainly due to the process characteristics of an information analysis project.
- Organizational barriers: these are barriers due to the organizational structure of the group involved in an information analysis project. Omolayole (2002), identified low computer culture as one of the strong barriers that stands against the effective use of MIS. He reported that when management is not computer literate, utilizing the facilities would be a problem and secondly if the awareness of the benefits of using MIS is lacking, it makes usage impossible.

Riege (2005) identified 36 barriers to the use of information systems (MIS) and knowledge sharing under the following headings;

- Individual barriers
- Organizational barriers
- Technological barriers

Reige advised that, for anyone tasked with the responsibility of either developing or implementing an information strategy, a good starting point will be to audit the current practice and thereby determine where the most effort is required, and if possible where the most value can be created. The researcher adapted the three barriers identified above by Riege (2005) and financial barrier inclusive for the study.

2.2.5 Organizational Barrier

Organizational barriers, are attitudes categorized as those barriers that are originated from attitudes of the organization towards the implementation of information system. Those barriers are due to organizational structure and the group involved in an information generation and dissemination. Information system usage initiative requires radical changes in the process and behavior of individuals as well as organizations. Normally, organizations and individuals resist the changes because of structural conflicts and managerial practices of different organization. The delay to address these embedded barriers lead to disappointment and failures of the information system. Organizational factors that are deeply embedded in institutional and professional realities also create barriers to the use of MIS. According to Tsai (2002), any organization with centralization in strong hierarchical structure have a significant negative impact on using MIS. The interest of employees to use are greatly reduced due to limited autonomy and when they are required to seek permission from their superior for every decision. Willem and Buelens (2007), reported that horizontal departmentalization in bureaucracy could also constitute barriers to the use of MIS.

The following researchers (Tsai, 2002; Willem and Buelens, 2007) are of the view that formal rules, guidelines, procedures and regulation could be some barriers to the use of MIS as well. They have also reported that less formalized organization structure and voluntary information sharing can lead to more flexible and open interactions among employees and seem to create more beneficial environment for information sharing in the organization. (Barson et al, 2000) has concluded that some organizations fear of losing company stability/ market position in case they share technical information with other members. (Caudle et al, 1991) have shown that without support from the top management, an innovation in MIS is less likely to be adopted .Top management support has been consistently found to play an important role in the adoption, implementation and use of management information system and is treated as organizational barrier. According to Marsh and Flanagan (2000), the senior executives do not have confidence in the information system therefore, do not wish to invest in innovation and culture, conducive to information sharing. (Zipf et al, 2000), concluded that lack of leadership and managerial direction for information sharing makes the implementation of information system difficult. Curry and Moore (2005), have suggested that in order to achieve information sharing culture, support of the top management is required.

2.2.6 Individual Barrier

Barriers originating from behavior and actions of either individuals or groups within or between various business functions are considered as individual barriers. Information is scattered among individuals and across groups or among group members. The information that other members might need may be available with any of the individual or group in the organization. (Constant et al, 1994) concluded that organizational effort to encourage and facilitate the sharing of information by investing in information communication technology becomes useless. They

have also stated that individuals are more willing to share information when they are happy in their organizations and unsatisfied individuals always hesitate or refuse to share information. They have suggested that it is important to explore people's attitude towards information systems usage to see whether there are significant factors that can influence people's attitudes. Thorpe and Mead (2001), in their own view, reported that some individuals may feel that they are already having existing overload of information. Information overload is described as having more relevant information than one can assimilate. Butcher (1998), Johnson and Payne (1985), reported that information overload can even worsen the effectiveness of decisions making because more information sometimes only confuses and distracts the decision maker.

It is also observed that lack of motivation can lead to non use of MIS. Individuals feel that power, ownership and privileges of possessing crucial information are lost when they use MIS to share information. Some employee regards information as a symbol of power Kolekoski and Heminger (2003). (Pendlebury et al, 1998), has cited lack of training as one of the barriers to the use of MIS by individual. According to Childhouse and Towill (2003), many managers have expressed that their problems in implementing better information system were rooted in individuals, not the technological impasses. These managers emphasized that it is often easier to solve technical issues than to manage the most intractable challenges of behavioural issues. Fear and attitude of employee is also an important group of barrier to the use of MIS. Employees are afraid of making mistakes and /or feared being exposed or ridiculed Stevens (2000). Fear of becoming redundant and losing importance after is also a human barrier in the use of MIS. Lack of training and experience and low literacy about the new technology is also considered as one of the barrier to the use of MIS. (Songer et al, 2001; Stephenson and Blaza, 2001; Weippert et al, 2002; Ives et al, 2002) have suggested that training and ongoing support with clear guidelines are

prerequisite for effective MIS use on all the levels of organizations. (Fawcett et al, 2008), concluded that lack of trust of the information system makes it difficult to use and share sensitive information because management feel that they cannot afford to share sensitive information without ensuring that it will be protected by other employees from been misuse.

2.2.7 Financial Barrier

Financial constraints are a key barrier to the use of MIS in organizations. Cost considerations are the prime challenges to support the infrastructure and man power requirements of information system. Information and technological systems require more funds because without this, efficient use of MIS cannot take place in organizations. Large amount of financial resources are needed for redesigning internal organizational and technical processes, changing traditional and fundamental information distribution channels, customer services procedures and training of staff to achieve efficient information generation and dissemination in any organization (Motowani etal 2000). (Cragg etal, 2002), have reported that lack of resources inhibits organization to adopt information sharing using information technology. It is because of difficulties in raising finance to invest in information systems. Damaskopoulos and Evgeniou, (2003). (Love et all, 2001), regarded the high initial investment and running cost of maintenance of an information system in organizations as financial barriers. They have reported that the cost of specialized man-power and training of personnel as basic obstacle to the use of MIS.

According to Chong and Pervan (2001), they have indentified initial setup cost as one of the major barrier for management information system. Most of the small to medium organizations do not have sufficient finances to employ consultants to help the implementation of information systems (Soriano et al, 2002). Lee and Whang, (2000) postulated that the

financing of feasibility studies, systems designs and management efforts to start up new information generation and dissemination channel becomes a substantial barrier to implement the efficient information system (MIS).

2.2.8 Technological Barrier

The advancement of IT has increased the ease of information generation, processing, storage and dissemination and has provided better methods to share and integrate information. Technological linkages across organizational units as well as up and down the management are particular critical to sharing information. Study has shown that complexity of a technology is a major factor that affects the adoption and use of MIS.

Different organizations may use various types of hardware, software, data standards and definitions, as well as programming language and the task of integrating them could be very challenging. Hoffman and Mehra (2000), stated that the technological factors can cause the failure of any Information System in an organization. So technological barrier need to be tackled at the earliest stage. Premkumar and Ramamurthy (1995), concluded that if the technology is simple to use, it is easier to adopt and other characteristics such as functionality, reliability, and accessibility influence the employees to use the technology. Monczka and Morgan (1997), termed poor IT infrastructure as a barrier to the use of MIS in an organization' integration. However, poor IT infrastructure may be attributed to lack of funds and lack of awareness and commitment of Top management about the use of IT tools in organization's operation.

The deployment of IT tools in organizations including the selected organization (NBTE) is also not free from barriers. Some of these barriers are due to lack of trust in IT tools, fear of information systems breakdown etc.(Kwan,1999; Ayers, 2000; Zhao and Xie, 2002; Agarwal and Shanker, 2003), found that differences in level of the technological capabilities of

management members may be an important barrier in participation in inter-organizational information system. Lack of ability of professionals to maintain adequate levels of knowledge and expertise due to fast pace of rapidly and radically changing technology used in information management systems (Dawes, 1997; Holden et al, 2003).

Similar to the reviewed literatures above, Beaumaster (1999), categorically identified some challenge to the use of management information system in organizations as:

- **Management processing issues**: This refers to the functional operation of an organization such as budgeting, personnel and general management**.**
- **Organizational environment issue**: This factor is considered less tangible such as organizational culture, change and behavior.
- **Leadership issues**: This is related to the areas which involve the interaction and direction of the organization executive.
- **Technical systems issues**: This refers to the hardware and software considerations of information technology.
- **Personnel issues**: Those issues surrounding each individual in the organization.

Another perspective to the implementation and use of MIS challenges are presented as follows by Lucey (2005): lack of management in the design phase of MIS, inappropriate emphasis of the computer system, undue focus on low-level data processing applications, particularly in the accounting area, lack of management knowledge of computers, poor appreciation by information specialists of management's true information requirements and of organizational problems, and lack of top management support.

Change is often necessary when implementing far-reaching information systems into organizations. The anticipated benefits of IS must be offset with the operational procedures

changes necessary to both initially receive and successfully accommodate the new technology. Organizational, individuals and technological culture changes can be a key inhibitor or facilitator to successful implementation and use of MIS. However, attempting to change an organization's culture is far from been easy. The change process is riddled with a variety of challenging barriers which must be overcome in order to change the culture. Recognizing and acknowledging the existence and complexity of these difficulties is central to the change process as without this recognition, cultural and structural change will meet with failure, as well as the anticipated benefits of the information systems implementation and use.

In essence, for National Board for Technical Education to achieve success in the use of Management information system all the various barriers reviewed by the researcher must be considered, like wise any other organization that wish to employ the use of MIS to improve the effectiveness and efficiency of management and stakeholder's planning and decision making, particularly the tactical and operational management levels. It is very pertinent for organizations to identify possible organizational threats, deal with them strategically if the system must succeed.

2.3 Impacts of Management Information Systems in Organization

In order to understand the consequences of IS which affect an organization and its processes, it is essential to describe various perspectives of impacts originated by adopting IS. Once an information system is introduced, IS has affected their context of use in activity system in an organization. Activity system is defined as a community system with a combination between a logical collection of activities and processes or tasks that is performed by a group of people in pursuit of a goal Davies (2009).There are various dimensions of impact including intended effects, unintended effects, positive effects, negative effects, and impacts on individuals, groups,

and organizations. The effects can be positive or negative depending on how well the system is aligned with its context. In other words, both intended and unintended positive effects are created when the IS are closely aligned with their activity system, whereas, if it is misaligned with an activity system, as a result, it can generate negative effects Davies (2009). In today's business environment, many companies expect that a positive impact is established when they decide to use an information system. However, a manager should consider some factors in order to perceive the impact, for instance Gurbaxani and Whang (1991) described that it is important to categorize the role of the information system in an organization and to determine with other organizational and environmental factors in order to analyze the impact of the information system on an organization. Furthermore, Rikhardsson and Kræmmergaard (2006) explored the impact of enterprise system implementation and use in six large companies in Denmark, he discovered it is essential for managers to understand the possible impacts of the implementation project together with its effects on the organization. In addition, Lucey (2005) explained that properly designed ICT-based information systems can affect the way organizations operate, how they are managed and how they are structured.

According to Manish (2011), Management Information System (MIS), is used in organization for its business operations. It provide strong advancement in the field of information technology through which an organization can easily achieve the strategic objectives. It helps in decision support, venture management, resource and people management and data base retrieval application. The use of management information system in business organization supports business processes, competitive strategies and business operation which result and impact the performance of the work force of the specific organization. MIS plays the life blood role for an organization as no human can survive without it. Investment in MIS by the

organization support it in core competencies, it also help in production process, human resources records, financial records and controlling and monitoring of the various activities which in turn impact the organization growth and development and also provide sound basis for strategic decision making process. Proper implementation of the technology in the organization can help in three dimensions one is Management information system employees' account payroll structure or systems, control and monitoring of the employees and over all organization's activities Sinan (2010). The overall management can be best managed and controlled and by the appropriate execution of the MIS tools. Each and every departments work with full strength.

He further says that the overall activities of the organization largely depends on main three things the proper use of equipped machinery, trained men power and good organization structure which in turn should be supported by best and sound supervision and control system. All these bustles can only be best organized and managed when there is more conscious management information system implemented, not only that but also trained IT specialist employees play an important role in the financial and payroll system of the organization where all the activities carrying on with best possible monitoring system. Large productivity premium totally depends on the management information system of the organization. Erik (, 2010), said that all the managers and executives afraid from different hazard analysis, may be firm low yields, low output, time prediction errors etc. According to Alan D. Jagolinzer (2006), all these things can only be controlled with trained employees with IT knowledge (MIS) so they can best exercise times which have effects on financial reporting and also improve the estimates and forecasting decisions. The most important mechanisms to achieve the employees performance in any organization is the technology development Vinod Kumar (2006). It is a thing through which one organization not only motivates the employees but also try to achieve its stated goals and

objectives. Through technological improvement, organization is committed to achieve its long term objectives and to decide about future course of action. Michael (2006), stated in his research paper that the organization performance always correlates with budget and system. If employees are well trained and budget system is computerized then there may be possible change in the behavior of the staff. Employees can get help from these new technological budgeting system and they can execute all the activities of the organization if there is possible training to employees. Sarv Devaraj and Rajiv Kohi (2003), presented in their research paper the relations study. They posited that the actual usage of the technology is directly associated with the hospital revenues and quality. Dennis wrote his paper that the organization growth and success is a two way relations one is cause and other is effect, more training in the field of MIS to employees will result to more efficient performance of the workers Dennis (2002). He further pointed out in his paper that these thing is directly associated with the organization long term strategies. The management information system can easily measure the employee's performance and can be best supervised and controlled with the help of this computer technology and the firm can easily revise the strategy. The value of IT for business is much more than its concept because the scope of It business research includes the theoretical, logical, conceptual, and experimental studies Dehning, (2002). More investment in information technology makes a good role in competitive environment of the organization. The use of information technology in business impact the cost reduction and product differentiation and also its application is useful for competition Belleflamme (2001). Robert (1996), has pointed out that all the managements level executives should be motivated for the investment in technology and to promote the IT program in the organization which in turn improve the overall performance of the employees and the organization will be able to do all the activities in splendid ways. He emphasized on more

investment in the field of technology that is Management information system. The organization when it invests in the information technology or management information system not only investment but it also create different types of opportunities.

Managers, researchers and strategy makers play very important role in the development of an organization but despite all these the role of information technology for an organization is indispensable one Nigel (2004). Because information technology make link between all the departments and make inter relationship between the departments which integrates all into single frame work. The organization performance to a great extent is associated with information technology. Information technology is valuable for organization but the extent of dimension depends on various factors that is internal and external. He concluded that the use of extensive technology is crucial for the performance of employees and also for organization. His paper analyzed different things such as job performance, job satisfaction and employees training in job work place, he applied different tools to measure the job satisfaction and which things increase the employees performance, last he found that training is the only element in the work place through which employees can be motivated and its impact on the performance of the employees are usually positive Melanie (2004). He find out from his study through questionnaires which was taken by selecting 26 countries round the world, he tried to find out how much investment can be contributed in training, what things concludes the employee training, what is the impact of training in the overall performance of the organization, and what is the major benefits of training to employees economically as well as business benefits. Bo- Hanson (2003), Concluded that the proper investment in MIS and technology can increase the performance and output of the organization. Similarly, Katherine (1996), asserts that within the organization, it has direct impact on the employees performance and efficiency as well

as on the profitability of the organization. Furthermore various scholars and researchers have found out from their researches that the impact of the technology or management information system not only brings possible changes in the profitability and performance but also in productivity, organization process, economy levels and industry. Management information system enables organization to improve performance and efficiency and also make unique competitive impact to yield more profit through effective production Barney (1991). The management information system is very useful for business decision making not only for long term success but also for achieving short term objectives John A. Martin and E.S. Over Man (1988). The human resource performance with great extent accelerates through MIS. But often this system does not meet the desirable expectation of the management. The main reason behind that is not lack of proper implementation of the system and they do not balance the cognitive and management hierarchies in the organization. To get favorable result from the system the information needs and cognitive hope of the management must be assimilated explicitly. From the above review we can sum up that the impact of the management information system on the organization is not only in its function and performance but also on the productivity. It support all the department management which performs their functions more effectively, it also link all the departments under one roof and enable the employees to work. It also increase boundary spanning, helps in forecasting, long-term planning and ability to store and retrieve information for planning and decision making.

According to Nilles (2011), IT (MIS) is dramatically changing the business landscape. Although organization culture and business strategies shape the use of IT in the organization, more often the influence is stronger than other way round. IT significantly affects strategic

options and creates opportunities and issues that managers need to address in many aspects of their business. He analyzed the key impacts of IT (MIS) as follows:

- ✓ Management process – providing support for complex decision making process
- ✓ Organization culture – encouraging the free flow of information
- ✓ Organization structures – making networking and vital corporations a reality
- ✓ Business strategy – collapsing time and distance enabling electronic commerce
- ✓ Work – dramatically changing the nature of professional, and new managerial work
- ✓ The work place – allowing work from home and on the move as on telework.

Information system (IS) usage creates both positive and negative effects for an organization that use it. Most of the literature has underpinned the design and use of a modern MIS which is mainly based on IT Lucey, (2005), Davies (2009). The technology, which influences organizations in many ways begins to have effects on an organization in which IS are introduced and used. Consequently, managers of organization have to understand these effects in order to design and run systems that provide only benefits for the organization, and to avoid the risks that occur from IS tools Davies, (2009). According to Lucey (2005), one of the negative effect to employees is that technology alters the skills requirements for individuals, jobs, and working protocols. MIS have significant potential as vehicles for learning in organizations. Various benefits are provided from introducing management information systems into an organization. The IT system typically causes amendments in forms of collaboration and coordination between groups in an organization. An electronic mail (e-mail) can be an example of using IT in an organization. It is nowadays extensively used as a means of scheduling meetings which reduces time for face-to-face contact. The system can also change the patterns of power and influence in and between groups Davies, (2009). Moreover, MIS allows a greater control of work by the

managerial group which makes work become more visible. MIS capacity increase the potential for workers to establish more clearly what is happening in their organization, identify problems with work processes and suggest alternative ways of doing things. Large amounts of transactional information are enabled to be captured about the day-to-day activities of the workforce by this system. Can improve the quality of work and provide greater degrees of worker empowerment. This system helps to remove many burdensome administrative activities, freeing up workers to devote more time to issues such as customer service. In addition, MIS involves the improvement of a customer service section by letting front-line personnel make instantaneous decisions Davies (2009). MIS can increase or decrease both of the levels of skill required of workers and the size of a task relative to the overall purpose of the organization.

Moreover, IS are designed to increase the autonomy of workers in the sense that they are given responsibility for planning and controlling their own work. This tool can also encourage or diminish levels of social interaction between workers Davie, (2009). MIS and IT, which were embedded in them, do not only affect internal actors, but also external stakeholders. For instance, IS can change relationships between individuals and departments within the organization and also affect some relationships outside the organization (e.g. with customer, suppliers and clients). Management information system reduces communication costs and internal coordination costs Gurbaxani & Whang (1991). Enhance the quality and speed of information processing and management's decision making, planning and control - Increase data quality and flexibility Gurbaxani & Whang (1991); Lucey (2005). Rikhardsson & Kræmmergaard (2006), reported Better administration, communications and coordination. Lucey (2005), said MIS help for better management of the organization's knowledge. She had claimed that technologies have a significant effect on the structure of the organization. They allowed people to change their place

of work, improve working practice, reduce marketing and transaction costs, coordinate the flows of organizational information, have closer contact with customers, suppliers and clients.

Nilles (2011), identified some consequences of the use of MIS on management and organization to include:

- ❖ Understanding the changing context of IT as well as the direct impact on their business, managers need to be able to see this development in the context of the wider environment in which their business operates.
- ❖ Developing new skills- more of tomorrow's managers will need to become hybrid managers, combing the knowledge and skills of general management, their own discipline and IT
- ❖ Reorganizing the workplace- by introducing flexible working and telework. The business benefits of this in terms of productivity and cost savings are such that there are many benefits to be achieved by a successful implementation
- ❖ Experimenting with new structure- using IT to remove some of the limitations of hierarchy and to encourage the development of initiative teams, using experts located in different functions and places. Managers dispersed teams is challenging but rewarding
- ❖ Using IT as a management tool- initiating personal use of IT into every day work. This should include use of decision support tools, groupware, knowledge management solutions and exploiting the internet

These are some of the effects or consequences, National Board for Technical Education, Kaduna is bound to experience if MIS is judiciously in use for operations. MIS decrease levels of social interaction between workers which leads to proper maximization of official time.

2.4 Management Information Need

It goes without saying that all managerial functions are performed through decision making for taking rational decision. Timely and reliable information is essential and is procured through a logical and well structured method of information collecting, processing and disseminating to decision makers. Such a method in the field of management is widely known as MIS. In today's world of ever increasing complexities of business as well as business organization, in order to serve and grow, must have a properly planned, analyzed, designed and maintained MIS so that it provides timely, reliable and useful information to enable the management to take speedy and rational decisions. The aim of any organization implementing MIS is to improve management effectiveness and efficiency by providing them with constant information appropriate to their respective levels. Therefore, the information specialist must understand their various functions and information needs.

Strategic managers are usually the senior or top management in most organizations, comprising of Board of Directors, Executive secretary and Directors depending on the size, population and activities of the organization. They are involved in the long term planning strategies of the organization, undertake unstructured decisions. As part of a planning process, top executives develop overall organizational goals, strategies and policies and Monitor the strategic performance of the organization and its overall decision in the political, economic and competitive business environment, O' Brien (2011). According to O'Brien and Markus(2011) at this level, decision making is much more dependent on human factors and judgment. Such decision is guided on trial and error and because of uncertainty and ambiguities, all possibilities cannot be explored. Strategic planning is the process by which strategies are brought into being. The strategic planning process is expected to involve the following: Situation (SWOT) analysis,

Internal (self) analysis, Environmental analysis, Formulation of vision and mission, Generation of alternatives, Rolling plans (5 years), Annual operating plan, Fiscal, Implementation of the strategy, Feedback, Evaluation and Review of plans, taking into consideration the changing environment. The strategic level of management requires information from internal and external sources in order to plan the long term strategies of the organization. Internal information both quantitative and qualitative is usually supplied in a summarized form, often on an adhoc basis. (Bee and Bee, 1999) said MIS is a system that collect and analyze data and produce reports, its purpose is to help managers solve problems. **Decisions** at this level are requiring accurate information on the content and quality is predefined and includes structural decisions Sarafizadah and Panhi, (2012). Timely, accurate and relevant availability of information to the strategic managers of the selected organization (NBTE) will no doubt enhance their planning and decision making functions as it concerns the supervision of TVETS in Nigeria. Tripathi (2010). Observed that the common information needs of managers is an understanding of the purpose of the organization, its policies, programs, plans and goals through the decisions may be according to the capacity of analytical approach of using the information of the manager, the information people need depends on the type of decision – structured or unstructured, organization level they occupy and activities they perform. Lucey, (2005) identified strategic management level information needs to include the following. Market and Competition, Political and Social Trends, Legislature, Demographic Trends, Environmental, Educational Reforms, Technological Constraints and Opportunities.

Tactical managers occupies an intermediate position between the two extremes with some of the characteristics of both. They comprise of the business units managers and professionals in self-directed team. Tactical managers in NBTE are: deputy directors. They

develop short and medium range plans, schedules, budget and specify policies, procedures and business objectives for their sub-units of the company, Allocate resources and monitor the performance of their organizational sub-units including divisions, departments, process teams, project-teams and other work groups, O'Brien (2011). Management decision at this level is semi-structured, that is some decision procedures can be pre-specified but not enough to lead to a definite recommended decision. Much of the information used by middle management comes from formal and informal sources and is gathered, assessed, analyzed and judged by the manager personally Lucey, (2005). **Control systems:** monitor and report on the organizations activities. Most of the information used comes from internal sources but key external factors must also be scanned, for example, competitor actions, raw materials prices, new legislation, industrial relation trends. **Data base system**: process and store internal and external information in order to provide the organization's memory. **Enquiry system:** allows planned and adhoc interrogations of databases. These may be internal to the organization or commercially available external databases which are often useful as the background to forecasting. **Decision support system:** provide computer based support for semi-structured decision-making, facilities include: modeling and simulation, statistical analyses, forecasting, investment appraisal models, etc. The essence of these four types of tactical MIS is for the tactical manager to have access to relevant information at the appropriate time to support the planning and decision making functions and at the same time be able to pass relevant information to the top management to support their planning and decision making on the growth and competitive advantage over their rivals in the market. In the same vein, Tripathi (2010) posited that, information systems have become the main tool used by managers in decision making.

Typical information needs of the tactical manager according to Lucey (2005) are as follows: Productivity measurements, .Budgetary and control report, .Short term purchasing requirement, .Stock turn over, Variance analysis Staff performance. Typical information that a tactical manager will need in NBTE will include irrespective of department, unit or section (NBTE news reports 2012).Budgetary and control report, Institutional performance report, Infrastructures, Cash flow, Academic standard report, Human resources, Finance, Institutional statistics, Accounting records and Programs offered in the institutions.

Operational managers are the lower cadre of the management level in an organization. They comprises of operating managers and members of the self-directed teams. Operational managers in NBTE are chiefs. They develop: Short-range plans (eg weekly production schedule.) and direct the use of resources and the performances of tasks according to procedures and within budgets and schedules they establish for the teams and other working groups of the organization O' Brien (2011). Operational managers are concerned with the implementation and control of the day- to –day activities of the organization. Om activities are highly dependent on formal MIS dealing almost exclusively with internal information. Effective and efficient information processing is essential since control is numerous, monitoring is constant, data volumes are often high and response need is rapidly, often in real time. Hence OMs needs systems that keep track of the elementary activities and transaction of the organization, such as sales, receipts, cash deposits payroll, credit decisions and the flow of materials in an organization. Transaction processing system (TPS) provides this kind of information. TPS is a computerized system that performs and records the daily routine transactions necessary to conduct business, such as sales order entry, hotel reservations patrol, and employee record keeping etc. Laudon and Laudon, (2007).

The principal purpose of systems at this level is to answer routine questions and to track the flow of transactions through the organization. E.g. how many staff is employed this month? How many students have enrolled? How much has been spent? To answer these kinds of questions, information generally must be easily available, current and accurate. At the operational level, tasks, resources and goals are predefined and highly structured. The decision to grant credit to a client, for instance is made by a lower level supervisor according to predefined criteria. In the same Vein, Lucey (2005), said that operational level management decisions are structured and are frequently incorporated into computer based systems, because the circumstance are well defined, optimizing techniques such as linear programming are frequently used. According to Lucey (2005), Linear programming can be used to solve problems which:

- Can be stated in numeric terms.
- Involve factors having linear relationship
- Permit a choice between alternatives
- Have one or more restrictions on more factors involved.

She emphasized that LP is used for numerous problems including production planning, etc. Lp are found at the operational and technical level and not at all the strategic level where uncertainties abound. OM requires information and instruction from the tactical level of management.

No organization can survive in the global competitive market without adequate availability of required information. Information has become the life blood for all organizations which means nothing moves without it Adeoti-adekeye, (1997). Hence the need to identify and understand the information needs of the operational managers in an organization: Performance measures of staff, Production requirements, Number of applications received, Sales order,

Customer attendance, Dispatches of products, Daily staff attendance, Stock (working materials), etc. MIS at the operational level whether manual or computerized, are file processing systems. Their input comprises data from operational transactions and their outputs are reports (example, variance analysis for labour cost control), action documents (example, a purchase order for materials) and enquiry handling (example, what is the company's account balance?) MIS at this level fulfils most of the tests of computability mentioned earlier. Gurbaxani Whang (1991).

According to (Arash etal, 2013), TPS are one of the types of organizational information systems that supports information, the TPS are the most important organizational information systems that without them creating information decision will be useless.

According to (Shelly, 1999), clerical staffs typically perform the activities associated with transaction processing like:

- Recording a business activity such as student's registration, a customer's order, an employee's timecard or a client payment.
- Confirming an action or triggering a response such as printing a student's schedule, sending thank you note to a customer, generating an employee's paycheck or issuing receipt to a client.
- Maintaining data which involves adding new data, changing existing data or removing unwanted data.

2.5 Summary of the Review

This chapter has reviewed the literatures that are related to the study. The review provided an insight into the meaning and role of management information system, management information needs were identified likewise the various types of barriers that lead to non acceptability of change which in turns affect or hinder the use of management information

systems (MIS) in an organization, the review finally examined the impact of management information system on organization and work processes which is in two ways that is positively and negatively. The study finally looked at the three different management levels and their information needs.

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CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter presents research method adopted, the population of the study, sample and sampling techniques, the instruments for data collection, the procedure for gathering the data and procedure for analyzing the data collected.

3.2 Research Method adopted for the Study

The research design adopted for the study is the survey research method. The survey research method is found appropriate for this study because according to Ndagi (2000), it is "concerned with the collection of data for the purpose of describing and interpreting existing conditions, prevailing practices, beliefs, attitude, on-going processes, etc." it allows the researcher to gather information on a targeted population. Mohammed (2005), posited that a research design is said to be a survey design if it has no control group. It involves gathering required data and information from the observation of the sample of a given population, devoid of any manipulation and of cause effect relationship. In the case of this study, the existing condition which it is sought to describe, interpret and report on is barriers to the use of MIS in National Board for Technical Education (NBTE) Kaduna. The researcher adopted this method because it involves gathering of data on target population.

3.3 Population of the Study

The population of this study consist of the entire staff of National Board for Technical Education, Kaduna. They comprised of Executive Secretary, Directors, Deputy Directors, chiefs, Assistant Chiefs, Principal Officers and Clerical Staff of all the departmenst, sections and units

of the organization. The total number of these staff as contained in the organization' registry as at the time of study and retrieval was three hundred and ninety three (393). The breakdown of the population is on Table 3.1 below.

Table 3.1: Population and Categories of Staff of NBTE Kaduna

Categories of staff	**Numbers**	**Management level**
Executive Secretary	1	Strategic
Directors	4	Strategic
Deputy Directors	27	Tactical
Chiefs	26	Operational
Assistant Chiefs	48	Administrative Staff
Principal Officers	75	✓
Other staff	212	clerical staff
Total number of staff	**391**	

Source: National Board for Technical Education Registry February (2015)

3.4 Sample and Sampling Technique

Sampling procedure refers to the method used in selecting your respondents from a given population. In the light of this, Adamu and Johnson,(1997) asserted that sampling is the part of the population observed for the purpose of making a scientific statement or taking a decision about the population. The entire population of the study is three hundred and ninety three (393) staff of NBTE. Therefore, fifty eight (58) was the sample of the study through purposive sampling technique. Purposive sampling is when a researcher chooses specific people within the population to use for a particular study or research project unlike random studies. Purposive sample can be very useful for situations where you need to reach a target sample quickly and

where sampling for proportionality is not the main concern. Similarly, Crossman (2012), postulated that "a purposive sampling is very useful for situations where you need to reach the targeted sample quickly and the sampling is not proportional in nature. The researcher used purposive sampling based on the knowledge of the population and purpose of the study and also due to the fact that the population of the target group is not too large, thereby allowing the researcher to provide treatment to each of the respondent. The idea behind purposive sampling is to concentrate on people with particular characteristics who will better be able to assist with the relevant research.

The sample population and size better inform the researcher of the current focus of the investigation Krathwohl (1998). The justification of these subjects of study is based on the fact that they all have the same characteristics such as: they are all managers in their respective department and they participate in planning and decision making of the organization. This is supported by Patton (1990) who posits that subjects are selected because of some certain characteristics.

3.5 Instrument for Data Collection

The instruments that were used for data collection for this study are questionnaire and unstructured interview. The questionnaire was used to collect information needed to answer the research questions generated for the study while interview was used to buttress opinions from the questionnaire and explain some salient points. This is in line with Akuezuilo (1993), view that the survey researchers utilize instruments such as questionnaire, interview and observation in investigations. The instrument is good for a survey research design. Interviewing is a technique of gathering data from humans by asking them questions and getting them to react verbally"

Potter (1996). Similarly, Kumar (2005) said it is "Any person-to-person interaction between two or more individuals with a specific purpose in mind". Kvale (1996), described the aim of interviews as thus: "the purpose is to obtain descriptions of the life-world of the interviewee with respect to interpreting the meaning of the described phenomena". Björklund and Paulsson (2003) categorized interviews as questioning which takes place through personal direct contact, via telephone, e-mail or text messages. The questionnaire was personally administered , so were the interviews personally conducted. The researcher feels that the questionnaire is of standard and adequate to provide the data needed for the research. Ndagi (1999) noted that questionnaire is the most suitable and easiest instrument administered in collecting data. It helps to keep the respondent's mind fixed to the subject and facilitate the process of research generalization. Ihanacho (2004), explained that the questionnaire as a research instrument is designed in question form to obtain feedback information from subjects with respect to their opinions, attitudes, beliefs and motives regarding a situation. Close ended questions were used.

The questionnaire designed by the researcher based on the research questions comprises of four parts meant to give answers to the research questions. The first part explored personal characteristics of the respondents such as age, sex, educational qualification, designation etc. The second part was to identify barriers that hinder the effective use of MIS in NBTE. The third part sought to find out the impact of MIS use on management /organization work processes while the fourth part tends to determine the extent to which NBTE management rely on MIS for their information needs. The target group were interviewed in the course of collection of the questionnaire so as to buttress some salient points. The interviews were unstructured. Mohammed (2005), posited that "the instrument for data collection is said to be valued when it is able to produce correct response from the subjects of the sample study. The

researcher used questionnaire so as to collect information needed to answer the research questions generated for the study and interview was used to buttress opinions from the questionnaire and to explain salient points that the questionnaire could not address. Both instruments are good for survey research design.

3.6 Validation of the Instrument

The instrument was subjected to face and content validation. Gray (1976) and Kerlinger (1973), validation of contents of the research instrument by expert is an adequate and acceptable type of validation. In order to establish the validity of the instrument, copies were made available to the research supervisors, staff, and senior colleagues in the department of library and information science, Faculty of Education, Ahmadu Bello University, Zaria. They critically examined the instrument with regard to its fitness for the purpose of this research. Their opinion, criticism and recommendations were incorporated into the construction of the final copy of the instrument. The decision to adopt face and content validation was based on the remarks that validation by others is an effective method for content validation of research instrument.

3.7 Reliability of Instrument

To ascertain the reliability of the instrument the researcher carried a pre-test with the National Library of Nigeria, Kaduna branch to ensure consistency, clarity and relevance to the NBTE case. The choice of this organization was made because it did not form part of the scope of the study and it is also a Federal Parastatal. Minor changes (related to the questions content, wording and sequence) were requested by the people, which was implemented before the final copy. In order to confirm the reliability of the instrument, test-retest method was established and the statistical package for social sciences (SPSS) of cronbach Alpha coefficient was used to analyze the data collected. The result showed that the instrument has high degree of reliability

with 0.87 reliability index. The result of the pilot study was used to determine the reliability of the question and at the appropriate timing for the compilation of the questionnaire. This is because reliability deals with the consistency of measure and stability. According to Bryman (2008), reliability of instrument is very important as it deals with consistency, stability and detail treatment of issues using appropriate techniques.

3.8 Procedure for Data Gathering

The researcher personally administered the instrument in National Board for Technical Education Kaduna, covering all the management staff of the organization. The questionnaire used in generating data for the study was designed by the researcher and it took the duration of three weeks for both administration and collection.

3.9 Procedure for Data Analysis

The data collected for this study was analyzed using frequency distribution, tables and percentages to show the results generated from the field using the questionnaires.

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CHAPTER FOUR

DATA PRESENTATION, ANALYSIS AND DISCUSSION

4.1 Introduction

This chapter present the data collected for the study through questionnaire in the following order: Response rate and data presentation, analysis and discussion.

4.2 Response Rate

A total of fifty eight (58) copies of questionnaire were administered to the senior, middle and lower management level in National Board for Technical Education, Kaduna. Out of the fifty eight (100%) copies of questionnaire administered, fifty seven (98.28%) were duly completed and returned. Table 4.1 shows the response rate

Table 4.1: Response Rate

S/N	Category of Staff	Sample Size	Response Rate	Percentage
1	Executive Secretary	1	1	1.75
2	Directors	4	4	7.02
3	Deputy Directors	27	27	47.37
4	Chiefs	26	25	43.86
	Total	**58**	**57**	**100%**

The high response rate was achieved as a result of the population size and proximity of the organization under study, this enabled the researcher to devout adequate time and encouragement to the respondents in order to fill and return the questionnaire. In addition to that, the researcher established good rapport with the respondents.

4.3 Data Presentation

Data collected for the study are presented in the following order: Demographic information of respondents and Research questions one to three.

4.3.1 Demographic Data

The demographic data of the respondents in terms of their age, gender, educational qualification, job position and department are presented in this section. Table 4.2 Presents the age distribution of respondents

Table 4.2 Age distribution of respondents

Age	**No of Respondent**	**Percentage (%)**
30 – 35	-	0
36 – 40	5	8.77
41 – 45	14	24.56
46 years and above	38	66.67
Total	**57**	**100**

As can be seen in table 4.2 majority of the respondents or managers fall within the age bracket of 46 years and above i.e. (38 : 66.67%) , the age bracket of 41 – 45 years have 14 (24.56%) response score, and lastly(5 :8.77%) response score of age bracket 36 – 40 years. It is therefore concluded that senior management staff in NBTE is dominated by age bracket of 46 years and above. The implication of this is that many of them must have acquired enough work experience, skills and competence while the minority (8.77%) of age bracket 36-40 are the young managers coming up, this means they have not yet acquired enough management skills they are still learning and they are the ones that will have more zeal for IT knowledge than the

older ones. Another question was asked by the researcher to find out the gender distribution of managers in NBTE.

Table 4.3: Gender Distribution of Respondents

Sex	**No of Respondent**	**Percentage (%)**
Male	47	82.46
Female	10	17.54
Total	**57**	**100**

Table 4.3 shows that majority of the respondents or managers are male with (47 :82.46%) response score while female are (10 :17.54%). This implies that the management positions in NBTE as at the time of the study is dominated by male staff who devout all the official hours to work and ready to put in extra hours when necessary without any excuse. The next question seeks to find out the educational qualification of the managers in NBTE Kaduna. Table 4.4 shows the educational qualification of the respondents.

Table 4.4: Educational Qualification of Respondents

Qualification	**No of Respondent**	**Percentage (%)**
OND/NCE	-	-
HND/BSc/BA	9	15.79
MA/MSc/MBA/M.ENG	45	78.95
PhD	3	5.26
Total	**57**	**100**

Table 4.4. shows that majority of the respondents (45:78.95%) are master degree holders in different fields, followed by 9 (15.79%) with bachelor degree in different fields and the last but mighty is(3: 5.26%) with PhD. According to the analysis , those with masters degree are predominant. This implies that the management staff of NBTE, are academically updated to carry out their job efficiently. The job position of the respondents are presented in table 4.5

Table 4.5: Job position of Respondents

Job position	**No of Respondent**	**Percentage (%)**
Executive Secretary	1	1.75
Director	4	7.02
Deputy Director	27	47.37
Chief	25	43.86
Total	**57**	**100**

The respondents were asked to specify their job position and table 4.5 shows that the deputy directors are more (27 :47.37%). This high number could be attributed to the different sections under one department, closely followed by chiefs (25: 43.86%) who are high like the DDS as a result of many units also. The analysis shows that the response score of director is (4: 7.02%) this indicated the four departments in NBTE and (1: 1.75%) for the chief executive officer who see to the overall management of the organization. This analysis simply implies that each manager irrespective of level and department have different job schedules and for effective and efficient work performance and decision making MIS is very necessary for the provision of quick information to aid the managers in their functions respectively. The respondents were asked the duration they have been on that position.

Table 4.6: Duration of the position

Duration of Position	No of Respondent	Percentage (%)
1 – 2 years	19	33.33
3 – 4 years	33	57.90
5 years and above	5	8.77
Total	**57**	**100**

As can be seen in table 4.6 majority of the respondents(33: 57.90%) fall in the age bracket of 3 – 4 years and it is discovered that this category of managers are majorly deputy directors and few chiefs. The respondents score for 1 – 2 years is (19: 33.33%) and they are majorly chiefs while from 5 years and above score of (5: 8.77%) are shared between the directors and deputy directors. This implies that we have more managers spending more years as deputy directors probably waiting for vacancy for the position of director as the seats are few and it is climbed according to seniority.

Respondents were asked to indicate their departments as at the time of this study. This is shown in table 4.7 .

Table 4.7: Department of the Respondents

Department	No of Respondent	Percentage (%)
Human resources	5	8.77
Programmes	17	29.82
Planning, research and statistics	24	42.11
Finance and account	10	1.75
Chief executive	1	1.75
Total	**57**	**100**

Table 4.7 revealed that most of the respondents are in the planning, research and statistics department i.e. 24 (42.11%), this could be as a result of three different functions

carried out in one department. Close to that is programmes with (17:29.82%) responses .This department has some key sections also like monitoring and evaluation, accreditation etc. Those that fall within finance and account are (10: 17.54%), and 5 (8.77%) for human resources. lastly (1: 1.75%) respondent which is the chief executive officer of the organization. This implies that we have more managers in the planning, research and statistics department because this department has more responsibilities both within and outside the organization especially as it has to do with the TVETS supervision while the chief executive is the overseer of the organization, to whom all departmental reports to gets to for onward actions.

4.4 Barriers to the use of MIS in NBTE

Research Question one sought to find out the barriers to the use of management information system in NBTE Kaduna. Respondents were asked to thick from the options provided. The result of the analysis of the responses were presented in table 4.8

Table 4 .8: barriers to the use of MIS in NBTE

Main Barriers	**No of Respondents**	**Percentage (%)**
Organizational	12	21.05
Technological	15	26.32
Individual	10	17.54
Financial	20	35.09
Total	**57**	**100**

As can be seen in table 4.8 financial and technological barriers are of prime importance. Among these barriers, the financial barrier were found to be of highest importance in order among them with 20 respondents (35.09%) followed by technological barrier with (15 : 26.32%) . Organizational barrier is very close with (12: 21.05%) respondents, then the least individual

barrier with (10 : 17.54%). It can be seen from the analysis that the major barrier to the use of MIS in NBTE is financial barrier. The implication of this is that without adequate provision of finance for the development, implementation and maintenance of MIS facilities there will continue to be poor usage of the information system, knowing that adequate fund takes care of the other numerous barriers. The least important which is the individual barrier is a serious problem because if the staff lack the required knowledge/skills to operate the facilities and to maintain them desired result will not be achieved . It is one thing to have a well structured MIS and another thing to have well trained and capable staff to operate and manage it. See details of the weights of the sub criterion in the tables 4.9.

Table 4. 9: Financial Barrier

S/N	Sub Criterion	Respondent	Percentage
1.	Financial constraints for high cost of maintenance	21	36.84
2.	Lack of resources for cost of software	15	26.32
3.	Lack of resources for system design cost	-	-
4.	Lack of resources for operational expenditure	-	-
5.	Cost of specialized manpower and training	21	36.84
	Total	**57**	**100**

It can be observed from table 4.9 that the financial barrier viz financial constraint for high cost of maintenance is having highest rank in the list ie (21 : 36.84%) . This mean that MIS in NBTE lack adequate maintenance due to lack of fund to repair and replace damaged facilities. This is because management information system in NBTE and even many other organizations

are initiated in an adhoc basis and the continuing growth of the initiatives is not always nurtured for financial support. Cost of specialized manpower and training response score (21 : 36.84%) is carrying the same weight with financial constraint for high cost of maintenance. Sometimes cost of training and manpower in the field of information technology becomes barrier to get professionals with adequate level of expertise. For NBTE management to effectively use and benefit from MIS, they need adequate and constant training of the staff if the organization must achieve the desired result. According to Dennis (2002), organization's growth and success is a two way relations; one is cause and other is effect, more training in the field of MIS to employees will result to more efficient performance of the workers. In the words of Dehning (2002), more investment in information technology makes a good role in competitive environment of the organization. The lowest among the sub-criterion under financial barrier is lack of resources for cost of software (15: 26.32%). The software is very important because it is what powers the computer such as operating system software , operational software etc. It was discovered during the interview with the management staff that because of the cost of the licensed softwares, the organization most times go for the pirated software which does not last and it does create problem for the system and its users and because different version of this software are available in the market. This therefore made the top management to go for pirated instead of licensed software. The implication of lack of maintenance of MIS facilities, training and appropriate software sets in frustration, discouragement, hampers progress, inefficiency and stability.

Table 4.10: Technological Barrier

S/N	Sub Criterion	Respondent	Percentage (%)
1.	Data and information security	24	42.11
2.	Incompatibility with information system process function	12	21.05
3.	Lack of technical support for maintenance of IT system	10	17.54
4.	Rapid changing technology	11	19.30
5.	Sophisticated and complex technology for information handling	-	-
	Total	**57**	**100**

Table 4.10 indicated that the major sub-criterion barrier is Data and information security from the technological perspective with a response score of (24 : 42.11%). The value of data is the security you have. The essence of security is to have control over the data and information. Threat to information security requires on-line fire walls and adequate security. This shows that the National Board for Technical Education Kaduna managers are not ready to lose sensitive information to unauthorized persons both internally and externally. The implication of this is that if the data and information is not properly secured, there will be data compromise which means it does not have integrity and it can be distorted by unauthorized persons. (10 :17.54%) indicated lack of technical support for maintenance of IT system. This barrier

discourages the management from using the information system in generating and disseminating information which in turn affect their job performance. Similarly, Jones (2004) reported that the breakdown of a computer causes interruptions and if there is lack of technical assistance, then it is likely that the regular repairs of the computer will not be carried out resulting in management not using computers in information generation and dissemination. This implies that management will be discouraged from using computers because of fear of equipment failure since no one would give them technical support in case there is technical problem. In the same vein, Becta (2004) agreed that "if there is a lack of technical support available in an organization, then it is likely that technical maintenance will not be carried out regularly, resulting in a higher risk of technical breakdowns" Therefore, if there is no technical support for management, they become frustrated resulting in their unwillingness to use MIS.

Table 4.11: Organizational Barrier

S/N	Sub Criterion	Respondent	Percentage (%)
1.	Power supply	6	10.53
2.	Lack of top management support	17	29.82
3.	Lack of adequate budget	17	29.82
4.	Poor infrastructural facility for information generation, managements and dissemination	17	29.82
5.	Centralization of hierarchical structure	-	-
	Total	**57**	**100**

As can be seen in table 4.11 there are three major organizational sub-criterion barriers: Lack of top management support which is (17: 29.82%). The top management of NBTE Kaduna does not show commitment to the MIS activities at par with other organizational goals by integrating all the employees of the organization. The researcher discovered in the cause of interview with the management that the top managements which are the Board of directors do not show commitment to MIS, reasons given differently like, lack of interest, poor IT knowledge, misplaced priority etc and as a result it hinders effective use of MIS in the organization. Transformational leadership with qualities of identifying and articulating a vision, promoting acceptance of group goals, providing individualized support, offering intellectual stimulation, providing an appropriate model, creating high performance expectations, and strengthening organization culture could influence the integration of MIS. The implication of this is that no matter how brilliant an idea or project is if it does not have the top management support it won't work especially in terms of hardware and software purchase and this kills the project before it starts. Poor infrastructural facilities for information generation, management and dissemination (17: 29.82%) is another serious barrier affecting MIS use by the management in NBTE. These infrastructural facilities are structures, human, hardware, software, telecommunication technology, computer networking system client server etc. Studies have shown that adequate availability of MIS equipment is inescapable for effective MIS operations. Also, effective use of this equipment is important in order to generate information for management use. The IT infrastructure provides the foundation, or platform, on which the firm can build its specific information systems. The implication of poor facilities in NBTE hampers progress. Lack of adequate budget (17 : 29.82%), it is discovered that the use of MIS suffers inadequate fund in NBTE Kaduna, further investigation through interview reveals that, this

barrier of inadequate fund affects so many other things like inadequate and obsolete facilities, poor software packages, lack of training of the management staff, lack of maintenance etc. Similar to the findings Okiy (2005) reported that lack of fund and management support led to non availability of ICT in Nigerian University Libraries. The implication of this organizational factor causes inadequate availability of MIS and ineffective use of it. The least important barrier is Poor power supply (6: 10.53%). Erratic power results in the under use of the MIS. The implication is that frustration, discouragement and lack of reliance will set in.

Table 4.12: Individual Barriers

S/N	Sub Criterion	Respondent	Percentage (%)
1.	Lack of trust and of confidence in MIS	12	21.05
2.	Lack of training	18	31.58
3.	Fear of becoming redundant and loosing importance	13	22.81
4.	Inadequate IT knowledge by the management	14	24.56
	Total	**57**	**100**

The key element for MIS activities and operations lies in the people who have the technical knowhow to maintain the equipment and facilitate the decision making process by the provision of appropriate and timely reports. Table 4.12 revealed that majority of the respondents (18: 31.58 %) indicated lack of training as one of the barriers to their use of MIS. Further investigation through interview with the respondents one on one reveals that it is few that have under gone training, and that the training is not regular as to make them knowledgeable of the use of MIS for an improved work performance and therefore indicated that they need more

training as technology advances by day. (12 : 21.05%) respondents indicated lack of trust and confidence in MIS. Management feel reluctant to use computer if they lack trust and confidence, this is as a result of fear of failure and lack of ICT knowledge as a result of non training. Some of the management staff confessed to the researcher during interview that lack of confidence influences their use of computer in their work. Efficacy is defined as a belief in one's own abilities to perform an action or activity necessary to achieve a goal or task, self-efficacy is the confidence that individual has in his/her ability to do the things that he/she strives to do. Thus management' confidence refers both to the management' perceived likelihood of success on using MIS for official purposes and on how far the management perceives success as being under his or her control (Peralta &Costa, 2007). Christensen and Knezek (2006), described computer self-efficacy as computer confidence in competence. Knezek and Christensen (2002) revealed that employees' competence with computer technology is a key factor of effective use of MIS. Similarly, Jones (2004), in his study reported that teachers feel reluctant to use computer if they lack confidence. "Fear of failure" and "lack of ICT knowledge" have been cited as some of the reasons for management lack of confidence for adopting and integrating IT into their operations (Balanskat et al., 2007). This means that management might not have the zeal to use the information system which will lead to stagnation and poor job performance.

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It is observed from the overall analysis of the barriers that most evident challenges of the use of MIS in National Board for Technical Education Kaduna, include: financial constraint, data and information security, cost of specialized manpower and training, incompatibility with information system process function, rapid changing technology, lack of top management support, lack of adequate training, inadequate IT knowledge by management, lack of adequate budget and poor infrastructural facilities for information generation, storage and dissemination.

The researcher is made to understand during the interview section that all these challenges are seriously embedded in each other. According to them if the financial constraint is solved every other barrier will be secondary and until the top management realizes these challenges and deal with them, information generation, process and dissemination will continue to be handled manually. Similarly, the study of Okiy (2005), showed that lack of fund and lack of management support led to non use of ICTs in Nigerian University Libraries. Hann (1995), stated in his findings that organizational, cultural and human factors are key factors that can affect the use of IT. In the same vein, Sani and Tiamiyu (2005), pointed out in their work that poor funding, employees attitude towards the use of IT and irregular power supply stood as a barrier towards the effective use of IT in Nigeria.

4.5 Impact of Management Information System use in NBTE

The objective of research question two was to identify the positive and negative impact of the use of MIS in National Board for Technical Education Kaduna . In order to achieve this objective, list of areas of operations were provided for the respondents to thick where applicable. Table 4.13 and 4.14 represent the responses of the respondents respectively.

Table 4.13: Positive Impact of the use of MIS in NBTE

S/N	Positive Impacts	Respondent	Percentage (%)
1.	Improved the day to day control and planning of operations	7	12.28
2.	Improved choosing alternative course of action	-	-
3.	Increased access to information	10	17.54
4.	Integration of information made possible across various TVETS	14	24.56
5.	Information generation and dissemination improve	4	7.01
6	Improved communication networking between colleagues and other institutions	10	17.54
7.	Free flow of information within and across organization	-	-
8.	Speed and accuracy of decision making and planning performance	7	12.28
9.	Availability of consistent data	5	6.77
10.	Minimized information over load	-	-
	Total	**57**	**100**

Table 4.13 shows the various ways in which the use of MIS can impact the organization/ management activities, the respondents indicated that MIS has improved the following areas: the day to day control and planning of operations, increased access to information, integration of

information possible across various TVETS in Nigeria, improved information generation and dissemination, improved communication networking between colleagues and other institutions, increased speed and accuracy of decision making and planning performance and improved availability of consistent data for the management to work with. According to the analysis above, majority of the respondents (24 : 24.56%) indicated integration of information across various TVETS by way of having a website that contains all necessary information about the institutions and the website can be accessed by both management, staff and students of these institutions. There is also a database created only for the TVETS in this case it is not accessible to every management. The least affected area as indicated by (4 : 7.01%) of the respondent is the information generation, process and dissemination. This implies that management travelling for the aim of generating data for use has not improved because they still need to visit some of the TVETS to get data to work with and information is still disseminated manually thereby incurring cost and thereby hampering the quality and speed of processing information.

4.5 (b) Negative impacts of the use of MIS in NBTE

Information Systems (MIS) implementation creates both positive and negative consequences for an organization that use it, therefore managers of organizations have to understand these effects in order to design and run systems that provide only benefits for the organization and avoid the risk that occur from information system tools. Research Question three seek to find out the consequences of the use of MIS in NBTE Kaduna. To achieve this objective various possible consequences of the use of MIS in NBTE are itemized for the respondents to thick as applicable in table 4.14 below.

Table 4.14: Negative impacts of the use of MIS in NBTE

S/N	Negative impacts	Respondent	Percentage (%)
1.	MIS changes the pattern of powers and influence in and between groups	-	-
2.	MIS alters the skills required by individuals to do their job	13	22.81
3.	Diminishes level of social interaction between workers	-	
4.	Reduces numbers of workers required for certain task	22	38.60
5.	Alters work processes	14	24.56
6	Sets in frustration among employees due to errors in system set up as well as unfamiliarity with the new system	8	14.04
7.	Others please specify		
	Total	**57**	**100**

From the responses in table 4.14, majority of the respondents (22: 38.60%) indicated that MIS reduces number of workers required for certain task, while 8 (14.04%) indicated that the system sets in frustration among employees due to errors in system set up as well as unfamiliarity with the new system. This is in line with Rikhardson and Kraemmergaard's (2006) which stressed that information system can create frustration among employees due to the fact that some problems occur from errors in the system, together with the fact that users are unfamiliar with the new system. According to them this leads employees to become resistant to

change. It is observed from the analysis that the major consequences experienced by the management of NBTE in the course of using MIS are: reduction of numbers of workers required for certain task, alter work process and lastly alters the skills required by individuals to do their job. Obviously individual skills and knowledge are required in order to be able to use the information system. Lucey (2005); Chan (2000); Davies (2009) and Rikhardson and Kraemmergaard (2006) posited that technology modifies the skills requirements for individuals and as a result it changes jobs and the way they operate a routine. Therefore the users have to be trained and educated, the reason is to ensure they can use the system efficiently and effectively. This takes the researcher back to the earlier barriers identified where the respondents were emphasizing on training if they must be efficient and effective in the use of the information system. The consequence concerning the resistance to change of the people who are to use the system can be concluded that it depends on how well the system and change are managed. The implication of this is that, it encourages resistance to change, loss of job, fear of usage and low work productivity.

4.6 : **To what Extent do you rely on MIS for your Information Needs**

Research question three sought to find out the extent to which management of NBTE rely on MIS for their information need. Respondents were asked to tick from the options provided. The result of the analysis of their responses were presented in table 4.15

Table 4.15 : The Extent of Reliance on MIS for Information Needs

S/N	Extent of Reliance	Respondent	Percentage (%)
1.	Frequently	10	17.54
2.	Not Frequent	10	17.54
3.	Rarely	30	52.63
4.	Never	7	12.28
	Total	**57**	**100**

As can be seen in table 4.15, majority of the management staff (30 : 52.63%) rarely rely on the MIS for their information needs, (10: 17.54%) respondents agreed relying on MIS for their information needs while (10: 17.54%) respondents also indicated not to be frequent in the use of MIS for their information need, (7 : 12.28) indicated never rely on the use of MIS for their information needs at all.

Further investigation through interview reveals that, those who do not rely on the use of MIS for their information needs are those with low IT knowledge which they attributed to lack of training and motivation from the top management. These categories of managers are chiefs and few deputy directors and they agreed that they are satisfied with the manual information generation and dissemination even though it has its setbacks. One chief in programme confirmed receiving information through the notice board. It was also revealed that those who agreed to be using the MIS frequently are the Executive secretary, Directors and few other levels. These categories have high IT knowledge and they personally do improve themselves in order to continue being effective and efficient in carrying out their duties especially as it relates to organizational goal setting, planning and decision making.

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CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATION

5.1 Introduction

This chapter presents the summary of the findings, conclusions and recommendation.

5.2 Summary of the study

The purpose of the study was to identify the barriers affecting the use of management information system in National Board for Technical Education, Kaduna. The study tried to find out the existing barriers that could hinder the effective use of MIS, the positive and negative impacts that is felt when MIS is in-use and the extent to which management rely on the use of MIS for their information needs in the selected organization. In order to achieve the objectives of the study, three research questions were formulated. The study adopted the survey method. The population of the study was made up of the staff of NBTE Kaduna. The target subjects of the study were the three management level. Purposive sampling method was used to draw a sample from the population. The instruments used for the data collection were the questionnaire and unstructured interview. The data collected was tabulated and analyzed using frequency tables and percentages. The questionnaire administered was divided into four parts : Biodata, Barriers to the use of MIS, impact of MIS and lastly the extent of reliance on the use of MIS by management for their information needs in NBTE, Kaduna

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5.3 Summary of Major Findings

Arising from the data collected and analyzed, the following major findings were made.

1. Main barriers identified in the study were financial barrier, technological barrier, organizational barrier and individual barriers. Majority of the management indicated financial constraints for high cost of maintenance, specialized manpower and training as a sub-criterion under financial barrier as the major barrier, data and information security, lack of top management support, lack of adequate budget, and poor infrastructural facilities respectively as a sub-criterion under organizational barrier and lack of training and retraining as a sub-criterion of individual barrier.

2. The study discovered that few areas of operation are impacted positively as a result of the use of MIS in NBTE. The impact of the use of management information system in NBTE include: integration of information made possible across various TVETS, access to information and communication networking between colleagues and other institutions, speed and accuracy of decision making and planning performance, and improvement in the day to day control and planning of operations. The study also revealed the negative impacts of the use of MIS in NBTE to include : MIS reduces number of workers required for certain task, it alters the skills required by individuals to do their jobs and sets in frustrations as a result of error in system set up and unfamiliarity with the system.

3. The study also revealed that majority of the management staff do not rely on the use of MIS for their information needs which is as a result of low IT knowledge attributed to lack of training and retraining and lack of top management support.

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5.4 Conclusion

Arising from the findings of the study, it is concluded that the use of MIS in National Board for Technical Education Kaduna is very low. The low usage is attributed to lack of top management support which has resulted to lack of adequate budget, lack of training of the management staff, poor MIS facilities and lack of technical support for maintenance of IT systems, which hamper information generation and dissemination being the essence of an MIS in any organization. It is therefore, concluded that the major barriers to effective utilization of MIS in NBTE is lack of funds which if properly made available will definitely take care of the other barriers identified because other barriers are equally tied to fund availability. There is also a need for a carefully planned and organized information system that will channel timely information to the managers, hence promoting effective decision making so as to achieve the organizational mission of an improved quality education, revitalize and sustainable economy for National growth and Development in Nigeria and globally.

5.5 Recommendations

Based on the findings of this study, the following recommendations are made.

1. The National Board for Technical Education top management should provide adequate fund for the acquisition of appropriate MIS facilities, ensuring that full support is given to the adoption, implementation of MIS, incorporating key management staff and IT staff into the managerial board when reviewing the annual budget allocation given to the MIS for adequate running and maintenance.
2. National Board for Technical Education Kaduna should regularly train and educate its managers on the use of IT (MIS) to acquire the skills and knowledge to be able to use

the information systems, this is to ensure they can use the system efficiently and effectively for job improvement.

3. The National Board for Technical Education Kaduna, should provide separate structure to house the management information system with expanded facilities to include: The intranet, extranet, an integrated database alongside enough competent staff to operate and maintain these facilities.
4. The National Board for Technical Education Kaduna to provide technical unit that will ensure that the available facilities are adequately maintained and also to support the staff when the need arises.

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APPENDIX

Department of Library and Information Science
Faculty of Education,
Ahmadu Bello University,
Zaria.

Dear Sir/Ma

RESEARCH QUESTIONS

I am a postgraduate student of Ahmadu Bello University, Zaria undertaking a research on the topic "Barriers to the Use of Management Information Systems in National Board for Technical Education, Kaduna." in partial fulfillment of the requirement for the award of Master in Library and Information Science (MLIS).

The attached copy of the questionnaire is meant for the collection of data for the survey research.

I shall be glad if you can assist me in this request by responding to the questions raised therein to the very best of your knowledge. Your responses will be treated with utmost confidentiality.

Thank you for your anticipated cooperation.

Yours Sincerely,

Martina Okwuchi Egwuibe.

QUESTIONS FOR NBTE MANAGEMENT STAFF

SECTION A: DEMOGRAPHIC INFORMATIONS

PLEASE TICK AS APPROPRIATE

1. AGE:

   a) 30-35 years [ ] b) 36-40 years [ ]

   c) 41-45 years [ ] d) 46 years and above [ ]

2. SEX:

   a) Male [ ] b) Female [ ]

3. Educational qualification: (please tick the highest)

   a) OND/HND [ ] b) BSc/BA [ ]

   c) MA/MSc/MBA [ ] d) PhD [ ]

   e) Others specify ……..

4. JOB POSITION:

   a) Executive Secretary [ ] b) Director [ ]

   c) Deputy Director [ ] d) Chief [ ]

   e) Assistant Chief [ ] f) Principal Officer [ ]

5. DURATION OF THE POSITION

   a) 1-2 years [ ] b) 3-4 years [ ]

   c)5 years and above [ ]

6. WHICH DEPARTMENT DO YOU WORK IN

   (a) Human Resources [ ] (b) Programmes [ ]

   (b) Planning, Research and Statistics [ ] (d) Finance and Account [ ]

SECTION B: BARRIERS TO THE USE OF MANAGEMENT INFORMATION SYSTEM IN NBTE

(1a) What are the barriers to the use of MIS in NBTE? (Please thick as appropriate)

(1) Organizational Barrier [ ]

(2) Technological Barrier [ ]

(3) Financial Barrier [ ]

(4) Individual Barrier [ ]

(1b) What are the barriers sub-criterion (Please thick as appropriate)

S/N	BARRIERS	SUBCRITERION
1	Organizational Barriers	Poor infrastructural facility for information generation, management and dissemination. Lack of top management support. Centralization of hierarchical structure slows down information flow. Lack of adequate budget. Poor power supply. Inadequate knowledge of IT by the management. IT specialist not adequately informed on management information needs. And any other……
2	Individual Barriers	Lack of training on the use of MIS. Fear of been redundant and losing importance Lack of interest Reluctance of unsatisfied individuals. Lack of trust and confidence on information system And any other…….

3	Technological Barriers	Data and information security. Incompatibility with information system process functions. Lack of technical support for maintenance of IT systems. Sophisticated and complex technology for inf. handling. Rapidly changing technology. And any other…….
4	Financial Barriers	Financial constraints for high cost of maintenance. Lack of resources for system design cost Lack of resources for cost of hardware/software Cost of specialized manpower and training And any other……

SECTION C: IMPACT OF MIS USE IN NBTE

(**2a**) **How has the use of MIS positively impacted the organization/management work processes? (Please thick as appropriate)?**

(1) Improved the day to day control and planning of operations [ ]

(2) Improved choosing alternate course of action [ ]

(3) Increased access to information [ ]

(4) Integration of information made possible across various TVETS [ ]

(5) Information generation and dissemination improved [ ]

(6) Improved communication networking between colleagues and other institutions [ ]

(7) Free flow of information within and across organization [ ]

(8) Speed and accuracy of decision making and planning performance [ ]

(9) Decision making is made easy [ ]

(10) Availability of consistent data [ ]

(11) Minimizes information over load [ ]

(12) Others please specify ……

(2b) What are the negative impacts of the use of MIS in NBTE?

(1) MIS changes the patterns of power and influence in and between groups [ ]

(2) MIS alters the skills required by individuals to do their jobs [ ]

(3) Diminishes level of social interaction between workers [ ]

(4)Sets in frustration among employees due to errors in system set up as well as unfamiliarity with the new system [ ]

(5) Alters work processes [ ]

(6) Reduces numbers of workers required for certain task [ ]

(7) Others Please specify……

SECTION D : EXTENT OF RELIANCE ON THE USE OF MIS BY NBTE MANAGEMENT

(3) To what extent do you rely on MIS for your information need? (please tick as appropriate)

(a) Always Used [ ] (b) Frequently y Used [ ] (c) Rarely Used [ ]

(d) Never Used [ ]